

rappor



# London Road, Stroud

Altus Homes


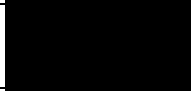

**Air Quality Assessment**  
February 2024





## Document Control

---

Job No.	23-0855	
Project Name	London Road, Stroud	
Document Title	Air Quality Assessment	
Status	Issue	
Client	Altus Homes	
	Name	Date
Prepared By		February 2024
Checked By		February 2024
Approved By		February 2024

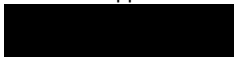
## Record of Revisions

Revision	Date	Details	Made By

### Rappor Consultants Ltd

A: CTP House, Knapp Road, Cheltenham, GL50 3QQ

W: [www.rappor.co.uk](http://www.rappor.co.uk)



© Rappor Consultants Limited. All rights reserved. The contents of this document must not be copied or reproduced in whole or in part without the written consent of Rappor Consultants Ltd and Altus Homes.



## Executive Summary

---

Rappor Consultants Limited was appointed by Altus Homes to undertake an air quality assessment for a proposed residential development at the site of the former Bristol Street Motors car showroom on London Road, Stroud. The proposed development Site is located within the administrative area of Stroud District Council.

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 trip generation was screened using the Institute of Air Quality Management and Environmental Protection UK two stage screening process, to determine whether a detailed road traffic emissions impact assessment was required. The proposed development trip generation did not exceed the relevant screening criteria. In accordance with guidance, where the screening criteria are not exceeded, the development can be considered to have an insignificant impact on local air quality. Detailed dispersion modelling of development-generated road traffic emissions was therefore not required.

The proposed development will introduce new sensitive uses to the Site and therefore, consideration was given to the exposure of future residents to air pollution. A review of local air quality monitoring identified pollutant concentrations are below the current relevant air quality objectives. Additionally, the Site is located in an existing residential area and is not located within, or near, an Air Quality Management Area. Local emission sources were reviewed and considered unlikely to give rise to elevated pollutant concentrations within the Site. The Site was therefore considered suitable for the proposed sensitive uses with regard to the current relevant air quality objectives and no mitigation is required.



## Contents

---

Document Control.....	i
Executive Summary.....	ii
<b>1</b> Introduction .....	4
<b>2</b> Relevant Policy and Guidance .....	6
<b>3</b> Assessment Methodology .....	8
<b>4</b> Construction Phase Dust Assessment.....	11
<b>5</b> Operational Phase Screening Assessment .....	15
<b>6</b> Site Suitability.....	16
<b>7</b> Summary and Conclusions.....	18

## List of Figures and Tables

Figure 1.1 Site Location.....	5
Table 3.1: Relevant Air Quality Standards and Objectives utilised in the Assessment .....	9
Table 4.1: Dust Emission Magnitude .....	11
Table 4.2: Sensitivity of Study Area .....	12
Figure 4.1: Construction Phase Dust Buffers .....	13
Table 4.3: Summary of Risk of Dust Impacts .....	14
Table 6.1: SDC NO <sub>2</sub> Monitoring Data.....	16
Table 6.2: DfT Traffic Count Data for the A419 .....	17

## Appendices

- Appendix A – Glossary
- Appendix B – Local Planning Policy
- Appendix C – Construction Phase Dust Mitigation



# 1 Introduction

---

## General

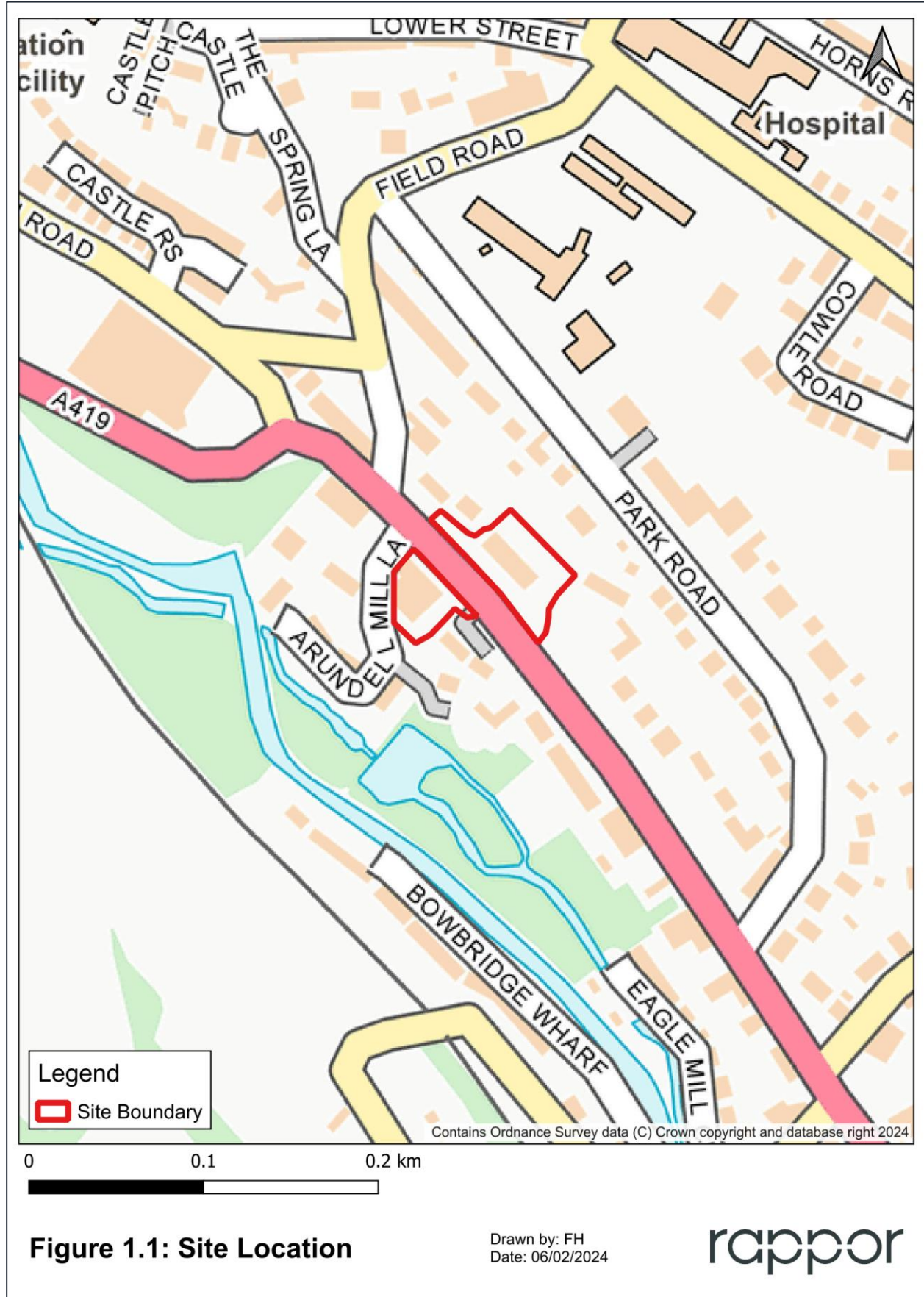
- 1.1 Rappor Consulting Limited was instructed by Altus Homes to undertake an air quality assessment for a proposed residential development at the site of the former Bristol Steet Motors car showroom on London Road, Stroud ('the Site').
- 1.2 The assessment considers the potential impacts of the proposed development during both the construction and operational phases. A qualitative construction phase assessment was undertaken in accordance with relevant guidance. An operational phase road traffic emissions screening assessment was undertaken to consider the impact of development-generated road traffic on local air quality. Consideration was also given to the suitability of the Site for the proposed sensitive use with regard to air quality.
- 1.3 The assessment takes account of relevant local and national policy and guidance. A glossary of terms utilised in this report is provided in **Appendix A**.

## Site Location

- 1.4 The Site is bisected by the A419 London Road and lies within the administrative area of Stroud District Council (SDC). The Site is bound by residential properties on all sides.
- 1.5 The Site location is illustrated in **Figure 1.1**.



Figure 1.1 Site Location





## 2 Relevant Policy and Guidance

---

### National Legislation and Planning Policy

2.1 The following national legislation and planning policy is relevant to air quality and was considered throughout this air quality assessment:

- European Parliament, EU 2008 Ambient Air Quality Directive (2008)<sup>1</sup>;
- HMSO, Air Quality (England) Regulations (2000)<sup>2</sup>;
- HMSO, Environment Act (1995)<sup>3</sup>;
- HMSO, Environment Act (2021)<sup>4</sup>;
- Department for Environment, Air Quality Strategy (1997)<sup>5</sup>;
- Department for the Environment, Food and Rural Affairs (DEFRA), Air Quality Strategy (2007)<sup>6</sup>;
- Department for the Environment, Food and Rural Affairs, The Environment (Miscellaneous Amendments) (EU Exit) Regulations (2020)<sup>7</sup>;
- HMSO, The Environmental Targets (Fine Particulate Matter) (England) Regulations (2023)<sup>8</sup>;
- Department for the Environment, Food and Rural Affairs, Air Quality Strategy: Framework for Local Authority Delivery (2023)<sup>9</sup>;
- Department for the Environment, Food and Rural Affairs, Environmental Improvement Plan 2023 (2023)<sup>10</sup>;
- Ministry of Levelling Up, Housing and Communities, National Planning Policy Framework (NPPF) (2023)<sup>11</sup>; and
- Ministry for Housing, Communities and Local Government, Planning Practice Guidance (PPG) for air quality (2019)<sup>12</sup>.

### Local Planning Policy

2.2 The following local planning policy was reviewed with regards to air quality and a summary of any relevant policies is provided in **Appendix B**:

- Stroud District Council, Stroud District Local Plan (2015)<sup>13</sup>.

---

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

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

<sup>3</sup> HMSO (1995) The Environment Act 1995, London: TSO

<sup>4</sup> HMSO (2021) The Environment Act 2021, London: TSO

<sup>5</sup> Department of the Environment (DoE) (1997) The UK National Air Quality Strategy, London: HMSO

<sup>6</sup> Department of the Environment, Food and Rural Affairs (Defra) (2007) The Air Quality Strategy for England, Scotland, Wales and Northern Ireland, London: HMSO

<sup>7</sup> Department of the Environment, Food and Rural Affairs (Defra) (2020) The Environment (Miscellaneous Amendments) (EU Exit) Regulations, London: HMSO

<sup>8</sup> HMSO (2023) The Environmental Targets (Fine Particulate Matter) (England) Regulations 2023

<sup>9</sup> Ministry of Housing, Communities & Local Government (2023) National Planning Policy Framework, HMSO London

<sup>10</sup> Defra (2023) Environmental Improvement Plan 2023, First revision of the 25 Year Environment Plan

<sup>11</sup> Department for Levelling Up, Housing and Communities (2023) National Planning Policy Framework, HMSO London

<sup>12</sup> Ministry for Housing, Communities and Local Government (2019) Planning Practice Guidance Air Quality

<sup>13</sup> Stroud District Council (2015) Stroud District Local Plan



## Air Quality Guidance

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

- DEFRA, Local Air Quality Management Technical Guidance (LAQM.TG) 22) (2022)<sup>14</sup>;
- Institute of Air Quality Management (IAQM), Guidance on the assessment of dust from demolition and construction (2024)<sup>15</sup>; and
- IAQM and Environmental Protection UK (EPUK), Land-Use Planning and Development Control: Planning for Air Quality (2017)<sup>16</sup>.

---

<sup>14</sup> Defra (2022) Local Air Quality Management Technical Guidance LAQM.TG(22)

<sup>15</sup> Institute of Air Quality Management (2024) Guidance on the assessment of dust from demolition and construction, Institute of Air Quality Management, London

<sup>16</sup> Institute of Air Quality Management and Environmental Protection UK (2017) Land-Use Planning and Development Control: Planning for Air Quality





## 3 Assessment Methodology

---

### Consultation

- 3.1 Consultation was undertaken with Environmental Health department at SDC detailing the proposed scope of works and assessment methodology to be utilised within the air quality assessment. At the time of writing, no response was received.
- 3.2 The assessment methodology is detailed below.

### Construction Phase - Dust Assessment

- 3.3 A qualitative assessment of the potential for construction phase activities to influence local air quality through dust soiling, human health and ecological effects was undertaken utilising the methodology set out in IAQM guidance<sup>15</sup>. The IAQM guidance provides a four-step approach, summarised below:

- Step 1: Screen the need for a detailed assessment. Where relevant sensitive receptors are located within 350m of the Site boundary, or within 50m of roads used by construction vehicles up to 500m from the Site, the assessment should progress to Step 2. No further assessment is required if there are no receptors within the specified distances of the works.
- Step 2: Assess the risk of dust impacts using the following steps:
  - a) Define the potential dust emission magnitude for demolition, earthworks, construction and trackout, as appropriate;
  - b) Define the sensitivity of the area to dust; and
  - c) Define the risk of impacts.
- Step 3: Identify appropriate site-specific mitigation based on the identified dust risk;
- Step 4: Determine the significance of residual effects.

### Operational Phase – Screening Assessment

- 3.4 IAQM and EPUK guidance<sup>16</sup> provides screening criteria to determine whether a detailed assessment of development-generated road traffic emissions is potentially required. The screening criteria are split into two stages:

#### Stage One:

- 3.5 The Stage One criteria detailed below are utilised to determine whether there is the need to proceed to Stage Two of the screening assessment:

- If any of the following apply:
  - a) 10 or more residential units or a Site area greater than 0.5ha; or
  - b) More than 1,000m<sup>2</sup> of floorspace for all other use classes or a Site area of greater than 1ha;
- Coupled with any of the following:
  - a) The development has more than 10 parking spaces; or



- b) The development will have a centralised energy facility or other centralised combustion process.

#### Stage Two:

3.6 Where the proposed development exceeds the criteria set out in Stage One, the following indicative criteria are used to determine whether a detailed assessment of development-generated road traffic emissions is required.

3.7 The Stage Two screening criteria are:

- A change in Light Duty Vehicles (LDVs) flows of:
  - a) More than 100 Annual Average Daily Traffic (AADT) flow within or adjacent to an Air Quality Management Area (AQMA); or
  - b) More than 500 LDVs as an AADT elsewhere.
- A change in Heavy Duty Vehicles (HDVs) of:
  - a) More than 25 AADT flow within or adjacent to an AQMA; or
  - b) More than 100 AADT flow elsewhere.

3.8 Where none of the Stage Two criteria are exceeded, IAQM and EPUK guidance<sup>16</sup> states:

*“there should be no requirement to carry out an air quality assessment of the impact of the proposed development on the local area, and the impacts can be considered to have insignificant effects”.*

### Operational Phase Site Suitability

3.9 As the proposed development will introduce new sensitive uses onto a Site where no existing sensitive uses are present, a qualitative assessment of likely pollutant concentrations within the Site was undertaken. The assessment includes a review of information from SDC’s Local Air Quality Management reports including monitoring data and management regimes, and a review of existing emission sources and sensitive receptors.

#### Assessment Criteria

3.10 Predicted pollutant concentrations were compared to the current relevant air quality objectives detailed in **Table 3.1**.

**Table 3.1: Relevant Air Quality Standards and Objectives utilised in the Assessment**

Pollutant	Averaging Period	Air Quality Objective ( $\mu\text{g.m}^{-3}$ )	Date to Achieve by
NO <sub>2</sub>	Annual Mean	40	31 December 2005
	1-hour mean not to be exceeded more than 18 times per year	200	31 December 2005
PM <sub>10</sub>	Annual Mean	40	31 December 2004
	24-hour mean not to be exceeded more than 35 times per year	50	31 December 2004
PM <sub>2.5</sub>	Annual Mean	20	1 January 2020



Pollutant	Averaging Period	Air Quality Objective ( $\mu\text{g.m}^{-3}$ )	Date to Achieve by
	<i>Annual Mean</i>	10	31 December 2040
	<i>Annual Mean Interim Target*</i>	12	31 January 2028

\*Detailed within the Environmental Improvement Plan 2023.

Italics denotes future air quality objectives that will come into force in the future.



## 4 Construction Phase Dust Assessment

- 4.1 Construction phase activities associated with demolition, earthworks, construction and trackout have the potential to generate dust and particulate matter which may influence local air quality at sensitive receptor locations.
- 4.2 As there are existing sensitive receptors within the distances set out in IAQM guidance<sup>15</sup>, a construction phase dust assessment was undertaken. The assessment includes determining the dust emission magnitude for construction phase activities and identifying the sensitivity of the area to determine the overall risk of construction phase dust impacts. Mitigation measures proportionate to the level of dust impacts identified are then recommended to minimise the impact of construction phase activities on local air quality.

### Assessing Risk of Dust Impacts

#### Defining the Dust Emission Magnitude

- 4.3 The scale and nature of construction phase activities were compared to the criteria set out in IAQM guidance<sup>15</sup> to define the initial dust emission magnitude for each activity. **Table 4.1** summarises the dust emission magnitude for each activity and provides the justification for each assigned magnitude.

**Table 4.1: Dust Emission Magnitude**

Activity	Dust Emission Magnitude	Justification
Demolition	Small	Total volume of buildings to be demolished is less than 12,000m <sup>3</sup> .
Earthworks	Small	Total Site area is less than 18,000m <sup>2</sup> . Minimal bund formation and limited heavy earth moving vehicles active at any one time.
Construction	Small	Total volume of buildings to be constructed on Site is less than 12,000m <sup>3</sup> .
Trackout	Small	Less than 20 outward HDV movements in any one day during construction phase, with limited unpaved road length.

#### Defining the Sensitivity of the Area

- 4.4 The proximity of receptors to construction phase activities was reviewed alongside meteorological conditions and receptor use classes to define the sensitivity of the area. In accordance with IAQM guidance<sup>15</sup>, different use classes can be more or less sensitive to dust and particulate matter emissions during the construction phase based on parameters such as the level of amenity typically expected and the duration of time spent at the location. **Table 4.2** details the sensitivity of the area to dust soiling and human health effects for the different phases of construction activities. **Figure 4.1** was utilised to identify the number of sensitive receptors within the distances set out in IAQM guidance<sup>15</sup>.

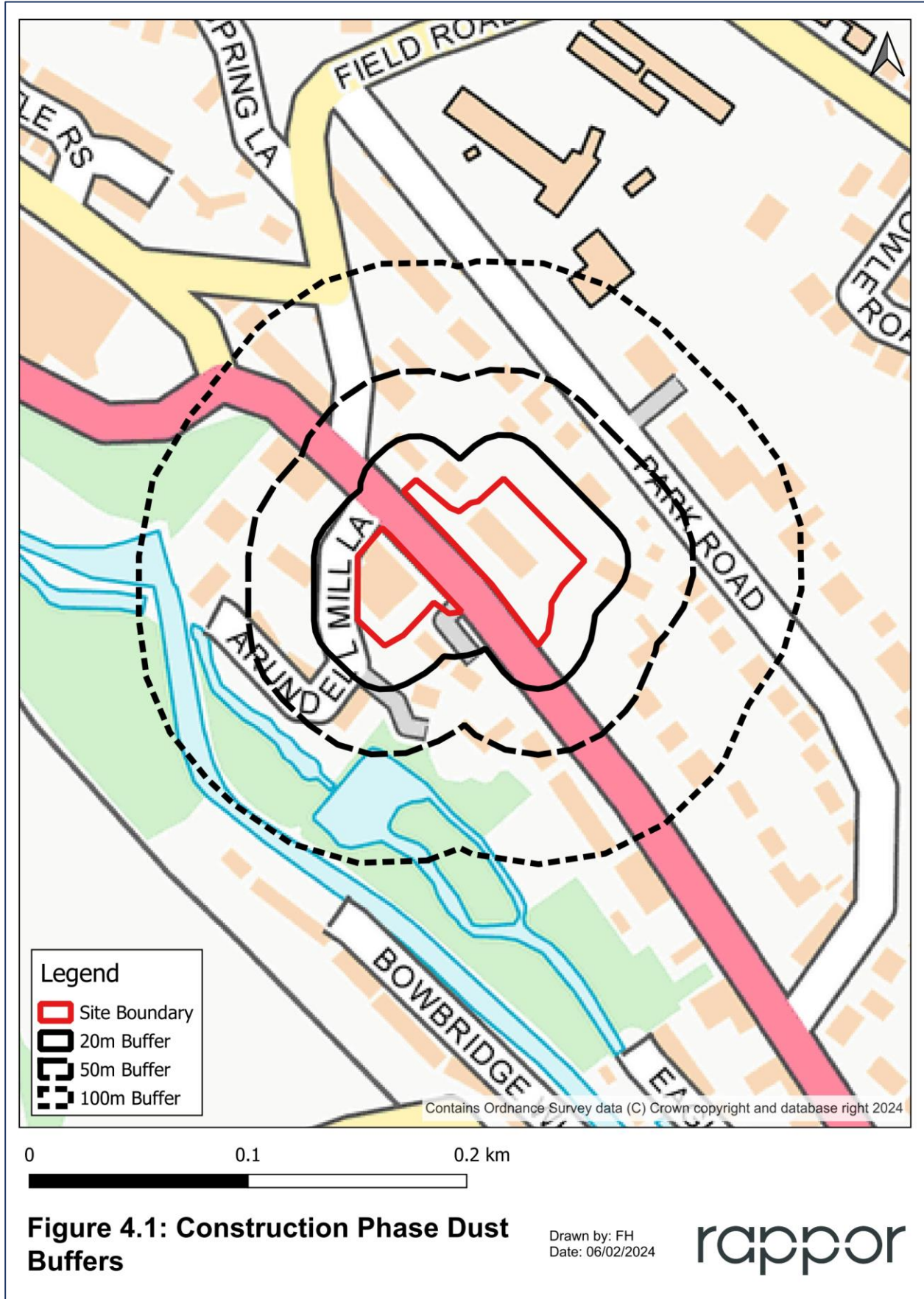


**Table 4.2: Sensitivity of Study Area**

Activity	Sensitivity to Dust Soiling	Sensitivity to Human Health
Demolition	There are more than 10 highly sensitive receptors within 20m of areas where demolition will take place. These receptors include residential properties and car parking spaces. The sensitivity of the area to dust soiling is <b>High</b> .	There are more than 10 highly sensitive receptors within 20m of where demolition will take place however, background PM <sub>10</sub> concentrations are well below 24µg.m <sup>-3</sup> . Therefore, the overall sensitivity to human health is <b>Low</b> .
Earthworks	There are more than 10 highly sensitive receptors within 20m of the Site boundary. These receptors include residential properties and car parking spaces. The sensitivity of the area to dust soiling is <b>High</b> .	There are more than 10 highly sensitive receptors within 20m of the Site however, background PM <sub>10</sub> concentrations are well below 24µg.m <sup>-3</sup> . Therefore, the overall sensitivity to human health is <b>Low</b> .
Construction	There are more than 10 highly sensitive receptors within 20m of the Site boundary. These receptors include residential properties and car parking spaces. The sensitivity of the area to dust soiling is <b>High</b> .	There are more than 10 highly sensitive receptors within 20m of the Site however, background PM <sub>10</sub> concentrations are well below 24µg.m <sup>-3</sup> . Therefore, the overall sensitivity to human health is <b>Low</b> .
Trackout	There are more than 10 highly sensitive receptors within 50m of roads anticipated to be used by construction traffic. The sensitivity of the area to dust soiling from trackout is <b>High</b> .	There are more than 10 highly sensitive receptors within 50m of roads anticipated to be used by construction traffic. Background PM <sub>10</sub> concentrations are less than 24µg.m <sup>-3</sup> . The sensitivity of the area to human health from trackout is <b>High</b> .



Figure 4.1: Construction Phase Dust Buffers





## Defining the Risk of Impacts

- 4.5 The dust emission magnitude and sensitivity of the area for demolition, earthworks, construction and trackout are then combined to determine the overall risk of impacts associated with each activity. **Table 4.3** below summarises the risk of dust impacts for each activity.

**Table 4.3: Summary of Risk of Dust Impacts**

Activity	Dust Emission Magnitude	Highest Sensitivity of Area	Risk of Dust Impact
Demolition	Small	High	Medium Risk
Earthworks	Small	High	Low Risk
Construction	Small	High	Low Risk
Trackout	Small	High	Low Risk

## Mitigation

- 4.6 IAQM guidance<sup>15</sup> provides a list of dust mitigation measures that should be implemented on site during the construction phase, where practicable. Mitigation measures proportionate to the level of dust risk identified in **Table 4.3** are detailed in **Appendix C**. With the implementation of these measures, the residual impacts associated with construction phase activities are considered to be 'not significant'.



## 5 Operational Phase Screening Assessment

---

- 5.1 The trip generation associated with the proposed development was reviewed and compared to the two stage screening criteria set out in IAQM and EPUK guidance<sup>16</sup>.

### Stage One

- 5.2 The development proposals include more than 10 residential dwellings and more than 10 car parking spaces and therefore exceeds the Stage One criteria set out in IAQM and EPUK guidance<sup>16</sup>.

### Stage Two

- 5.3 The proposed development will generate an additional 103 trips as a 24 hour AADT, all of which will be LDVs. The trip generation falls below the relevant Stage Two screening criteria of 500 LDVs and 100 HDVs outside an AQMA. It is also noted that the proposed development trip generation is less than that associated with the previous use of the Site as a car showroom.
- 5.4 In accordance with IAQM and EPUK guidance<sup>16</sup>, where the Stage Two criteria are not exceeded, a detailed assessment of the impact of the proposed development on local air quality is not required, and the proposed development is considered to have an insignificant effect.

### Development Measures

- 5.5 Whilst the proposed development is not predicted to give rise to any significant air quality impacts as a result of development-generated traffic, measures are incorporated into the proposals to further minimise emissions associated with the operation of the proposed development.
- 5.6 Measures include:
- Construction of new pedestrian routes through the Site to improve Site permeability and encourage active travel.
  - Provision of bike stores on each land parcel to promote cycle use.





## 6 Site Suitability

- 6.1 The Site currently comprises vacant commercial premises with no existing sensitive uses present on the Site. As the proposed development will introduce new sensitive uses to the Site, consideration was given to the suitability of the Site for residential use with regard to air quality.
- 6.2 A review of the following sources was undertaken to consider Site suitability:
- SDC’s Annual Status Reports<sup>17</sup> and Local Air Quality Management regime;
  - Department for Transport traffic count website<sup>18</sup>;
  - Aerial imagery of the Site and local area; and
  - Proposed development masterplan.

### Local Air Quality Management and Monitoring

- 6.3 The Site is not located within, or in the vicinity of, an Air Quality Management Area (AQMA). The closest AQMA to the Site is located more than 10km north of the Site in Gloucester.
- 6.4 SDC undertakes nitrogen dioxide (NO<sub>2</sub>) monitoring as part of its duty under the Local Air Quality Management (LAQM) regime. **Table 6.1** details the monitored NO<sub>2</sub> concentrations at monitoring locations in the vicinity of the Site in recent years.

**Table 6.1: SDC NO<sub>2</sub> Monitoring Data**

Site	X	Y	Site Type	Annual Mean NO <sub>2</sub> Concentration					
				2017	2018	2019	2020	2021	2022
27	385784	204367	Roadside	38.6	<b>42.2</b>	34.6	30.9	33.4	29.9
59	384973	205152	Kerbside	-	-	-	13.8	14.1	15.5
60	385112	205085	Kerbside	-	-	-	19.3	22.2	24.9
61	385282	205159	Roadside	-	-	-	14.3	14.6	17.8

- 6.5 The data in **Table 6.1** demonstrate that annual mean NO<sub>2</sub> concentrations have been below the annual mean objective of 40µg.m<sup>-3</sup> at all monitoring locations near the Site in recent years, with the exception of site 27. 2018 is the only year in which any exceedances of the annual mean NO<sub>2</sub> objective were recorded in Stroud and therefore it is considered that localised influences may have contributed to the elevated pollutant concentrations in this year.
- 6.6 Overall, monitored annual mean NO<sub>2</sub> concentrations near the Site indicate a downward trend which demonstrates that air quality in the area is improving.

<sup>17</sup> Stroud District Council (2023) Annual Status Report 2022

<sup>18</sup> Department for Transport (2024) <https://roadtraffic.dft.gov.uk/#6/55.254/-6.053/basemap-regions-countpoints> [accessed 04/02/2024]



## Local Emission Sources

- 6.7 The Site is bisected by the A419 London Road which is considered to represent the primary emission source in the vicinity of the Site. A review of traffic count data available from the Department for Transport website was undertaken to consider the level of traffic carried on this road link. **Table 6.2** details the most recent traffic count data for the A419 near the Site.

**Table 6.2: DfT Traffic Count Data for the A419**

Road	Traffic Flow (24 hour AADT)			
	2019	2020	2021	2022
A419 (Count point 28681)	17,361	12,533	13,768	14,721

- 6.8 The traffic data detailed in **Table 6.2** illustrate that the primary road network in the vicinity of the Site does not carry a significant level of road traffic that may give rise to elevated pollutant concentrations within the Site.
- 6.9 The Stroud-Gloucester rail line is located approximately 140m south of the Site at its closest point. This line is not identified in Defra guidance<sup>14</sup> as a heavy diesel usage line, and the proposed development will not locate sensitive uses within 30m of the rail line. Therefore, in accordance with Defra guidance<sup>14</sup>, emissions associated with the rail line are not considered to significantly influence pollutant concentrations within the Site.
- 6.10 There are no other potentially significant emissions sources within the vicinity of the Site that may influence air quality for future users.

## Summary

- 6.11 The Site is located in an area that experiences low traffic volumes with no other significant emission sources nearby. The Site is located in an area of existing residential use and does not propose to locate new residential properties closer to the local road network than existing residential properties. SDC has not declared an AQMA as a result of local pollutant concentrations and local air quality monitoring recorded concentrations below the current relevant air quality objectives in recent years. It is therefore considered that the Site is suitable for the proposed use with regard to air quality.



## 7 Summary and Conclusions

---

- 7.1 Rappor was instructed by Altus Homes to undertake an air quality assessment for submission with a planning application for a proposed residential development at land off the A419 London Road in Stroud.
- 7.2 A qualitative construction phase dust assessment was undertaken and mitigation measures proportionate to the level of dust risk identified are recommended. With the implementation of these measures, the impact of construction phase dust is negligible which is not significant.
- 7.3 A qualitative operational phase road traffic emissions screening assessment was undertaken to consider the impact of the proposed development on local air quality. The two stage screening criteria set out in guidance were not exceeded and there was no need to undertake any further detailed assessment of the impact of development-generated road traffic. Where the two stage screening criteria are not exceeded, the proposed development can be considered as having a not significant impact on local air quality as a result of development-generated traffic.
- 7.4 A review of local air quality monitoring data and emission sources was undertaken to consider the suitability of the Site for residential use. Local monitoring data recorded concentrations below the relevant air quality objectives and the Site is located in an existing residential area with no active AQMA. Local road traffic levels were not considered to give rise to elevated pollutant concentrations locally and the proposed masterplan does not located dwellings any closer to the road network than existing properties. It was therefore considered that the Site was suitable for the proposed use with regard to the current relevant air quality objectives.



## Appendix A – Glossary



Term	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 <sub>2</sub>	Nitrogen dioxide.
NO <sub>x</sub>	Nitrogen oxides.
Percentile	The percentage of results below a given value.
PM <sub>10</sub>	Particulate matter with an aerodynamic diameter of less than 10 micrometres.
PM <sub>2.5</sub>	Particulate matter with an aerodynamic diameter of less than 2.5 micrometres.
micrograms per cubic metre (µg.m <sup>-3</sup> )	A measure of concentration in terms of mass per unit volume. A concentration of 1µg.m <sup>-3</sup> means that one cubic metre of air contains one microgram (millionth of a gram) of pollutant.



## Appendix B – Local Planning Policy



## Stroud District Local Plan

The Stroud District Local Plan contains the following policies relevant to air quality:

*“Delivery Policy ES5*

*Development proposals which by virtue of their scale, nature or location are likely to exacerbate existing areas of poor air quality will need to demonstrate that measures can be taken to effectively mitigate emission levels in order to protect public health and wellbeing, environmental quality and amenity. Mitigation measures should demonstrate how they will make a positive contribution to the aims of any Air Quality Strategy for Stroud District and may include:*

- 1) Landscaping, bunding or separation to increase distance from highways and junctions;*
- 2) Possible traffic management or highway improvements to be agreed with the local authority;*
- 3) Abatement technology and incorporating site layout / separation and other conditions in site planning;*
- 4) Traffic routing, site management, site layout and phasing;*
- 5) Managing and expanding capacity in the natural environment to mitigate poor air quality.”*



## Appendix C – Construction Phase Dust Mitigation





Mitigation Measure	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) responsible 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.	
	Develop and implement a Dust Management Plan which may include measures to control other emissions, approved by the Local Authority.	
Site Management	Record all dust and air quality complaints, identify causes and take appropriate action to reduce emissions in a timely manner and record any measures taken.	None
	Make the complaints log available to the local authority when asked.	
	Record any exceptional incidents that cause dust or air emissions, either on or off site and the action taken to resolve the situation in the log book.	
Monitoring	Carry out regular inspections to monitor compliance with the Dust Management Plan, record inspection results and make an inspection log available to the local authority when asked.	Undertake daily on site and off site inspections where receptors including roads are nearby, to monitor dust. Record inspection results and make the log available to the local authority when asked.
	Increase the frequency of site inspections 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 dust monitoring locations with the local authority, where monitoring is required. Baseline monitoring should commence at least three months prior to works on site, where possible.	
Preparing and maintain the Site	Plan site layout so that machinery and dust causing activities are located away from receptors, as far as possible.	None
	Erect solid screens or barriers around dusty activities or the site boundary that are at least as high as stockpiles on site.	
	Fully enclose the site or 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 with wet methods.	
	Remove materials that have 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.	Impost and signpost a maximum 15 mph speed limit on surfaced and 10mph speed limited on unsurfaced haul roads and work areas.



Mitigation Measure	Highly Recommended	Desirable
	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.
Operations	Only use cutting, grinding or sawing equipment fitted or in conjunction with suitable dust suppression techniques such as water sprays or local extraction.	None
	Ensure an adequate water supply to the site for effective dust suppression using non-potable water where possible and appropriate.	
	Use enclosed chutes and conveyors and covered skips.	
	Minimise drop heights from conveyors, loading shovels, hoppers and other loading and 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 spillages as soon as reasonably practicable.	
Waste management	Avoid bonfires and burning of waste materials.	None
Demolition	Ensure effective water suppression is used during demolition operations.	Soft strip inside buildings before demolition.
	Avoid explosive blasting, using appropriate manual or mechanical techniques.	
	Bag and remove any biological debris or damp down such material before demolition.	
Earthworks	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	None	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.
Trackout	None	Use water-assisted dust sweepers on the access and local roads to remove, as necessary, any material tracked out of the site.
		Avoid dry sweeping of large areas.
		Ensure vehicles entering and leaving the site are covered to prevent any escape of materials during transportation.
		Record all inspections of haul routes and any subsequent action taking in site log book.
		Implement a wheel-washing system with rumble grids to dislodge mud prior to leaving the site, where practicable.

# rappor



Rappor Consultants Ltd

[www.rappor.co.uk](http://www.rappor.co.uk)

Cheltenham  
Bristol  
London  
Bedford  
Exeter  
Cirencester

