

## 8 AIR QUALITY

### 8.1 INTRODUCTION

#### 8.1.1 Company

WYG

#### 8.1.2 Author

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#### 8.1.3 Chapter Purpose

This chapter of the ES assesses the likely significant effects of the proposed development on the environment in terms of air quality. The chapter and its supporting appendices describe the planning policy context, the assessment methodology; the baseline conditions at the application site and surroundings; the likely significant effects; the mitigation measures required to prevent, reduce or offset any significant adverse effects; the likely residual effects after these measures have been employed; and the cumulative effects. In summary, the objectives of the chapter are to:

- Review the existing air quality baseline;
- Assess any potential air quality impacts during the Construction phase;
- Assess any potential air quality impacts during the Operational phase; and
- Identify any mitigation measures associated with the Construction and/or Operational phase (as required).

#### 8.1.4 Chapter Updates for Revised Layout (Dec 2020 submission)

This ES chapter relating to air quality has been reviewed against the following aspects and for each it has been confirmed that there are no amendments required to the content of the chapter:

- Baseline data validity: there have been changes to the baseline data in accordance with updates to the DEFRA toolkits and ADMS Roads 5.0, however, there are no significant changes to the conclusions; and
- Operational traffic data: no relevant changes have been made to operational traffic data, as confirmed by Mott MacDonald.

Further information on the changes to the operational traffic trip figures and distribution brought about by the December 2020 scheme changes is provided in Section 7.1.4 in Chapter 7: Transport. The results demonstrate that the revised application quanta will generate 25 fewer traffic trips in the morning peak and 67 fewer trips in the evening peak hour than the March 2020 scheme, while the traffic distribution is expected to remain broadly the same. On this basis, it is considered that the previous March 2020

traffic data represents a robust, worst case scenario, and has therefore been retained for use in this revised ES chapter.

In accordance with the methodology outlined in Chapter 2, a Level 2 update has been undertaken, due to the relevance and scale of the proposed development amendments (including amendments to the building locations and uses, and consequently, the proposed receptor locations).

The sections that have been updated are:

- Introduction
- Assessment of Baseline Conditions & Receptor Sensitivity
- Figure 8.1
- Baseline Conditions
- Assessment Pre-mitigation (Including Design Interventions)

#### 8.1.5 Figures

- Figure 1: Air Quality Assessment Area including Local Authority Monitoring Locations, Existing Sensitive Receptors and Proposed Sensitive Receptor Locations
- Figure 2: Liverpool City Airport 2018 Meteorological Station Wind Rose

#### 8.1.6 Appendices

- Appendix 8.1: Air Quality Assessment

### 8.2 METHODOLOGY

#### 8.2.1 Guidance

- Department for Environment, Food & Rural Affairs (February 2018) Local Air Quality Management: Technical Guidance (TG16) [1];
- Institute of Air Quality Management (February 2014) Assessment of Dust from Demolition and Construction (Version 1.1) [2];
- Institute of Air Quality Management (January 2017) Guidance on Land-Use Planning and Development Control: Planning for Air Quality (Version 1.2) [3];
- Institute of Air Quality Management (May 2020) A Guide to the Assessment of Air Quality Impact on Designated Nature Conservation Sites (Version 1.1) [4].

#### 8.2.2 Legislation and Policy

##### 8.2.2.1 Global Policy

World Health Organization (2006) (WHO) Air Quality Guidance for Particulate Matter, Ozone, Nitrogen Dioxide and Sulphur Dioxide: Summary of Risk Assessment

The WHO air quality guidelines are designed to offer guidance in reducing the health impacts of air pollution. The WHO has undertaken a review of the accumulated scientific evidence to consider its implications for its air quality guidelines. The result of this work is presented in this document in the form of revised guideline values for selected air pollutants, which are applicable across all WHO regions. These guidelines are intended to inform policymakers and to provide appropriate targets for a broad range of policy options for air quality management in different parts of the world.

The Air Quality Objective's (AQO's) for pollutants included within the Air Quality Strategy and assessed as part of the scope of this report are presented in Table 2.1 and Table 2.2 of the Air Quality Technical Report (Appendix 8.1). This is along with the European Commission (EC) Directive Limits and World Health Organisation (WHO) Guidelines. The ecological levels used within this assessment are based on WHO and Convention on Long-range Transboundary Air Pollution (CLRTAP) guidance.

##### 8.2.2.2 European Policy

The European Commission (June 2008) Directive 2008/50/EC: Ambient Air Quality and Cleaner Air for Europe.

This Directive consolidates previous legislation which was designed to deal with specific pollutants in a consistent manner and provides new AQOs for fine particulates. The consolidated Directives include:

- Directive 1999/30/EC – the First Air Quality "Daughter" Directive – sets ambient air limit values for NO<sub>2</sub> and oxides of nitrogen, sulphur dioxide, lead and PM<sub>10</sub>;
- Directive 2000/69/EC – the Second Air Quality "Daughter" Directive – sets ambient air limit values for benzene and carbon monoxide; and,
- Directive 2002/3/EC – the Third Air Quality "Daughter" Directive – seeks to establish long-term objectives, target values, an alert threshold and an information threshold for concentrations of ozone in ambient air.

The fourth daughter Directive was not included within the consolidation and is described as:

- Directive 2004/107/EC – sets health-based limits on polycyclic aromatic hydrocarbons, cadmium, arsenic, nickel and mercury, for which there is a requirement to reduce exposure to as low as reasonably achievable.

##### 8.2.2.3 UK Legislation

Department for Environment, Food & Rural Affairs (July 2007) – The Air Quality Strategy for England, Scotland, Wales and Northern Ireland (Volume 1)

The UK Air Quality Strategy is the method for implementation of the air quality limit values in England, Scotland, Wales and Northern Ireland and provides a framework for improving air quality and protecting human health from the effects of pollution.

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For each nominated pollutant, the Air Quality Strategy sets clear, measurable, outdoor air quality standards and target dates by which these must be achieved; the combined standard and target date is referred to as the AQO for that pollutant. Adopted national standards are based on the recommendations of the Expert Panel on Air Quality Standards (EPAQS) and have been translated into a set of Statutory Objectives within the Air Quality (England) Regulations SI 928, and subsequent amendments.

The AQOs for pollutants included within the Air Quality Strategy and assessed as part of the scope of this report are presented in Table 2.1 and Table 2.2 of the Air Quality Technical Report (Appendix 8.1).

### Department for Environment, Food & Rural Affairs (October 2019) The Conservation of Habitats and Species Regulations

As part of The Conservation of Habitats and Species Regulations, it requires competent authorities to review planning applications and consents that have the potential to impact on European designated sites (e.g. Special Protection Areas).

#### 8.2.2.4 Local Air Quality Management

Under Section 82 of the Environment Act (Part IV) Local Authorities (LAs) are required to periodically review and assess air quality within their area of jurisdiction under the system of Local Air Quality Management (LAQM). This review and assessment of air quality involves assessing present and likely future air quality against the AQOs. If it is predicted that levels at the façade of buildings where members of the public are regularly present (normally residential properties) are likely to be exceeded, the LA is required to declare an Air Quality Management Area (AQMA). For each AQMA, the LA is required to produce an Air Quality Action Plan (AQAP), the objective of which is to reduce pollutant concentrations in pursuit of the AQOs.

#### 8.2.2.5 Planning Policy

Section 38(6) of the Planning and Compulsory Purchase Act 2004 and Section 70(2) of the Town & Country Planning Act 1990 require that planning applications be determined in accordance with the statutory development plan, unless material considerations indicate otherwise.

The statutory development plan for the City of Liverpool currently comprises the Unitary Development Plan (UDP) which was adopted in 2002.

Relevant material considerations include:

- National Planning Policy Framework (NPPF) (2019);
- Planning Practice Guidance (2014 and as updated);
- Emerging Liverpool Local Plan (Submission Version, May 2018); and
- Other local policy / guidance.

#### 8.2.2.6 Statutory Development Plan

The adopted Unitary Development Plan (UDP) policy of relevance to the air quality assessment is policy EP11 (Pollution) which details that:

- ‘1. Planning permission will not be granted for development which has the potential to create unacceptable air, water, noise or other pollution or nuisance.
2. Where existing uses adversely affect the environment through noise, vibration, soot, grit, dust, smoke, fumes, smell, vehicle obstruction or other environmental problems, the City Council will:
  - Seek to reduce the problem on site;
  - refuse planning permission for development which would result in a consolidation or expansion of uses giving rise to environmental problems;
  - Impose appropriate conditions on any permission which may be granted and/or obtain legal agreements in relation to such a permission, in order to regulate uses;
  - Take enforcement action where appropriate; and
  - In appropriate circumstances, compulsorily acquire the premises whilst endeavoring to assist in the relocation of the firm, where resources permit.

In the case of new development close to existing uses which are authorised or licensed under pollution control legislation, and which are a potential nuisance to the proposed development, the policy advises that planning permission will not be granted unless the City Council is satisfied that sufficient measures can and will be taken to protect amenity and environmental health.’

#### 8.2.2.7 National Planning Policy Framework (NPPF)

The National Planning Policy Framework (NPPF) was updated in February 2019. In relation to air quality, the NPPF states that:

- Paragraph 170(e) – planning decisions should contribute to and enhance the natural and local environment by preventing new and existing development from contributing to, being put at unacceptable risk from, or being adversely affected by, unacceptable levels of air pollution (amongst others).
- Paragraph 181 - planning 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 or 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 or 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’

### Planning Practice Guidance (PPG): Air Quality

The PPG details: ‘The 2008 Ambient Air Quality Directive sets legally binding limits for concentrations in outdoor air of major air pollutants that affect public health such as particulate matter (PM<sub>10</sub> and PM<sub>2.5</sub>) and nitrogen dioxide (NO<sub>2</sub>).

The UK also has national emission reduction commitments for overall UK emissions of 5 damaging air pollutants:

- fine particulate matter (PM<sub>2.5</sub>);
- ammonia (NH<sub>3</sub>);
- nitrogen oxides (NO<sub>x</sub>);
- sulphur dioxide (SO<sub>2</sub>); and
- non-methane volatile organic compounds (NMVOCs).

As well as having direct effects on public health, habitats and biodiversity, these pollutants can combine in the atmosphere to form ozone, a harmful air pollutant (and potent greenhouse gas) which can be transported great distances by weather systems. Odour and dust can also be a planning concern, for example, because of the effect on local amenity.’

### Emerging Local Plan (Submission Draft, May 2018)

In accordance with NPPF paragraph 48, the submission version plan has substantial but not full weight in decision taking as it has yet to be examined. The Local Plan identifies a number of strategic priorities to deliver its Vision. Of relevance are the following strategic policies:

- “Attractive and Safe City with A Strong Local Identity” which requires all new developments to avoid adverse environmental impacts, and
- “Use Resources Efficiently” which ensures that all new development avoids adverse environmental impact and is adaptive and resilient to climate change impacts.

In terms of detailed air quality policies, policy STP2 (Sustainable Growth Principles and Managing Environmental Impacts) states:

To ensure the sustainable growth of Liverpool, the City Council will support development proposals which address, as appropriate, a range of strategic economic, social and environmental principles, including that new development should (under part r of the Policy) minimise adverse impacts on and include measures to improve air quality within the City.

### Policy R1 (Pollution)

- 1) ‘Development proposals which are likely to have a pollution impact should demonstrate that:
  - a) Appropriate measures are incorporated to avoid pollution to air, water and soil;

- b) The impact of noise, vibration and lighting will not be significant;
  - c) The proposal will not undermine the achievement of Air Quality Management Area (AQMA) objectives; and
  - d) It will not lead to a significant decline in air quality
- 2) Where existing uses adversely affect the environment through noise, vibration, dust, smoke, fumes, smell, vehicle obstruction or other environmental problems the City Council will:
- a) Refuse planning permission for proposals which would result in a consolidation or expansion of uses giving rise to environmental problems.
  - b) Impose appropriate conditions on any permission which may be granted and/or obtain legal agreements in relation to such a permission in order to regulate uses.
- 3) New development proposals close to existing uses which are authorised or licenced under pollution control legislation, and which are a potential nuisance to the proposed development, will not be permitted unless the City Council is satisfied that sufficient measures will be taken by the developer to protect amenity and environmental health.
- 4) Where appropriate major developments should incorporate measures to reduce and minimise air pollution.'

#### 8.2.2.8 Other Local Policy / Guidance

#### 8.2.3 Liverpool's Clean Air Plan.

In August 2019, LCC published their 'Clean Air Plan: Strategic Outline Case' which has been compiled to manage and reduce the pollutant concentration associated with NO<sub>2</sub> in the shortest timescales in line with the AQO's. The final 'Clean Air Plan' was submitted in October 2019.

The latest Liverpool Annual Status Report has been used to source baseline monitoring data.

#### 8.2.4 Consultees & Scoping

The air quality assessment methodology within the EIA scoping report was submitted to LCC and relevant parties (including MEAS, and Historic England) on 15 May 2017. The formal scoping opinion was received on 7 July 2017, one comment was raised with respect to Air Quality. The methodology put forward was deemed appropriate however, in a letter dated 15 June 2017, Historic England stated that due to their high grade, Anfield Cemetery and Stanley Park should be considered sensitive receptors.

#### 8.2.5 Consideration of Climate Change

Global changes associated with Climate Change are not considered to affect the results of the assessment. However, in the future it is believed that fewer polluting vehicles will be on the road network due to the anticipated greater uptake of electric vehicle ownership. This is supported by the UK

target to cut the purchasing of new petrol and diesel fuelled cars by 2040 (Business, Energy and Industrial Strategy Committee (2018) Fourteenth Report of Session 2017-2019). It should be noted that this has already been considered within the predicted emissions associated with the traffic flows.

#### 8.2.6 Consideration of Human Health

To determine the predicted exposure of pollutants at any human health receptor the WHO have defined the AQO's for Air Quality Assessments. This criterion, along with any specific National Policy has been used as part of this assessment, consequently, human health has inherently been considered within this assessment.

#### 8.2.7 Consideration of Risk of Major Accidents and/or Disasters

Major accidents and/or disasters are not considered to be relevant in terms of air quality impacts and have therefore been 'scoped out' of this ES Chapter.

#### 8.2.8 Alternatives

In regard to the traffic data that has informed this assessment, the baseline conditions that have been considered include an alternate future baseline scenario as follows:

- 2018 existing baseline conditions;
- 2028 base (no development) – future baseline with cumulative development; and
- 2028 base (with development) – future baseline with cumulative development.

Further details on the traffic data that has formed the basis of the air quality assessment may be found in Chapter 7 Transport.

#### 8.2.9 Assessment of Baseline Conditions & Receptor Sensitivity

##### 8.2.9.1 Study Area

The Air Quality Study Area used for this assessment is defined within Figure 1 of the Air Quality Assessment (Appendix 8.1). The Air Quality Assessment area is located within the jurisdiction of Liverpool City Council (LCC).

##### 8.2.9.2 Air Quality Baseline Condition Review

As required under section 82 of the Environment Act 1995, LCC has undertaken an ongoing exercise to review and assess air quality within its area of jurisdiction. The assessments have indicated that concentrations of NO<sub>2</sub> are above the relevant AQOs at locations of relevant public exposure. LCC has one designated Air Quality Management Area (AQMA) for NO<sub>2</sub> that covers the entirety of the City of Liverpool:

- Liverpool City AQMA: An area encompassing the whole of the City of

Liverpool.

The application site is within the Liverpool City AQMA; therefore, this has been included within this assessment.

SMBC has four designated AQMA's for NO<sub>2</sub> and PM<sub>10</sub> within its jurisdiction, the proposed development site is not within the boundary of any SMBC AQMA. These have been summarised below:

- AQMA 2: An area encompassing Princess Way A5036 from the Ewart Road flyover up to and including the Roundabout and flyover at the junction with Crosby Road South A565;
- AQMA 3: The area around the junction of Millers Bridge A5058 and Derby Road A565;
- AQMA 4: The area around the junction of Crosby Road North A565 and South Road, Waterloo; and
- AQMA 5: The area around the junction of Hawthorne Road B5422 and Church Road A5036, Litherland.

A review of the provided traffic data (summarised within Table 6.1 (Construction Phase) and Table 6.2 (Operational Phase) of Appendix 8.1, in ES Volume III has shown, that in accordance with the criteria outlined within Table 6.2 of the IAQM Guidance 'Land-Use Planning & Development Control: Planning for Air Quality' (January 2017), an assessment of the SMBC AQMA 3 (located ~2km north west of the site boundary) is not required.

#### 8.2.9.3 Air Quality Monitoring

Monitoring of air quality within LCC is undertaken through both continuous and non-continuous monitoring methods. These have been reviewed in order to provide an indication of existing air quality in the area surrounding the application site.

#### 8.2.9.4 Continuous Monitoring

LCC operated one automatic monitoring station, AM1, in 2018. AM1 is located approximately 13 km south-east of the application site. The most recently available automatic monitoring data is from 2018, which is presented in Table 8.1.

**Table 8.1**

**Monitored Annual Mean NO<sub>2</sub> Concentrations at Automatic Monitoring Stations**

SITE ID	LOCATION	INLET HEIGHT (M)	2018 ANNUAL MEAN NO <sub>2</sub> CONCENTRATION (µg/m <sup>3</sup> )
AM1	Speke	1.5	18.0

As indicated in Table 8.1 above, automatic monitoring station AM1 monitored a concentration below the AQO for NO<sub>2</sub> (40 µg/m<sup>3</sup> annual mean) during 2018. Due to the distance from the application site,



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automatic monitoring station AM1 was not used as part of the model verification.

8.2.9.5 Non - Continuous Monitoring

LCC operates a network of passive diffusion tubes. The closest diffusion tube is diffusion tube N16, which is located on Walton Road, located approximately 262 m west of the Proposed Development Site. The most recently available diffusion tube data is from 2018 which is presented in Table 8.2.

Table 8.2  
Monitored Annual Mean NO<sub>2</sub> Concentrations at Diffusion Tubes

SITE ID	LOCATION	INLET HEIGHT (M)	2018 ANNUAL MEAN NO <sub>2</sub> CONCENTRATION (µg/m <sup>3</sup> )
N7	Walton Hall Ave, Stanley Park Ave junct. Central reservation lamppost kerbside	3.5	36.0
N8	Lamppost on corner of Walton Ln and Walton Breck Rd next to pedestrian crossing	3.5	47.0
N15	Queens Drive Monitoring Station	3.5	30.0
N16	Walton Rd/Spellow Ln-Lp nr Traffic C2222	3.5	36.0

8.2.9.6 Receptor Sensitivity

Human Health Sensitive Receptors

Receptors considered as part of the air quality assessment are primarily those existing receptors that are situated along routes predicted to experience significant changes in traffic flow as a result of the proposed development.

The existing receptor locations assessed as part of the long-term (annual) assessment are summarised in Table 8.3. The proposed sensitive receptor locations assessed are summarised in Table 8.4. The spatial locations of all of the receptors are illustrated in Figure 8.1.

Table 8.3  
Modelled Sensitive Receptor Locations

DISCRETE SENSITIVE RECEPTOR	RECEPTOR HEIGHT (M)
R1 Gwladys Street Primary and Nursery School West	1.5
R2 Gwladys Street Primary and Nursery School East	1.5
R3 3 Goodison Road	1.5
R4 69 Goodison Road	1.5
R5 Arnot St Mary Church of England Primary	1.5

DISCRETE SENSITIVE RECEPTOR	RECEPTOR HEIGHT (M)
School	
R6 Alsop High School	1.5
R7 258Walton Road	1.5
R8 120 Queens Road	1.5
R9 46 Country Road	1.5
R10 333 Walton lane	1.5
R11 Breeze Hill Neighbourhood Health Centre	1.5
R12 65 Breeze Hill	1.5
R13 281 Country Road	4.0
R14 204 Country Road	4.0
R15 4 Nimrod Street	1.5
R16 1 Andrew Street	1.5
R17 39 Diana Street	1.5
R18 46 Walton Hall Avenue	1.5
R19 82 Goodison Road	1.5
R20 10 City Road	1.5
R21 3 Goldie Street	1.5
R22 92 Walton Road	1.5
R23 Anfield Cemetery 1	1.5
R24 Anfield Cemetery 2	1.5
R25 Anfield Cemetery 3	1.5
R26 Anfield Cemetery 4	1.5
R27 Anfield Cemetery 5	1.5
R28 Anfield Cemetery 6	1.5
R29 Anfield Cemetery 7	1.5
R30 Anfield Cemetery 8	1.5
R31 Anfield Cemetery 9	1.5
R32 Stanley Park 1	1.5
R33 Stanley Park 2	1.5
R34 Stanley Park 3	1.5
R35 Stanley Park 4	1.5
R36 Stanley Park 5	1.5
R37 Stanley Park 6	1.5
R38 Stanley Park 7	1.5
R39 Stanley Park 8	1.5
R40 Stanley Park 9	1.5

DISCRETE SENSITIVE RECEPTOR	RECEPTOR HEIGHT (M)
R41 Stanley Park 10	1.5
R42 Stanley Park 11	1.5
R43 Stanley Park 12	1.5

Table 8.4  
Modelled Proposed Sensitive Receptor Locations

DISCRETE PROPOSED SENSITIVE RECEPTOR	RECEPTOR HEIGHT (M)
CR1 Walton Lane 18F/1316 scheme location 1	1.5
CR2 Walton Lane 18F/1316 scheme location 2	1.5

Table 8.5  
Modelled Proposed Sensitive Receptor Locations at the Site

DISCRETE PROPOSED SENSITIVE RECEPTOR	RECEPTOR HEIGHT (M)
PR1 Plot B	1.5
PR2 Plot B	1.5
PR3 Plot A	1.5
PR4 Plot D	1.5
PR5 Plot F	1.5
PR6 Plot G	1.5
PR7 Plot G	1.5
PR8 Plot G	1.5
PR9 Plot E	1.5
PR10 Plot E	1.5
PR11 Plot A	1.5
PR12 Plot C	1.5

Ecological Sensitive Receptors

Air quality impacts associated with the proposed development have the potential to impact on receptors of ecological sensitivity within the vicinity of the application site. The IAQM guidance on ‘Air Quality Impacts on

Designated Nature Conservation Sites’ (2020) [6] document outlines the types of designated nature sites within 2 km of the application site which require air quality assessment.

There are no statutory designated ecological conservation sites within 2 km of the application site. WYG Air Quality Consultants have liaised with the WYG Project Ecologist to determine whether any additional ecologically sensitive sites are present, which are required to be assessed as part of the air quality assessment. The ecologically sensitive sites in close proximity to the application site have been identified within the Ecological assessment (Appendix 3.2, ES Volume III

Based upon the screening criteria outlined within the IAQM Guidance, only ecological receptors which are located within 200m of the modelled road network require assessment. Due to the distance from the modelled road network, all ecological receptors identified, including all ecologically sensitive sites, can be ‘scoped out’ of this Air Quality Assessment.

Sensitive Receptor Scale

Table 8.6 sets out the scale of sensitivity that has been applied to receptors identified and considered within this assessment.

Table 8.6  
Scale of Air Quality sensitivity used in the assessment

SENSITIVITY	DESCRIPTION
Very High	Do Minimum pollutant concentration at ≥110% of the AQO (Traffic Emissions). Receptors of very high sensitivity to dust, such as: hospitals and clinics, retirement homes, painting and furnishing, hi-tech industries and food processing (Construction). Densely populated areas — more than 100 dwellings within 20m of the development site (Construction).
High	Do Minimum pollutant concentration already 103-109% of the AQO (Traffic Emissions). Receptors of high sensitivity to dust, such as: schools, residential areas, food retailers, glasshouses and nurseries, horticultural land and offices (Construction). Densely populated areas — 10-100 dwellings within 20m of the development site (Construction).
Medium	Do Minimum pollutant concentration between 95 - 102% of the relevant AQO (Traffic Emissions). Receptors of medium sensitivity to dust, such as: farms, outdoor storage, light and heavy industry (Construction). Suburban or edge of town areas (Construction).
Low	Do Minimum pollutant concentration between 75-90% of the relevant AQO (Traffic Emissions) All other dust sensitive receptors not identified above (Construction). Rural/Industrial areas (Construction).
Negligible	Concentration less than 75% of the relevant AQO (Traffic Emissions) Receptor more than 350m away (Construction)

8.2.10 Assessment of Magnitude

The assessment was undertaken based on the description of development contained in Chapter 3 of this volume of the ES. Table 8.7 indicates the scale of impact magnitude that has been used in undertaking the assessment.

Table 8.7  
Scale of magnitude for Air Quality impacts used in the assessment

MAGNITUDE	DESCRIPTION	EXAMPLES
Very large	Impact resulting in a considerable change in baseline environmental conditions with severe undesirable/desirable consequences on the receiving environment.	Air quality varies between the do minimum and do something by more than 10% of the air quality criterion (Emissions). Substantial risk that emissions will generate statutory nuisance complaints, resulting in formal action (Construction).
Large	Impact resulting in a discernible change in baseline environmental conditions with undesirable/desirable conditions	Air quality varies between the do minimum and do something by 5 - 10% of the air quality criterion (Emissions). Moderate risk that emissions will generate statutory nuisance complaints, resulting in formal action (Construction).
Medium	Impact resulting in a discernible change in baseline environmental conditions with undesirable/desirable conditions that can be tolerated.	Air quality varies between the do minimum and do something by 2 - 5% of the air quality criterion (Emissions). Slight risk that emissions will generate statutory nuisance complaints, resulting in formal action (Construction).
Small	Very low discernible change in baseline environmental conditions.	Air quality varies between the do minimum and do something by less than 1-2% of the air quality criterion (Emissions). Little or no cause for nuisance complaints to be made (Construction).
Negligible	No change in baseline conditions	Air quality varies between the do minimum and do something by less than 0.5% of the air quality criterion (Emissions).

8.2.11 Assessment of Significance

The assessment of significance within this chapter is based on the matrix presented in Table 8.8.

Table 8.8  
Significance Matrix

MAGNITUDE OF EFFECT	SENSITIVITY OF RECEPTOR				
	Very High	High	Medium	Low	Negligible
Very Large	Major Significance	Major Significance	[3]	Moderate Significance	[1]
Large	Major	[3]	Moderate	Minor	[2]

MAGNITUDE OF EFFECT	SENSITIVITY OF RECEPTOR				
	Very High	High	Medium	Low	Negligible
	Significance		Significance	Significance	
Medium	[3]	Moderate Significant	Minor Significance	[2]	Negligible Significance
Small	Moderate Significance	Minor Significance	[2]	Negligible Significance	Negligible Significance

Negligible	[1]	[2]	Negligible Significance	Negligible Significance	Negligible Significance
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[1] The choice between ‘Moderate Significance’, ‘Minor Significance’ and ‘Negligible Significance’ will depend on the specifics of the impact and will be down to professional judgement and reasoning.

[2] The choice between ‘Minor Significance’ and ‘Negligible Significance’ will depend on the specifics of the impact and will be down to professional judgement and reasoning.

[3] The choice between ‘Major Significance’ and ‘Moderate Significance’ will depend on the specifics of the impact and will be down to professional judgement and reasoning.

n.b. ‘Negligible Significance’ includes ‘Neutral’ and ‘No Impact’ assessments.

8.2.12 Relevant Associated Development

The traffic data used as part of the assessment is inclusive of committed development traffic either through detailed assessment or through accounting for using a TEMPRO factor, including the Liverpool Waters development.

8.2.13 Assumptions/Limitations

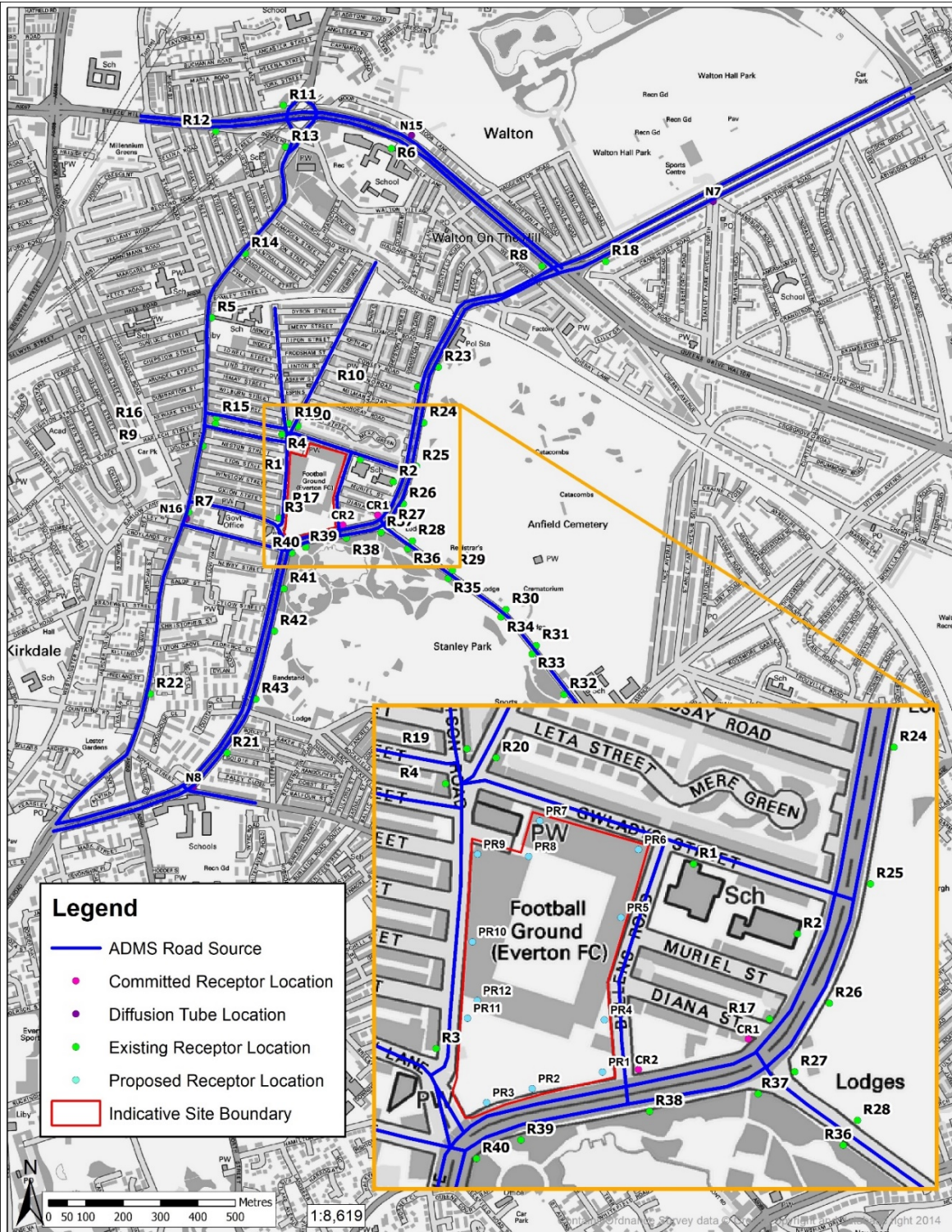
In undertaking the Air Quality assessment of the application site and wider surrounding area, there are a number of limitations and constraints affecting the outputs from this work. These include during the Construction Phase:

- The assessment has been undertaken using professional judgement as per the IAQM Guidance. The guidance states:  
  
“Because the diverse range of projects that are likely to be subject to dust impact assessments mean that it is not possible to be prescriptive as to how to assess the impacts. Also, a wide range of factors affects the amount of dust that may arise, and these are not readily quantified.”
- The above guidance ensures that a full range of potential impacts are considered.



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Figure 8.1  
Sensitive Receptor Locations



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8.3 BASELINE CONDITIONS

8.3.1 Existing Baseline

KEY RECEPTORS	DESCRIPTION	DISTANCE TO SITE (M)	DIRECTION FROM SITE	BASELINE NO <sub>2</sub> (µG/M3) 2018	DO MINIMUM NO <sub>2</sub> (µG/M3) 2028	SENSITIVITY	FURTHER INFORMATION
R1 (Gwladys Street Primary and Nursery School West)	Gwladys Street Primary and Nursery School is a primary school located adjacent to Gwladys Street	35	E	25.48	23.46	Negligible (<75% of the AQO)	Section 6.3 (Model Verification) & Section 6.5 (ADMS Modelling Results), Appendix 8.1
R2 (Gwladys Street Primary and Nursery School East)	Gwladys Street Primary and Nursery School is a primary school located adjacent to Gwladys Street	137	E	27.61	22.89	Negligible (<75% of the AQO)	
R3 (3 Goodison Road)	3 Goodison Road is a two-storey residential property located on the corner of Goodison road and Spellow Lane, adjacent to the proposed development site	19	W	27.56	22.12	Negligible (<75% of the AQO)	
R4 (69 Goodison Road)	69 Goodison Road is a two-storey residential property located adjacent to Goodison Road near the proposed site	58	NW	25.06	22.38	Negligible (<75% of the AQO)	
R5 (Arnot St Mary Church of England Primary School)	Arnot St Mary Church of England Primary School is a school located along the A59 north west of the proposed site	429	NW	29.93	24.10	Negligible (<75% of the AQO)	
R6 (Alsop High School)	Alsop High School is a school located along the A5058 north of the proposed site boundary	817	N	29.88	24.83	Negligible (<75% of the AQO)	
R7 (258 Walton Road)	258 Walton Road is a two-storey residential property located along the A59 west of the proposed site boundary	261	W	35.71	25.12	Negligible (<75% of the AQO)	
R8 (120 Queens Road)	120 Queens Road is a two-storey residential property located on the corner of the A580 and A5058, north east of the proposed site boundary	723	NE	38.77	26.00	Negligible (<75% of the AQO)	
R9 (46 Country Road)	46 Country Road is a two-storey residential property located along the A59 west of the proposed site boundary	236	W	33.24	25.31	Negligible (<75% of the AQO)	
R10 (333 Walton lane)	333 Walton Lane is a two-storey residential property located along Walton Lane East of the proposed site boundary	260	NE	29.94	23.05	Negligible (<75% of the AQO)	
R11 (Breeze Hill Neighbourhood Health Centre)	Breeze Hill Neighbourhood Health Centre is a health centre located on the A5058/A59 roundabout, north of the proposed development site	902	N	36.70	26.16	Negligible (<75% of the AQO)	
R12 (65 Breeze Hill)	65 Breeze Hill is a two-storey residential property located along Breeze Hill, north west of the proposed development site	874	NW	30.74	24.10	Negligible (<75% of the AQO)	
R13 (281 County Road)	281 County Road is a 1st Floor residential Property along the A5058 north of the proposed development site	797	N	31.45	24.56	Negligible (<75% of the AQO)	
R14 (204 County Road)	204 County Road is a 1st Floor residential Property along the A5058 north west of the proposed development site	538	NW	27.97	23.42	Negligible (<75% of the AQO)	
R15 (4 Nimrod Street)	4 Nimrod Street is a two-storey residential property adjacent to the A59 west of the proposed development site	224	W	26.01	22.69	Negligible (<75% of the AQO)	
R16 (1 Andrew Street)	1 Andrew Street is a two-storey residential property adjacent to the A59 west of the proposed development site	220	W	26.31	22.79	Negligible (<75% of the AQO)	
R17 (39 Diana Street)	39 Diana Street is a two-storey residential property adjacent to Walton Lane, east of the proposed development site	137	E	32.91	24.78	Negligible (<75% of the AQO)	
R18 (46 Walton Hall Avenue)	46 Walton Hall Avenue is a two-storey residential property adjacent to the A580, north east of the proposed development site	874	NE	29.18	22.60	Negligible (<75% of the AQO)	
R19 (82 Goodison Road)	82 Goodison Road is a two-storey residential property adjacent to the proposed development site	80	NW	24.98	22.35	Negligible (<75% of the AQO)	
R20 (10 City Road)	10 City Road is a two-storey residential property adjacent to the proposed development site	58	N	25.03	22.38	Negligible (<75% of the AQO)	
R21 (3 Goldie Street)	3 Goldie Street is a two-storey residential property adjacent to the A580 south of the proposed development site	594	S	27.87	22.16	Negligible (<75% of the AQO)	
R22 (92 Walton Road)	92 Walton Road is a two-storey residential property adjacent to the A59 south west of the proposed development site	555	SW	28.53	22.47	Negligible (<75% of the AQO)	
R23	Anfield Cemetery 1	335	NE	31.84	25.65	Negligible (<75% of the AQO)	
R24	Anfield Cemetery 2	219	NE	32.67	25.95	Negligible (<75% of the AQO)	
R25	Anfield Cemetery 3	184	E	31.87	25.67	Negligible (<75% of the AQO)	
R26	Anfield Cemetery 4	182	E	32.47	25.89	Negligible (<75% of the AQO)	

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KEY RECEPTORS	DESCRIPTION	DISTANCE TO SITE (M)	DIRECTION FROM SITE	BASELINE NO <sub>2</sub> (µG/M <sup>3</sup> ) 2018	DO MINIMUM NO <sub>2</sub> (µG/M <sup>3</sup> ) 2028	SENSITIVITY	FURTHER INFORMATION
R27	Anfield Cemetery 5	152	E	33.28	26.19	Negligible (< 75% of the AQO)	
R28	Anfield Cemetery 6	208	ESE	28.74	24.60	Negligible (< 75% of the AQO)	
R29	Anfield Cemetery 7	332	ESE	28.20	24.41	Negligible (< 75% of the AQO)	
R30	Anfield Cemetery 8	505	SE	27.78	24.27	Negligible (< 75% of the AQO)	
R31	Anfield Cemetery 9	622	SE	27.98	24.34	Negligible (< 75% of the AQO)	
R32	Stanley Park 1	756	SE	26.18	23.71	Negligible (< 75% of the AQO)	
R33	Stanley Park 2	624	SE	26.17	23.70	Negligible (< 75% of the AQO)	
R34	Stanley Park 3	502	SE	26.64	23.86	Negligible (< 75% of the AQO)	
R35	Stanley Park 4	330	ESE	21.59	18.65	Negligible (< 75% of the AQO)	
R36	Stanley Park 5	201	ESE	22.96	19.13	Negligible (< 75% of the AQO)	
R37	Stanley Park 6	121	E	26.71	20.45	Negligible (< 75% of the AQO)	
R38	Stanley Park 7	40	S	30.16	22.99	Negligible (< 75% of the AQO)	
R39	Stanley Park 8	36	S	29.80	22.84	Negligible (< 75% of the AQO)	
R40	Stanley Park 9	36	S	32.71	23.90	Negligible (< 75% of the AQO)	
R41	Stanley Park 10	132	S	28.35	22.33	Negligible (< 75% of the AQO)	
R42	Stanley Park 11	248	S	28.00	22.21	Negligible (< 75% of the AQO)	
R43	Stanley Park 12	436	S	28.65	22.44	Negligible (< 75% of the AQO)	

8.4 POTENTIAL SIGNIFICANT IMPACTS

PHASE	DESCRIPTION	ADVERSE/BENEFICIAL
Construction	Potential effects from dust associated with demolition, construction, earthworks and trackout on sensitive receptors immediately surrounding the application site during the construction phase	Adverse
Construction	Potential effects associated with the additional 112 two-way annual average daily vehicles movements (AADT) during the construction phase	Adverse
Operation (NO <sub>2</sub> )	Potential effects of increased NO <sub>2</sub> concentrations on the surrounding road network associated with the increased AADT vehicle movements. The provided traffic data is inclusive of surrounding committed developments to represent a worst-case scenario.	Adverse
Operation (PM <sub>10</sub> )	Potential effects of increased PM <sub>10</sub> concentrations on the surrounding road network associated with the increased AADT vehicle movements. The provided traffic data is inclusive of surrounding committed developments to represent a worst-case scenario.	Adverse
Operation (PM <sub>2.5</sub> )	Potential effects of increased PM <sub>2.5</sub> concentrations on the surrounding road network associated with the increased AADT vehicle movements. The provided traffic data is inclusive of surrounding committed developments to represent a worst-case scenario.	Adverse



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8.5 ASSESSMENT PRE-MITIGATION (INCLUDING DESIGN INTERVENTIONS)

PHASE	RECEPTOR(S) AFFECTED	NO <sub>2</sub> IMPACT (µG/M³)	PM <sub>10</sub> IMPACT (µG/M³)	PM <sub>2.5</sub> IMPACT (µG/M³)	MAGNITUDE PRE-MITIGATION	SIGNIFICANCE PRE-MITIGATION	MITIGATION PROPOSED?	FURTHER INFORMATION
Construction (Dust)	All Receptors within 350m	N/A	N/A	N/A	Large	High (Pre-Mitigation)	Yes, Mitigation incorporated into CEMP	Section 5 (Assessment of Air Quality Impacts - Construction Phase) Section 7 (Mitigation), Appendix 8.1
Construction (Traffic)	R1	0.03	0.01	0.01	Negligible	Negligible	No	Section 6.5 (ADMS Modelling Results), Appendix 8.1
	R2	0.04	0.02	0.01	Negligible	Negligible	No	
	R3	0.02	0.01	0.00	Negligible	Negligible	No	
	R4	0.01	0.00	0.00	Negligible	Negligible	No	
	R5	0.01	0.01	0.00	Negligible	Negligible	No	
	R6	0.01	0.00	0.00	Negligible	Negligible	No	
	R7	0.01	0.01	0.00	Negligible	Negligible	No	
	R8	0.08	0.02	0.01	Negligible	Negligible	No	
	R9	0.02	0.01	0.00	Negligible	Negligible	No	
	R10	0.05	0.03	0.01	Negligible	Negligible	No	
	R11	0.03	0.01	0.00	Negligible	Negligible	No	
	R12	0.01	0.00	0.00	Negligible	Negligible	No	
	R13	0.00	0.01	0.00	Negligible	Negligible	No	
	R14	0.00	0.00	0.00	Negligible	Negligible	No	
	R15	0.00	0.00	0.00	Negligible	Negligible	No	
	R16	0.01	0.00	0.00	Negligible	Negligible	No	
	R17	0.06	0.03	0.02	Negligible	Negligible	No	
	R18	0.01	0.01	0.01	Negligible	Negligible	No	
	R19	0.01	0.00	0.00	Negligible	Negligible	No	
	R20	0.01	0.00	0.00	Negligible	Negligible	No	
	R21	0.00	0.00	0.00	Negligible	Negligible	No	
	R22	0.02	0.00	0.00	Negligible	Negligible	No	
	R23	0.05	0.03	0.01	Negligible	Negligible	No	
	R24	0.05	0.03	0.01	Negligible	Negligible	No	
	R25	0.05	0.03	0.01	Negligible	Negligible	No	
	R26	0.05	0.03	0.01	Negligible	Negligible	No	
	R27	0.03	0.02	0.01	Negligible	Negligible	No	
	R28	0.00	0.00	0.00	Negligible	Negligible	No	

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PHASE	RECEPTOR(S) AFFECTED	NO <sub>2</sub> IMPACT (μG/M <sup>3</sup> )	PM <sub>10</sub> IMPACT (μG/M <sup>3</sup> )	PM <sub>2.5</sub> IMPACT (μG/M <sup>3</sup> )	MAGNITUDE PRE-MITIGATION	SIGNIFICANCE PRE-MITIGATION	MITIGATION PROPOSED?	FURTHER INFORMATION
	R29	0.00	0.00	0.00	Negligible	Negligible	No	
	R30	0.00	0.00	0.00	Negligible	Negligible	No	
	R31	0.00	0.00	0.00	Negligible	Negligible	No	
	R32	0.00	0.00	0.00	Negligible	Negligible	No	
	R33	0.00	0.00	0.00	Negligible	Negligible	No	
	R34	0.00	0.00	0.00	Negligible	Negligible	No	
	R35	0.00	0.00	0.00	Negligible	Negligible	No	
	R36	0.01	0.00	0.00	Negligible	Negligible	No	
	R37	0.02	0.02	0.01	Negligible	Negligible	No	
	R38	0.04	0.03	0.01	Negligible	Negligible	No	
	R39	0.02	0.01	0.01	Negligible	Negligible	No	
	R40	0.02	0.01	0.00	Negligible	Negligible	No	
	R41	0.01	0.00	0.00	Negligible	Negligible	No	
	R42	0.00	0.00	0.00	Negligible	Negligible	No	
	R43	0.00	0.00	0.00	Negligible	Negligible	No	
Operation (Long-Term)	R1	0.22	0.12	0.07	Small	Negligible	No	Section 6.5 (ADMS Modelling Results), Appendix 8.1
	R2	0.16	0.10	0.05	Negligible	Negligible	No	
	R3	0.40	0.19	0.11	Small	Negligible	No	
	R4	0.25	0.12	0.07	Small	Negligible	No	
	R5	0.04	0.02	0.01	Negligible	Negligible	No	
	R6	0.03	0.02	0.01	Small	Negligible	No	
	R7	0.07	0.04	0.02	Small	Negligible	No	
	R8	0.19	0.09	0.05	Negligible	Negligible	No	
	R9	0.06	0.03	0.02	Negligible	Negligible	No	
	R10	0.19	0.11	0.06	Negligible	Negligible	No	
	R11	0.06	0.03	0.02	Negligible	Negligible	No	
	R12	0.02	0.02	0.01	Negligible	Negligible	No	
	R13	0.03	0.02	0.01	Negligible	Negligible	No	
	R14	0.03	0.02	0.01	Negligible	Negligible	No	
	R15	0.10	0.05	0.03	Negligible	Negligible	No	
	R16	0.06	0.03	0.02	Negligible	Negligible	No	
	R17	0.22	0.14	0.08	Small	Negligible	No	
	R18	0.06	0.03	0.02	Negligible	Negligible	No	
	R19	0.20	0.10	0.05	Small	Negligible	No	

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PHASE	RECEPTOR(S) AFFECTED	NO <sub>2</sub> IMPACT (µG/M³)	PM <sub>10</sub> IMPACT (µG/M³)	PM <sub>2.5</sub> IMPACT (µG/M³)	MAGNITUDE PRE-MITIGATION	SIGNIFICANCE PRE-MITIGATION	MITIGATION PROPOSED?	FURTHER INFORMATION
	R20	0.20	0.10	0.06	Small	Negligible	No	
	R21	0.14	0.08	0.05	Negligible	Negligible	No	
	R22	0.04	0.02	0.01	Negligible	Negligible	No	
	R23	0.16	0.10	0.06	Negligible	Negligible	No	
	R24	0.18	0.12	0.06	Negligible	Negligible	No	
	R25	0.21	0.13	0.07	Small	Negligible	No	
	R26	0.18	0.11	0.06	Negligible	Negligible	No	
	R27	0.15	0.09	0.05	Negligible	Negligible	No	
	R28	0.06	0.04	0.02	Negligible	Negligible	No	
	R29	0.05	0.03	0.02	Negligible	Negligible	No	
	R30	0.04	0.02	0.01	Negligible	Negligible	No	
	R31	0.04	0.02	0.01	Negligible	Negligible	No	
	R32	0.02	0.02	0.01	Negligible	Negligible	No	
	R33	0.02	0.02	0.01	Negligible	Negligible	No	
	R34	0.03	0.02	0.01	Negligible	Negligible	No	
	R35	0.04	0.02	0.01	Negligible	Negligible	No	
	R36	0.06	0.04	0.02	Negligible	Negligible	No	
	R37	0.14	0.09	0.05	Negligible	Negligible	No	
	R38	0.22	0.13	0.07	Small	Negligible	No	
	R39	0.15	0.08	0.04	Negligible	Negligible	No	
	R40	0.23	0.13	0.07	Small	Negligible	No	
	R41	0.16	0.09	0.05	Negligible	Negligible	No	
	R42	0.15	0.09	0.05	Negligible	Negligible	No	
	R43	0.16	0.09	0.05	Negligible	Negligible	No	
Operation (Committed Receptors)	CR1	0.22	0.14	0.07	Small	Negligible	No	Section 6.5 (ADMS Modelling Results), Appendix 8.1
	CR2	0.36	0.20	0.11	Small	Negligible	No	
Operation (Proposed Receptors)	PR1	0.23	0.12	0.07	Small	Negligible	No	Section 6.5 (ADMS Modelling Results), Appendix 8.1
	PR2	0.16	0.09	0.05	Negligible	Negligible	No	
	PR3	0.23	0.12	0.07	Small	Negligible	No	
	PR4	0.20	0.12	0.06	Small	Negligible	No	
	PR5	0.19	0.11	0.06	Negligible	Negligible	No	
	PR6	0.25	0.13	0.07	Small	Negligible	No	
	PR7	0.16	0.09	0.05	Negligible	Negligible	No	



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PHASE	RECEPTOR(S) AFFECTED	NO <sub>2</sub> IMPACT (μG/M <sup>3</sup> )	PM <sub>10</sub> IMPACT (μG/M <sup>3</sup> )	PM <sub>2.5</sub> IMPACT (μG/M <sup>3</sup> )	MAGNITUDE PRE-MITIGATION	SIGNIFICANCE PRE-MITIGATION	MITIGATION PROPOSED?	FURTHER INFORMATION
	PR8	0.11	0.06	0.04	Negligible	Negligible	No	
	PR9	0.25	0.14	0.08	Small	Negligible	No	
	PR10	0.23	0.14	0.08	Small	Negligible	No	
	PR11	0.26	0.14	0.08	Small	Negligible	No	
	PR12	0.20	0.11	0.06	Small	Negligible	No	

8.6 MITIGATION & ENHANCEMENT MEASURES

PHASE	POSSIBLE EFFECT BEING MITIGATED	MITIGATION MEASURE	MAGNITUDE PRE-MITIGATION	HOW SECURED / TRIGGER	MAGNITUDE POST-MITIGATION	ADVERSE/BENEFICIAL	FURTHER INFORMATION
Construction	Dust associated with demolition, construction, earthworks and trackout	Mitigation within Section 7.1 (Appendix 8.1) to be incorporated into Construction and Environmental Management Plan (CEMP)	Low-Medium Risk	Planning condition	Negligible	Adverse	Section 7.1, Appendix 8.1
Operation (NO <sub>2</sub> )	Exceedance of Long-Term Pollutant AQO	No exceedances of the AQO, so no mitigation required	N/A	40 μg/m <sup>3</sup> annual mean	Negligible	Adverse	Section 6.5, Appendix 8.1
Operation (PM <sub>10</sub> )	Exceedance of Long-Term Pollutant AQO	No exceedances of the AQO, so no mitigation required	N/A	40 μg/m annual mean <sup>3</sup>	Negligible	Adverse	Section 6.5, Appendix 8.1
Operation (PM <sub>2.5</sub> )	Exceedance of Long-Term Pollutant AQO	No exceedances of the AQO, so no mitigation required	N/A	25 μg/m <sup>3</sup> annual mean <sup>3</sup>	Negligible	Adverse	Section 6.5, Appendix 8.1

8.7 ASSESSMENT POST-MITIGATION

PHASE	RECEPTOR	RESIDUAL IMPACT	SIGNIFICANCE	RESIDUAL EFFECT				
				ADV/BEN	ST/MT/LT	D/IND	P/T	R/IRR
Construction	All Receptors	Effects from dust associated with demolition, construction, earthworks and trackout on sensitive receptors	Negligible	Adverse	Short-Term	Indirect	Temporary	Reversible
Operation (Long Term NO <sub>2</sub> )		Effects from NO <sub>2</sub> associated with increased traffic flows on sensitive receptors	Negligible	Adverse	Long-Term	Direct	Permanent	Irreversible
Operation (Long Term PM <sub>10</sub> )		Effects from NO <sub>2</sub> associated with increased traffic flows on sensitive receptors	Negligible	Adverse	Long-Term	Direct	Permanent	Irreversible
Operation (Long Term PM <sub>2.5</sub> )		Effects from NO <sub>2</sub> associated with increased traffic flows on sensitive receptors	Negligible	Adverse	Long-Term	Direct	Permanent	Irreversible

Key: ADV/BEN = Adverse/Beneficial; ST/MT/LT = Short-term/Medium-term/Long-term; D/IND = Direct/Indirect; P/T = Permanent/Temporary; R/IRR = Reversible/Irreversible

8.8 AIR QUALITY: INTER-DEVELOPMENT CUMULATIVE SCHEME EFFECTS

CUMULATIVE SCHEME	SCHEME DESCRIPTION	POTENTIAL FOR CUMULATIVE EFFECTS?	CONSIDERED WITHIN ASSESSMENT?
Walton Lane 18F/1316	106 flats together with associated landscaping and ancillary works and including a surface level car park with 42-spaces. Vehicular access is proposed via Bullens Road.	Traffic from this scheme has been specifically accounted for within the assessment.	Yes
All other committed development		All other traffic growth on the network assessed is accounted for using a TEMPRO factor which accounts for local growth.	Yes

PHASE	RECEPTOR	POTENTIAL CUMULATIVE IMPACT	ADDITIONAL MITIGATION (IF REQUIRED)	CUMULATIVE RESIDUAL EFFECT					
				SIGNIFICANCE	ADV/BEN	ST/MT/LT	D/IND	P/T	R/IRR
Construction	All Receptors	Dust associated with demolition, construction, earthworks and trackout	Mitigation within Section 7.1 (Appendix 8.1) to be incorporated into CEMP	Negligible	Adverse	Short-term	Indirect	Temporary	Reversible

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PHASE	RECEPTOR	POTENTIAL CUMULATIVE IMPACT	ADDITIONAL MITIGATION (IF REQUIRED)	CUMULATIVE RESIDUAL EFFECT					
				SIGNIFICANCE	ADV/BEN	ST/MT/LT	D/IND	P/T	R/IRR
Operation	All Receptors	Increased Pollutant Concentrations at existing sensitive receptors	None Required	Negligible	Adverse	Long-Term	Direct	Permanent	Irreversible
Key: ADV/BEN = Adverse/Beneficial; ST/MT/LT = Short-term/Medium-term/Long-term; D/IND = Direct/Indirect; P/T = Permanent/Temporary; R/IRR = Reversible/Irreversible									

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