

Report

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Report for – Peter Street Exclusive Investments Ltd.
T3940 47 Peter Street, Manchester
Air Quality Assessment
V3

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1.0 Introduction

Temple Group Ltd (Temple) has undertaken an air quality assessment for a proposed hotel development at 47 Peter Street, Manchester, on behalf of Peter Street Exclusive Investments Ltd.

The proposed development has the potential to impact on local air quality due to increased traffic arising from the development. In addition, the proposed development will be impacted upon by the existing local air quality, including road traffic emissions. The development does not include any combustion plant, or car parks. The primary pollutants of interest for this assessment are nitrogen dioxide (NO₂) and particulate matter (PM₁₀), as well as dust from the construction phase. The site location plan is shown in **Figure 1**.

Figure 1 Site location plan



This assessment details the potential air quality impacts of the proposed development on existing sensitive receptors, as well as the potential air quality concentrations the proposed development receptors will experience. A baseline assessment of local air quality has been undertaken to establish existing and historic air quality conditions at the development site and in the local area.

The assessment also details the construction dust assessment, and recommended mitigation measures, in line with the Institute of Air Quality Management's (IAQM's) Guidance on the assessment of dust from demolition and construction.

2.0 Legislation and policy

2.1 National policy

2.1.1 Air quality strategy

The Air Quality Strategy for England, Scotland, Wales and Northern Ireland¹ (AQS) sets the framework for government policy on air quality in the UK. Air quality objective levels are set out in legislation in the Air Quality (England) Regulations 2000², as amended³ (shown in **Table 2-1**). In setting air quality objectives, due account was taken of health and socio-economic cost-benefit factors, together with consideration of the practicalities of achieving such targets.

These air quality objectives were meant to be achieved in 2004 for PM₁₀, and 2005 for NO₂. Although achievement of air quality objectives is not a statutory requirement, they reflect statutory limits outlined in The Air Quality Standards Regulations 2010⁴, which require the Secretary of State to achieve EU limit values set out in EU Ambient Air Quality Directives^{5 6}.

Table 2-1 Air quality objectives relevant to the assessment

Pollutant	Air quality objective levels	Measured as
Nitrogen dioxide (NO ₂)	200 µg/m ³ , not to be exceeded more than 18 times per year	1-hour mean
	40 µg/m ³	Annual mean
Particles (PM ₁₀)	50 µg/m ³ , not to be exceeded more than 35 times per year	24-hour mean
	40 µg/m ³	Annual mean

2.1.2 The Environment Act 1995

The Environment Act 1995⁷, specifically Sections 82-84, requires all local authorities to carry out periodic reviews of air quality within their administrative areas. This review and assessment process now follows a phased approach, whereby local authorities only undertake a level of assessment that is commensurate with the risk of an air quality objective being exceeded. The aim of this review process is to assess whether the air quality objectives are likely to be achieved. Areas where objectives are likely to be exceeded are to be declared air quality management areas (AQMA) by the local authorities.

¹ Department of the Environment, Food and Rural Affairs, et al. The Air Quality Strategy for England, Scotland, Wales and Northern Ireland. Volume 1 s.l, s.n (2007).

² The Air Quality (England) Regulations 2000 (2000 No. 928).

³ The Air Quality (England) (Amendment) Regulations 2002 (2002 No. 3043).

⁴ The Air Quality Standards Regulations 2010, (2010 No. 1001). London: HMSO.

⁵ The European Parliament and the Council of the European Union, 2008, Directive 2008/50/EC of the European Parliament and of the Council of 21 May 2008 on ambient air and cleaner air for Europe. Official Journal of the European Union L152/2 11.6.2008.

⁶ The European Parliament and the Council of the European Union, 2004, Directive 2004/107/EC of the European Parliament and of the Council of 15 December 2004 relating to arsenic, cadmium, mercury, nickel and polycyclic aromatic hydrocarbons in ambient air. (Fourth Daughter Directive). Official Journal of the European Union L23/3 26.1.2005.

⁷ Environment Act 1995, Part IV Air Quality.

2.1.3 The Clean Air Act 1993

The Clean Air Act 1993⁸ controls small combustion plants under 20 MW net rated thermal input. Plants above 366 kW total input require the local authority to approve the chimney height National Planning Policy Framework (NPPF)⁹ and Planning Practice Guidance (PPG)¹⁰.

2.1.4 National Planning Policy Framework and Planning Practice Guidance

The revised National Planning Policy Framework (RNPPF)¹¹ was published in July 2018. Paragraph 170 states:

“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....”

Paragraph 181 states:

“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”.

The Planning Practice Guidance (PPG)¹² supports the NPPF and was first published online in 2014 and will be updated in due course to reflect changes to the National Planning Policy Framework. The PPG provides *“guiding principles on how planning can take into account the impact of new development on air quality”*. This guidance highlights the role of the local air quality management (LAQM) regime in pursuing national air quality objectives and its implications for planning. It also includes recommendations on how detailed an air quality assessment should be or how impacts on air quality can be mitigated.

⁸ Clean Air Act 1993, Chapter 11.

⁹ Department for Communities and Local Government (DCLG) National Planning Policy Framework (2012).

¹⁰ DCLG Planning Practice Guidance (PPG) – Air Quality (2014). <https://www.gov.uk/guidance/air-quality--3>.

¹¹ National Planning Policy Framework (July 2018), DCLG.

¹² Planning Practice Guidance (PPG) – Air Quality, (2014), DCLG. Online guidance available at: <https://www.gov.uk/guidance/air-quality--3>.

2.2 Regional and local policy

2.2.1 Local development framework

The Manchester City Council Core Strategy was adopted in July 2012¹³. It replaces the Manchester City Council Unitary Development Plan (UDP). Policies included in the plan relating to air quality include Policy EN 16, which states:

“The Council will seek to improve the air quality within Manchester, and particularly within Air Quality Management Areas, located along Manchester’s principal traffic routes. Developers will be expected to take measures to minimise and mitigate the local impact of emissions from traffic generated by the development, as well as emissions created by the use of the development itself”.

2.2.2 Greater Manchester Air Quality Action Plan

Following the designation of the whole of Greater Manchester as an AQMA, the Council published an air quality action plan (AQAP)¹⁴ in 2004 to promote better air quality conditions within the Borough. The current AQAP was published in 2016 and it details initiatives that Local Council will deliver to improve air quality.

The key principles/objectives of the AQAP include the following:

- increasing travel by sustainable modes;
- reducing acute pollution incidents from traffic;
- improving vehicle efficiency, including vehicle and fuel technology and efficient driving techniques;
- encouraging smarter travel through improved fares, ticketing and information, management of demand for car travel and promotional campaigns;
- better integration of transport and new development;
- reducing trips by motor vehicles by improvements to public transport and to infrastructure for walking and cycling; and
- improving network efficiency.

2.3 Technical standards and guidance

2.3.1 Land-use planning & development control: planning for air quality

Environmental Protection UK (EPUK) and the IAQM have developed a procedure for assessing the significance of changes in traffic volume on local air quality in their guidance document, ‘Land-Use Planning & Development Control: Planning for Air Quality’¹⁵. The procedure is designed to assess potential impacts resulting from changes in road use, including realignment, expansion and increased traffic flow. It can also be used to assess the potential air quality impacts of future

¹³ Manchester City Council Local Plan (2012).

¹⁴ Greater Manchester Action Plan (2016).

¹⁵ EPUK and IAQM. Land-use Planning & Development Control: Planning for Air Quality (2017).

combined heat and power (CHP) plant or boilers. An assessment of impacts from the development has been carried out in accordance with the EPUK method.

2.3.2 Guidance on the assessment of dust from construction and demolition

The IAQM has produced guidance on the assessment of air quality impacts from construction activities¹⁶. This guidance provides a framework for assessing the risk of dust effects that may arise and suggests appropriate dust and air emissions mitigation measures for sites according to the level of risk.

2.3.3 Local air quality management: technical guidance LAQM.TG(16)

The Department for Environment, Food and Rural Affairs (Defra) technical guidance note LAQM.TG(16)¹⁷ is intended to provide guidance to local authorities undertaking the local review and assessment process. They are also used in developing methods for air quality assessments.

¹⁶ IAQM. Guidance on the assessment of dust from demolition and construction (2014).

¹⁷ Defra. Local Air Quality Management: Technical Guidance LAQM.TG(16) (2016).

3.0 Air quality assessment methodology

3.1 General

The method adopted for this air quality assessment takes into account current best practice for assessment of air quality.

The proposed development has the potential to impact on local air quality due to increased traffic arising from the development. In addition, the proposed development will be impacted upon by the existing local air quality, including road traffic emissions.

The development does not include any combustion plant, or car parks.

3.1.1 Study area

The study area is shown in **Figure 1**. The proposed development is located within an AQMA.

Information from appropriate local monitoring sites have been considered, as well as modelled pollution levels in the immediate vicinity of the proposed development site. The local monitoring sites considered are shown in **Figure 2**.

For construction dust, the area considered was in line with the IAQM guidance document¹⁶, which specifies human receptors up to 350 m from the site boundary, or within 50 m of the route used by construction vehicles on a public highway, up to 500 m from the site entrance to be included, depending on the nature and scale of the construction activities.

3.1.2 Pollutants

The main pollutants for consideration in this study are:

- PM₁₀ and dust emissions from construction activities; and
- NO₂ and PM₁₀ emissions from existing and development-related traffic sources.

The adopted methodology for assessing these pollutants is summarised in the following sections.

3.2 Construction dust risk assessment

Potential air emissions from demolition and construction activities, particularly in the form of dust, are an issue in the UK.

Key sources of air pollution from construction sites include:

- dust created by demolition and crushing activities;
- earth-moving and remediation activities;
- general construction activities, including concrete mixing, cutting, grinding, etc. and;
- dust and exhaust emissions from haulage vehicles on site and on local roads.

Given the variability of construction sites and the range of activities undertaken, making an accurate assessment of the dust and air pollutants generated is rarely feasible or practicable. Instead, a more qualitative assessment is undertaken to examine potential areas of concern and identify the best practicable means for eliminating, minimising and mitigating potential emissions.

The IAQM's guidance document 'Guidance on the assessment of dust from demolition and construction'¹⁶ provides useful information on managing and mitigating construction dust emissions. This document has been used as the basis for assessing potential impacts from the proposed development.

An assessment of construction dust effects is normally required if there are:

- human receptors within 350 m of the site boundary, or within 50 m of the route used by construction vehicles on a public highway, up to 500 m from the site entrance; or
- ecological receptors within 50 m of the site boundary; or within 50 m of the route used by construction vehicles on a public highway, up to 500 m from the site entrance.

If these criteria are not met, it can be assumed that the level of risk from dust amenity will be negligible and any effects will not be significant.

This assessment identifies potential works that may generate dust and incorporates a list of appropriate mitigation measures to control them.

3.3 Air quality assessment method for roads and point sources

Road traffic is a primary source of emissions to air. The combustion of fuel in vehicles leads to a number of harmful by-products which can affect air quality in the vicinity of roads. Areas with high traffic volumes or near to major roads often experience elevated pollutant levels, particularly in the form of NO₂ and PM₁₀. Fixed sources, such as boilers and CHP plant, can also be important emissions sources.

The preliminary scoping stage of the EPUK guidance¹⁵ involves the identification of impacts of the local area on a development. This takes into account any potential exposure that future residents or users may experience as a result of emissions from the locality. Background and future baseline air quality are taken into account, and the presence and proximity of AQMAs, heavily-trafficked roads and/or other sources are used as indicators of exceedences.

The impact of a development on the local area is also identified. This is undertaken in two stages. The first stage details simple criteria to scope out the potential impacts of the proposed development on the local area if the proposed development is small, or where impacts can be considered to have insignificant effects. The Stage 1 criteria are:

A) If any of the following apply:

- 10 or more residential units or a site area of more than 0.5 ha;
- more than 1,000 m² of floor space for all other uses or a site area greater than 1 ha;

B) coupled with any of the following:

- the development has more than 10 parking spaces;
- the development will have a centralised energy facility or other centralised combustion process.

Criteria under both A) and B) must be met in order for the assessment to proceed to the second stage. If the criteria are not met then there is no requirement to carry out an air quality assessment

for the impact of the development on the local area, and the impacts can be considered to have insignificant effects.

The second stage requires consideration of road traffic and combustion processes in order to determine whether further assessment of the likely impacts of the development is necessary. Screening criteria include:

- a change in road alignment of five metres or more, within an AQMA;
- light-duty-vehicle (LDV) annual average daily traffic (AADT) flows changing by 100 AADT or more, within or adjacent to an AQMA, or 500 AADT or more elsewhere;
- heavy-duty-vehicle (HDV) flows changing by 25 AADT or more, within or adjacent to an AQMA, or 100 AADT elsewhere;
- inclusion of one or more substantial combustion processes, where there is a risk of impacts at relevant receptors:
 - typically, any combustion plant where the single or combined NO_x emission rate is more than 5 mg/s (provided pollutants are adequately dispersed) will need to be assessed;
 - in situations where:
 - the emissions are released close to buildings with relevant receptors;
 - the dispersion of the plume may be adversely affected by the size and/or height of adjacent buildings; or
 - the stack height is lower than the receptor,

then consideration will need to be given to potential impacts at much lower emission rates.

If none of the criteria in the second stage are triggered there is no requirement to carry out a further air quality assessment for the impact of the development on the local area, and the impacts can be considered to have insignificant effects.

The EPUK / IAQM guidance suggests that consideration should be given to the potential impacts of neighbouring sources on the site, even if the assessment of impacts of the development on the surrounding area is screened out. This assessment takes into account the background and future baseline air quality and whether this will be likely to approach or exceed the values set by air quality objectives.

4.0 Baseline conditions

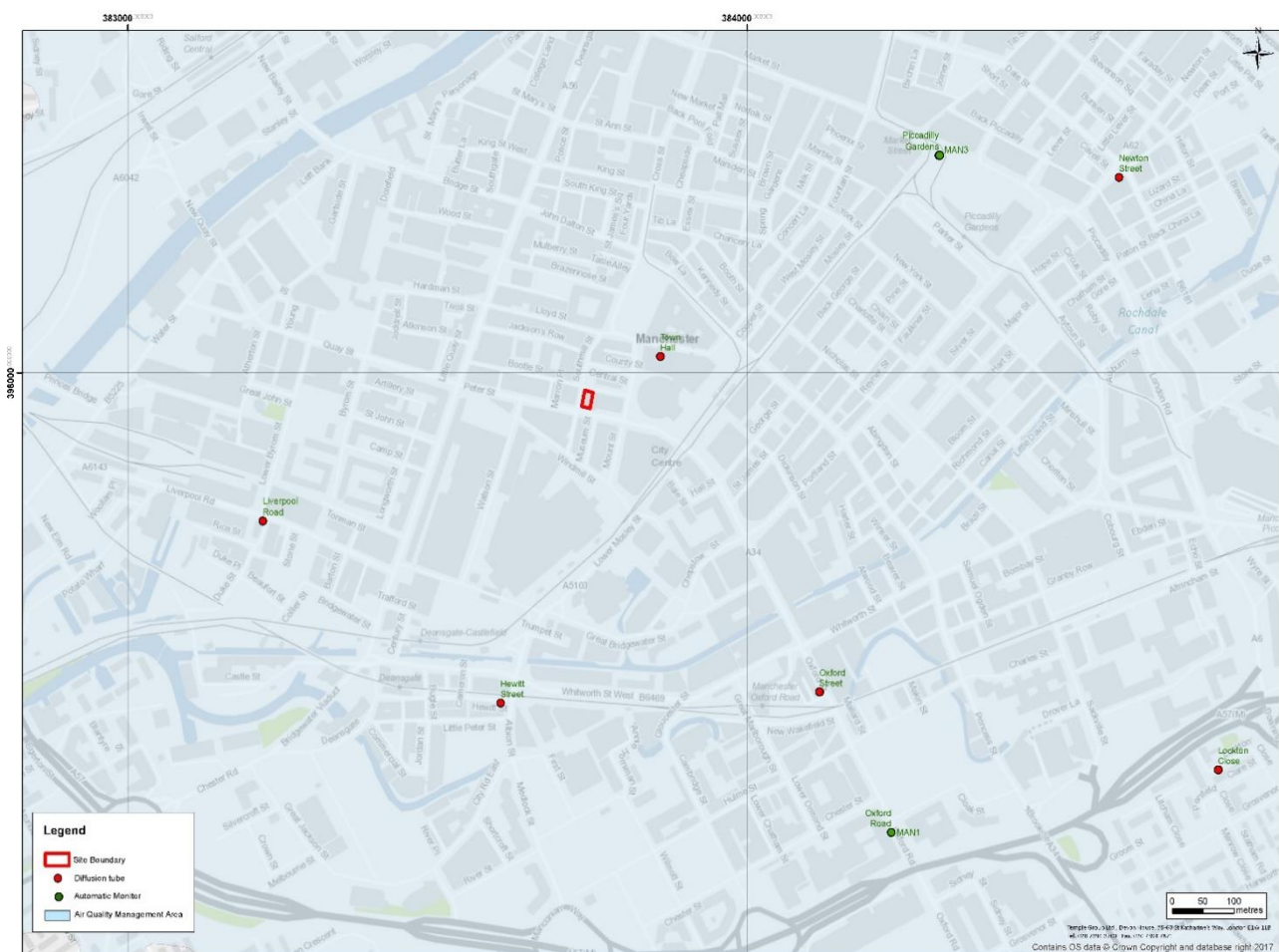
4.1 Site description

The proposed development is located in Manchester's city centre, on the corner of Peter Street and Southmill Street, within the Greater Manchester AQMA. It is adjacent to Peter Street to the south and approximately 58 m from Mount Street to the east.

The main source of air pollution in the vicinity of the proposed development is the A34 (Peter Street) and its junction with the A56 (Deansgate), 180 m to the west of the development.

Figure 2 shows the proposed development site and includes air quality monitoring locations, the data from which was considered in this assessment.

Figure 2 Study area and local monitoring locations



4.2 Local authority review and assessment information

Manchester City Council completed its first statutory review and assessment of air quality in 1999. This assessment concluded that the national air quality objectives for NO₂ and PM₁₀ would continue to be exceeded unless measures were taken to reduce them at source.

The Council designated an AQMA in 2001 for NO₂ and to a lesser extent the 24-hour PM₁₀ objective along the main roads, the city centre and the area surrounding Manchester airport. As exceedences of the NO₂ and PM₁₀ objective were predicted, the boundaries of the AQMA were later reviewed in 2007. A new single AQMA was designated on the 1st May 2016 for the whole of Greater Manchester which reflects the location of the motorways, major roads and urban areas.

The most recent local authority report¹⁸ available at the time of writing confirmed that the national annual mean air quality objective for NO₂ is currently not met in the borough. However, monitoring data suggest that the annual mean objective and short-term objectives for PM₁₀ are being met and that the short-term objective for NO₂ is still not being met at one location (Manchester Oxford Road).

4.3 Local monitoring

4.3.1 Automatic monitoring sites

Continuous monitoring is undertaken at three sites across the borough. Of these, two are relatively close to the proposed development site, namely an urban traffic monitoring site (MAN 1), located on the busy Oxford Road, and an urban background site (MAN 3), located to the northeast of the site, as shown in **Figure 2**.

MAN 1 is not considered representative of the site conditions, due to its proximity to the busy Oxford Road. MAN 3, as an urban background site, is considered to closely represent the expected pollution concentrations at the proposed development site.

Table 4-1 shows monitoring results from the MAN 1 urban traffic monitoring site. The NO₂ annual mean objective was exceeded at this monitoring location in recent years, whilst the one-hour mean objective was exceeded in 2015 and 2016. The annual and 24-hour PM₁₀ objectives were met in all recent years.

¹⁸ Manchester City Council. Air Quality Annual Status Report (2016).

Table 4-1 Monitoring results for MAN 1 (Oxford Road) urban traffic monitoring location

Year	Annual mean NO ₂ (µg/m ³) ¹⁹	No of 1-hour exceedences NO ₂ ²⁰	Annual mean PM ₁₀ (µg/m ³) ²¹	No of 24-hour exceedences PM ₁₀ ²²
2013	55	<i>0 (138)</i>	31	21
2014	68	14	28	18
2015	66	60	28	25
2016	66	90	27	16
2017	65	6	27	15
Objective	40	18	40	35

- **Bold** indicates exceedence of the objectives. *Italics* indicates data capture target not met. ND = No Data.
- Source: Manchester City Council. Air Quality Annual Status Report (2016) and Air Quality England
<http://www.airqualityengland.co.uk>

Table 4-2 shows monitoring results from the MAN 3 urban background monitoring site. The NO₂ annual mean concentration was met in 2013, 2015 and 2017 and shows a decrease within the last reported full calendar year (2017) when compared with previous years. The NO₂ one-hour mean objective was met in all reported years. Both the annual mean and 24-hour mean PM₁₀ objectives were met in all recent years.

Table 4-2 Monitoring results for MAN 3 (Picadilly) urban background monitoring location

Year	Annual mean NO ₂ (µg/m ³) ¹⁷	No of 1-hour exceedences NO ₂ ¹⁸	Annual mean PM ₁₀ (µg/m ³) ¹⁹	No of 24-hour exceedences PM ₁₀ ²⁰
2013	39	<i>0 (97)</i>	22	7
2014	40	2	20	5
2015	39	1	20	3
2016	40	0	20	3
2017	36	1	20	3
Objective	40	18	40	35

- **Bold** indicates exceedence of the objectives. *Italics* indicates data capture target not met. ND = No Data.
- Source: Manchester City Council. Air Quality Annual Status Report (2016) and Air Quality England
<http://www.airqualityengland.co.uk>

4.3.2 Diffusion tube monitoring sites

Diffusion tubes are used to monitor NO₂ concentrations at kerbside, urban centre and background locations. There are six monitoring locations relatively close to the proposed development site, as shown in **Figure 2**.

The closest and most representative diffusion tube monitoring sites is the Townhall site (DT 12). The kerbside monitoring locations in Oxford Street and Newton street are not considered representative of the proposed development site due to their proximity to significantly busier roads.

¹⁹ Data capture less than 75%, annual mean NO₂ concentrations have been annualised (in brackets, where available).

²⁰ Data capture less than 85%. 99.8th percentile of one-hour mean NO₂ concentrations (µg/m³) included in brackets (where available). A 99.8th percentile concentration (in brackets) below 200 µg/m³ indicates compliance with the one-hour objective.

²¹ Data capture less than 75%, annual mean PM₁₀ concentrations have been annualised (in brackets, where available).

²² Data capture less than 85%. 90.4th percentile of 24-hour mean PM₁₀ concentrations (µg/m³) included in brackets (where available). A 90.4th percentile concentration (in brackets) below 50 µg/m³ indicates compliance with the 24-hour objective.

The results of NO₂ diffusion tube monitoring at locations nearest to the site are shown in **Table 4-3**. The results indicate that NO₂ concentrations at the nearby, and most representative, Townhall site (DT 12) met the annual mean objective in all recent years. The site stopped being operational in 2016. The other urban background site on Lockton Close (DT 72), which is located closer to a major road, also met the annual mean objective in all recent years. The urban centre sites (DT 70 and DT 77) varied in concentrations, meeting the objectives in some years but not others. The kerbside sites (DT 9 and DT 29a) exceeded the objective in all recent years, and in addition, annual means in excess of 60 µg/m³ have been recorded, indicating potential exceedences of the NO₂ hourly mean objective.

Table 4-3 Annual mean NO₂ concentrations at diffusion tube sites (µg/m³)

Site Name	Location	Site Type	2013	2014	2015	2016	2017
DT 12	Town Hall	Urban Background	32.3	33.6	31.2	ND	ND
DT 72	Lockton Close	Urban Background	35.2	36.1	34.8	40.0	35.0
DT 70	Liverpool Road	Urban Centre	41.2	39.9	40.5	ND	ND
DT 77	Hewitt Street	Urban Centre	39.4	38.7	37.5	44.2	39.3
DT 9	Newton Street	Kerbside	53.4	56.2	55.9	51.9	51.7
DT 29a	Oxford Street	Kerbside	51.9	52.7	57.1	66.2	58.4
Objective			40.0				

- **Bold** indicates exceedence of the objectives. **Underlined Bold** indicates a potential exceedence of the one-hour objective, due to recorded annual mean concentrations exceeding 60 µg/m³. ND = No Data.
- Source: Manchester City Council. Air Quality Annual Status Report (2016). Nitrogen dioxide diffusion tube results 2017- updated April 2018.

4.4 Pollutant background concentrations

Background concentrations of NO₂ and PM₁₀ were obtained from the Defra background maps²³ for the 1 km x 1 km grid square centred on OS co-ordinates 383500, 397500, corresponding to the location of the proposed development. These background maps are available for each year up to 2030. Background NO₂ and PM₁₀ concentrations for 2019, the earliest year for construction and operation, are shown in **Table 4-4**.

Table 4-4 Defra annual mean background pollutant concentrations at the proposed development (µg/m³)

Pollutant	2019	Objective
NO ₂	26.6	40.0
PM ₁₀	14.7	40.0

4.5 Overall baseline

Given that the development site is located a significant distance away from heavily-trafficked roads, it is considered that the urban background monitoring sites more closely represent the air quality conditions at the proposed development site.

The automatic urban background monitoring site (MAN 3) monitoring results show that NO₂ and PM₁₀ concentrations have been generally meeting the annual and short-term objectives in recent years. Similarly, the urban background diffusion tube sites (DT 12 and DT 72) monitoring results

²³ Defra background mapping data for local authorities – 2015 <https://uk-air.defra.gov.uk/data/laqm-background-maps?year=2015>.

indicate that the NO₂ annual mean objective has been met in all recent years, with the exception of Lockton Close in 2016.

According to Defra background maps, the annual mean NO₂ and PM₁₀ background concentrations are expected to be well below the objectives at the proposed development site in 2018.

Given the above, annual mean NO₂, one-hour mean NO₂, annual mean PM₁₀ and 24-hour mean PM₁₀ objectives are all likely to be met at the proposed development once it becomes operational in 2019.

5.0 Assessment

5.1 Construction phase

5.1.1 Construction dust

Screening assessment

The construction activities have been compared with the screening thresholds as described in **Section 3.2**.

As human receptors are within 350 m of the site boundary of the proposed development, a dust risk assessment has been undertaken.

Ecological receptors are not present within 50 m of the site boundary or likely track-out route and ecological impacts have therefore been screened out of this assessment.

Demolition

There are no demolition activities associated with the proposed development.

Earthworks

There are no earthworks associated with the proposed development.

Construction

The existing warehouse building will be extended and converted into a hotel. As such, construction activities are relatively low compared to a new build activity. Materials with a high potential for dust release, such as concrete and brickwork, will be used on site. Based on this, the emissions category for this activity is considered to be low.

Track-out

Given the scale of the construction activities, it is considered that there will be less than 10 one-way vehicle movements from the site per day, putting the likely emission magnitude as small.

Risk of dust impacts

The surrounding area has a medium density of residential properties, which have a high sensitivity to dust soiling and health effects. Between 10 and 100 residential receptors are located within 50 m of the proposed development; similarly, between 10 and 100 residential receptors lie within 50 m of the development's trackout route. Using the IAQM guidance, the sensitivity of the surrounding area has been determined for dust soiling effects and health effects, based on the receptor type and density, as well as the ambient dust concentration for the potential health impacts (from **Section 4.0**). The determined sensitivities are shown in **Table 5-1**.

Table 5-1 Sensitivity of the surrounding area

Potential impact	Sensitivity of the surrounding area			
	Demolition	Earthworks	Construction	Track-out
Dust soiling	Not applicable	Not applicable	Medium	Medium
Health effects	Not applicable	Not applicable	Low	Low

The construction dust risks have been assigned based on the IAQM assessment process, which assigns risks against the nature and scale of each construction activity, taking into consideration the above-mentioned receptor sensitivity. The risk of dust impacts derived from the different on-site activities is shown in **Table 5-2**.

Table 5-2 Summary – Dust risk from site activities

Potential impact	Risk of dust impacts			
	Demolition	Earthworks	Construction	Track-out
Dust soiling	Not applicable	Not applicable	Low Risk	Negligible
Health effects	Not applicable	Not applicable	Negligible	Negligible

The overall dust risk from the site is predicted to be low for dust soiling effects and negligible for health effects, due to the low scale of operations and the moderate density of sensitive receptors in the surrounding area, combined with the low ambient concentration of PM₁₀.

Based on the IAQM, with the implementation of the mitigation measures described in **Section 7.1**, construction activities will be managed such that dust impacts will not be significant.

5.1.2 Construction road traffic emissions

Screening assessment

A screening assessment of construction traffic identified that construction traffic associated with the proposed development does not meet the criteria for further assessment set out in the EPUK / IAQM guidance¹⁵, and described in **Section 3.3**.

Impacts relating to construction traffic will therefore be negligible and not significant.

5.2 Operational phase

5.2.1 Impacts of the development

Screening assessment

The proposed development has been assessed against the two-stage screening criteria of the EPUK guidance¹⁵, as described in **Section 3.3**.

For the proposed development, the floor space for hotel use will be more than 1,000 m². However, the development has currently no parking spaces, and no centralised heat and energy combustion plant. As such, the stage one thresholds have not been triggered.

Although stage one criteria have not been met, second stage screening was undertaken in order to confirm that the impacts from the proposed development will be negligible.

For the proposed development, the second stage screening criteria not met, due to:

- Traffic flows will not exceed the thresholds, as no car parking has been provided;
- There will not be a change in road alignment; and
- There will not be any combustion plant included within the proposed development.

As the second stage criteria have not been triggered, a detailed assessment of the air quality impacts of the proposed development on the local receiving environment is not required. As such, impacts relating to operational traffic from the proposed development will be negligible and not significant.

5.2.2 Impacts on the development

The proposed development will not contribute significantly to local air quality, as concluded in the previous section, and as such the existing air quality will be representative of the air quality that new receptors within the proposed development will experience.

Section 4.0 describes the baseline air quality conditions in the location of the proposed development for the first year of operations. Based on the available local monitoring data, the set back of the proposed development from major roads, and the Defra background concentrations, the local air quality is expected to be within the air quality objectives for both NO₂ and PM₁₀ in the first year of operation.

Based on Defra predictions, future air quality is expected to improve, due to the various measures being implemented to reduce air pollution, as described in the AQAP. As such, the first year of operations is considered a conservative year for the air quality assessment.

It should be noted that the proposed development is a hotel, which is generally only required to comply with the short-term air quality objectives, given it is unlikely to have guests reside in the hotel for extended (long-term) periods. However, based on the baseline air quality levels, both the short-term and annual air quality objectives are expected to be met at the proposed development site.

6.0 Evaluation of assessment results

6.1 Development constraints

This section considers air quality impacts in the vicinity of the proposed development in order to examine the suitability of the site for the intended use.

The air quality conditions in the vicinity of the site have been assessed in the baseline assessment in **Section 4.0**. NO₂ and PM₁₀ concentrations are expected to meet the national air quality objectives at present and in future year, based on local air quality monitoring and Defra background maps.

Therefore, there are not considered to be any constraints for this development.

6.2 Construction impacts

6.2.1 Construction dust

Mitigation measures will help to negate some of the potentially negative dust and PM₁₀ impacts resulting from the construction phase of the proposed development. The implementation of the mitigation measures defined in **Section 7.1** will avoid significant dust effects.

6.2.2 Traffic emissions

Based on the small scale of construction, air quality effects from the construction phase traffic have been screened out and can therefore be considered not significant.

6.3 Operational impacts

6.3.1 Impacts of the development

As outlined in **Section 5.2**, the screening assessment found that impacts relating to operational traffic associated with the proposed development will be negligible, and the development does not include any other significant source of emissions (such as centralised plant). As such, impacts of the development on local air quality can therefore be considered not significant.

6.3.2 Impacts on the development

New residences introduced by the proposed development are not expected to be exposed to concentrations that breach air quality objectives.

7.0 Mitigation

7.1 Mitigation measures for construction

Under best practice guidance, the proposed development will constitute a low risk for construction dust.

The impacts associated with the proposed development are likely to be in the form of dust generated during construction and track-out. The use of appropriate mitigation measures throughout the construction period will ensure that impacts to sensitive receptors are minimised or removed. The following best practice mitigation measures should be included in the construction method statement:

- The contact details for the individuals accountable for air quality and dust issues should be displayed at the site boundary.
- Complaints regarding air quality should be logged, and the log made available to the local authority on request.
- The site should be visually monitored for dust at least on a daily basis, with the frequency of monitoring increased during dry and windy conditions.
- The site should be organised so that:
 - physical barriers or screens are installed around the site to limit the dispersal of dust emissions; and
 - loose materials are covered as soon as possible.
- All vehicles carrying loose or potentially dusty material to or from the working areas will be fully sheeted.
- Materials will not be burnt on site.
- Minimum drop heights will be used from conveyors, loading shovels and loading equipment.
- An adequate water supply will be maintained for dust suppression purposes.
- Suitable dust suppression techniques such as water sprays or local extraction will be used when cutting, grinding or sawing materials onsite.

These mitigation measures are intended to be a summary of the key controls specific to this site in order to minimise potential emissions. These measures are not intended to be a comprehensive list of all best practice guidance; for more complete mitigation measures and control the IAQM guidance¹⁶ should be consulted.

Provided these measures are put in place, emissions from the site during construction will not present a significant problem to local receptors.

7.2 Mitigation measures for operations

The air quality objectives are expected to be met at all relevant on-site receptors when the proposed development is operational. Therefore, no mitigation of exposure for new receptors introduced by the proposed development is required.

8.0 Conclusions

The air quality assessment has determined the following:

- Baseline air quality conditions at the proposed development are expected to meet the NO₂ annual mean, NO₂ one-hour mean, PM₁₀ annual mean and PM₁₀ 24-hour mean air quality objectives in both the construction and operational years.
- The screening of traffic during the construction phase in relation to air quality has determined that construction traffic impacts will be negligible and not significant.
- The dust risk assessment has identified that construction activities pose a low dust risk, however with the implementation of the mitigation measures detailed in **Section 7.1**, the activities are not expected to result in significant impacts on local receptors.
- The screening of traffic resulting from the development during the operational phase in relation to air quality has determined that operational traffic impacts will be negligible and not significant.
- The assessment of air quality in relation to existing traffic sources during the operational phase has determined that pollutant levels are predicted to meet the air quality objectives in the year of construction and operation.
- The site is considered suitable for the development type proposed and no additional mitigation of exposure for new receptors introduced by the proposed development is required.

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