



# Lidl Store, Risca

## Air Quality Assessment

### Lidl Great Britain Ltd

Prepared by:

**SLR Consulting Limited**

3rd Floor, Brew House, Jacob Street, Tower Hill, Bristol, BS2 0EQ

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## 1.0 Introduction

SLR Consulting Ltd (SLR) has been commissioned by Lidl Great Britain Ltd to undertake an air quality assessment to support a planning application for a new Lidl store (the 'Proposed Development') on Commercial Street, Risca, Caerphilly, Wales (the 'Site').

The Site is located at the approximate National Grid Reference (NGR): x324395, y186690 within Caerphilly County Borough Council's (CCBC – the 'Council') administrative area. For context, there is an existing Lidl store (which will be closed prior to the opening of the Site), located at the approximate NGR x323895, y190195, approximately 470m to the northwest of the Site, also on Commercial Street and within CCBC.

The Site is bounded by:

- A mixture of residential dwellings and commercial building adjacent to the north, with Commercial Street and further residential areas beyond;
- The B4591 immediately to the east with an industrial building beyond;
- The Ebbw River runs along the south of the development, with commercial buildings beyond; and
- Open green space to the west with further residential dwellings and commercial buildings beyond.

For customers, vehicular access to the Site will be via a new entrance to east, off the B4591. For servicing vehicles, the existing entrance off Commercial Street would be used.

### 1.1 Scope of Assessment

Pre-assessment consultation with the Environmental Health Officer (EHO) at CCBC<sup>1</sup> was attempted to agree upon the extent and methodology of the air quality assessment. However, to date, no response on the scope has been received. The following scope of works, as proposed to the EHO, and has been undertaken:

- Baseline Evaluation;
- Construction Phase Assessment;
- Operational Phase Assessment; and
- Mitigation Measures.

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<sup>1</sup> Email Correspondence from SLR Consulting Ltd to Kristian Jennings & Maria Godfrey, Caerphilly County Borough Council, Environmental Health Officer, dated 21<sup>st</sup> October 2024.



## 2.0 Background Context

### 2.1 Legislation

A dual set of regulations, separately applicable to National and Local Government, are currently operable within the UK.

#### 2.1.1 National Obligations

The Air Quality Standards (Wales) Regulations 2010<sup>2</sup> (AQSR) transpose both the EU Ambient Air Quality Directive (2008/50/EC), and the Fourth Daughter Directive (2004/107/EC) within Welsh legislation. The AQSR includes Limit Values which are legally binding ambient concentration thresholds which, however, are only applicable at specific locations (Schedule 1: AQSR)<sup>3</sup>.

Following the UK's withdrawal from the EU, the Environment (Miscellaneous Amendments) (Wales) (EU Exit) Regulations 2020<sup>4</sup> was introduced to mirror revisions to supporting EU legislation. As a result, the fine particulate matter (PM<sub>2.5</sub>) Limit Value was reduced to 20µg/m<sup>3</sup> (to be met by 2020).

The responsibility of achieving the AQSR is a National obligation for the Welsh Government who undertake assessments on an annual basis. Local Authorities have no statutory obligation to achieve the AQSR or the European equivalent Directives.

On 14 February 2024, The Environment (Air Quality and Soundscapes) (Wales) Act became law in Wales. The act supports delivery of the measures set out in The Clean Air Plan for Wales to improve air quality. The Act imposes a duty on Welsh Ministers to set at least one target, in regulations, in respect of annual mean fine particulate matter (PM<sub>2.5</sub>) levels.

#### 2.1.2 Local Obligations

Part IV of the Environment Act 1995 (as amended by the Environment Act 2021) requires the Welsh Ministers to review the national Air Quality Strategy (AQS) every five years and modify this if required. It also established the system of Local Air Quality Management (LAQM) for Local Authorities to regularly review and assess air quality within their respective administrative areas.

The Air Quality (Wales) Regulations 2000, as amended by the Air Quality (Wales) (Amendment) Regulations 2002, provide the statutory basis for the Air Quality Objectives. Local Authorities must adhere to under LAQM in Wales. PM<sub>2.5</sub> is not currently part of the LAQM framework; however, as per the national AQS, Local Authorities are required to work towards reducing PM<sub>2.5</sub>.

The Air Quality Objectives apply at locations where members of the public are regularly present and might reasonably be expected to be exposed to pollutant concentrations over the relevant averaging period (referred to as 'relevant exposure'). Table 2-2 provides an indication of those locations. Where any of the prescribed Air Quality Objectives are not likely to be achieved, the authority must designate an Air Quality Management Area (AQMA). For each AQMA, the local authority is required to prepare an Air Quality Action

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<sup>2</sup> The Air Quality Standards (Wales) Regulations 2010, Wales Statutory Instrument No. 1433 (W. 126).

<sup>3</sup> [Schedule 1 of the 2010 AQSR](#) provides the locations of the sampling points where the AQSR Limits Values can be assessed.

<sup>4</sup> The Environment (Miscellaneous Amendments) (Wales) (EU Exit) Regulations 2020, Wales Statutory Instrument No. 1215 (W. 274).



Plan (AQAP), which details measures the authority intends to introduce to deliver improvements in local air quality and achieve compliance.

In 2020, the Welsh Government published The Clean Air Plan for Wales<sup>5</sup> which sets out the over-arching strategic framework for air quality management in Wales. In 2023, following a review of the AQS for England, Scotland, Wales and Northern Ireland, which was published in 2007<sup>6</sup>, the Welsh Government formerly adopted The Clean Air Plan for Wales as the National AQS for Wales, to replace the 2007 document. However, the objectives of the former 2007 strategy were retained.

The ambient air quality standards of relevance to this assessment (collectively termed Air Quality Assessment Levels (AQALs) throughout this report) are provided in Table 2-1. These are primarily based upon the Air Quality Objectives Local Authorities are responsible for achieving. The PM<sub>2.5</sub> AQSR AQAL has also been included for completeness.

**Table 2-1: Relevant Ambient AQALs (England)**

Pollutant	Standard (µg/m <sup>3</sup> )	Averaging Period
Nitrogen Dioxide (NO <sub>2</sub> )	40	Annual mean
	200	1-hour mean (not to be exceeded on more than 18 occasions per annum)
Particles (as PM <sub>10</sub> )	40	Annual mean
	50	24-hour mean (not to be exceeded on more than 35 occasions per annum)
Particles (as PM <sub>2.5</sub> )	20	Annual mean

**Table 2-2: Human Health Relevant Exposure**

AQAL Averaging Period	AQALs should apply at	AQALs should not apply at
Annual mean	Building facades of residential properties, schools, hospitals etc.	Facades of offices Hotels Gardens of residences Kerbside sites
24-hour mean	As above together with hotels and gardens of residential properties	Kerbside sites where public exposure is expected to be short term
1-hour mean	As above together with kerbside sites of regular access, car parks, bus stations etc.	Kerbside sites where public would not be expected to have regular access

### 2.1.3 Environmental Protection Act 1990

The Environmental Protection Act 1990<sup>7</sup> sets out provisions for the regulation of statutory nuisances. Section 79 sets out this statutory nuisance as, 'any dust, steam, smell or other effluvia arising on industrial, trade or business premises and being prejudicial to health or a nuisance'.

<sup>5</sup> Welsh Government, The Clean Air Plan for Wales: Healthy Air, Healthy Wales, 2020.

<sup>6</sup> Defra, The Air Quality Strategy for England, Scotland, Wales and Northern Ireland, July 2007.

<sup>7</sup> The Environmental Protection Act 1990. Available at <http://www.legislation.gov.uk/ukpga/1990/43/contents>.



Section 79 requires that, where a complaint of a statutory nuisance is made to it by a person living within its area, a Local Authority must take steps as are reasonably practicable to investigate the complaint.

Fractions of dust greater than 10µm (i.e. greater than PM<sub>10</sub>) in diameter typically relate to nuisance effects as opposed to potential health effects and therefore are not covered within the UK AQS. In legislation there are currently no numerical limits in terms of what level of dust deposition constitutes a nuisance.

## 2.2 Policy

### 2.2.1 National Policy

#### 2.2.1.1 Clean Air Strategy

The 2019 Clean Air Strategy<sup>8</sup> sets out the Government's proposals aimed at delivering cleaner air across the UK and indicates how Devolved Administrations intend to make emissions reductions. It sets out the comprehensive action that is required from across all parts of government and society to deliver clean air.

#### 2.2.1.2 Environmental Improvement Plan 2023

The 2023 Environmental Improvement Plan<sup>9</sup> is the first revision of the UK Government's 25 Year Environment Plan (25YEP) – planned on a five-year rolling cycle. This document sets out the 5-year delivery plan to improve the natural environment. The 2023 Environmental Improvement Plan builds on the 2019 Clean Air Strategy by setting environmental targets and commitments to reduce air pollution. Goal 2 of the 25YEP is Clean Air – which relates to improving air quality.

#### 2.2.1.3 National Planning Policy Framework

The Planning Policy Wales (PPW)<sup>10</sup> document sets out the Welsh Government's land use planning policies for development across Wales.

The document states the following in relation to air quality and planning:

*“When considering a scheme of enabling development, planning permission should be granted only where all of the following can be applied:*

*[...]*

- the enabling development does not give rise to significant risks, for example residential development in the floodplain or significantly impact on air quality or soundscape.”*

Furthermore, in relation to addressing air quality in the planning system:

*“The planning system should maximise its contribution to achieving the well-being goals, and in particular a healthier Wales, by aiming to reduce average population exposure to air and noise pollution alongside action to tackle high pollution hotspots. In doing so, it should consider the long-term effects of current and predicted levels of air and noise pollution on individuals, society and the environment and identify and pursue any opportunities to reduce, or at least,*

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<sup>8</sup> Defra, The Clean Air Strategy, January 2019.

<sup>9</sup> Defra, Environmental Improvement Plan 2023, 2023.

<sup>10</sup> Welsh Government, Planning Policy Wales, Edition 12, February 2024.



*minimise population exposure to air and noise pollution, and improve soundscapes, where it is practical and feasible to do so.”*

PPW is accompanied by the National Development Framework, published as Future Wales – The National Plan 2040<sup>11</sup>. Improved air quality is detailed as part of the regional approach to development planning.

## 2.2.2 Local Policy

The Caerphilly County Borough Local Development Plan (LDP) up to 2021<sup>12</sup> was adopted by CCBC in November 2010. The plan sets out the vision and policies for development across the region up to 2021. It contains the following policy of relevance to this air quality assessment:

### SP6 Place Making

*“Development proposals should contribute to creating sustainable places by having full regard to the context of the local, natural, historic and built environment and its special features through:*

*[...]*

*H The incorporation of mitigation measures that improve and maintain air quality”*

CCBC have commenced preparation on a new 2<sup>nd</sup> replacement LDP which has included a review of the adopted LDP. The Review Report<sup>13</sup> was published in June 2021. This concluded that Policy SP6 is *‘being delivered as anticipated’* with *‘No action required’*.

## 2.3 Guidance

This assessment has been informed by the principles contained within the guidance documents below.

- Welsh Government in partnership with Department for Environment, Food and Rural Affairs (Defra): Local Air Quality Management Technical Guidance (TG22) (LAQM.TG22)<sup>14</sup>;
- Defra: COVID-19: Supplementary Guidance. Local Air Quality Management Reporting in 2021<sup>15</sup>;
- Environmental Policy Implementation Community (EPIC) (formerly EPUK) and the Institute of Air Quality Management (IAQM): Land-Use Planning and Development Control: Planning for Air Quality<sup>16</sup>;
- IAQM: Guidance on the Assessment of Dust from Demolition and Construction<sup>17</sup>; and
- IAQM: Position Statement: Use of 2020 and 2021 Monitoring Datasets<sup>18</sup>.

<sup>11</sup> Welsh Government, Future Wales – The National Plan 2040, February 2021.

<sup>12</sup> CCBC, Caerphilly County Borough Local Development Plan Up to 2021, adopted November 2010.

<sup>13</sup> CCBC, Caerphilly County Borough Adopted Local Plan Up to 2021, Review Report, 1<sup>st</sup> June 2021.

<sup>14</sup> Local Air Quality Management Technical Guidance (TG22), Published by Defra in partnership with the Scottish Government, Welsh Government and Department of Agriculture, Environment and Rural Affairs Northern Ireland. August 2022.

<sup>15</sup> Defra and the Greater London Authority, COVID-19: Supplementary Guidance. Local Air Quality Management Reporting in 2021. April 2021.

<sup>16</sup> EPIC (formerly EPUK) and IAQM, Land-Use Planning and Development Control: Planning for Air Quality, v1.2 2017.

<sup>17</sup> IAQM, Guidance on the Assessment of Dust from Demolition and Construction, v2.2 2024.

<sup>18</sup> IAQM, Position Statement: Use of 2020 and 2021 Monitoring Datasets, Version 1.1, December 2023.





## 3.0 Assessment Methodology

### 3.1 Construction Phase

The assessment has been undertaken in accordance with IAQM demolition and construction dust guidance. The assessment of risk is determined by considering the risk of dust effects arising from four activities in the absence of mitigation. The assessment will consider the potential dust impacts associated with the following activities:

- Demolition;
- Earthworks;
- Construction; and
- Trackout.

The assessment methodology considers three separate dust impacts with account being taken of the sensitivity of the area that may experience these effects:

- Annoyance due to dust soiling;
- The risk of health effects due to an increase in exposure to PM<sub>10</sub>; and
- Harm to ecological receptors.

The first stage of the assessment involves a screening to determine if there are sensitive receptors within threshold distances of the site and activities associated with the construction phase of the scheme. A detailed assessment is required where a:

- Human receptor is located within 250m of the Site boundary, and/or within 50m of routes used by construction vehicles, up to 250m from the Site entrance(s); and/or
- Ecological receptor is located within 50m of the Site boundary, and/or within 50m of routes used by construction vehicles, up to 250m from the Site entrance(s).

The dust emission class (or magnitude) for each activity is determined based on the guidance, indicative thresholds and expert judgement. The risk of dust effects arising is based upon the relationship between the dust emission magnitude and the sensitivity of the area. The risk of impact is then used to determine the appropriate mitigation requirements, whereby through effective application, residual effects are considered to be 'not significant'.

Given the short-term nature of the construction phase and the low volume of vehicle movements that will likely arise, there is not considered to be any potential for significant air quality effects from development related road traffic emissions during the construction phase.

### 3.2 Operational Phase

#### 3.2.1 Road Traffic Screening Assessment

The assessment of air quality effects in relation to the development's operational phase and human receptors has been undertaken in accordance with EPIC & IAQM guidance.

The EPIC & IAQM guidance provides a series of indicative screening criteria and guidance for where further assessment may be required. If the Site is found not to exceed any of the relevant indicative criteria, then a detailed impact assessment is consequently not required, and effects are concluded to be 'insignificant'.

The guidance states: "*The criteria provided are precautionary and should be treated as indicative. They are intended to function as a sensitive 'trigger' for initiating an assessment in cases where there is a possibility of significant effects arising on local air quality. This*



*possibility will, self-evidently, not be realised in many cases. The criteria should not be applied rigidly; in some instances, it may be appropriate to amend them on the basis of professional judgement, bearing in mind that the objective is to identify situations where there is a possibility of a significant effect on local air quality.”*

On this basis, factors relating to the Proposed Development's context and local air quality may be used to inform the assessment. Exceedance of the EPIC & IAQM screening criterion does not automatically lead to the requirement for a detailed assessment.

Traffic data and information used for the purposes of the screening assessment has been provided by Corun Associates Ltd – the appointed transport consultant.



## 4.0 Baseline Environment

### 4.1 Baseline Air Quality

Pollutant concentrations monitored during 2020 and 2021 (i.e. affected by the COVID-19 pandemic) are expected to be atypical and not representative of the local environment. This data has not been considered for the determination of baseline conditions (as per Defra guidance and an IAQM position statement).

#### 4.1.1 LAQM Review and Assessment

CCBC, in fulfilment of statutory requirements, has conducted an on-going exercise to review and assess air quality within their administrative area. The latest publicly available LAQM report at the time of writing is the 2021 Air Quality Progress Report<sup>19</sup> (APR), this has been reviewed to inform the following sections.

CCBC presently has two AQMAs declared for exceedances of the annual mean NO<sub>2</sub> AQAL at locations of relevant public exposure, both are >8.8km from the Site. However, the closest AQMA is located within Newport City Council's (NCC) administrative area, approximately 3.2km southeast of the Site.

#### 4.1.2 Review of Air Quality Monitoring

##### 4.1.2.1 Automatic Air Quality Monitoring

As presented in the 2021 APR, CCBC undertakes automatic monitoring at six locations. The closest monitor to the Site is 'IRW', located approximately 4km to the northwest. Due to the separation distance between 'IRW' and the Site, similar conditions are unlikely, and automatic monitoring has not been considered further in the assessment.

##### 4.1.2.2 Passive Diffusion Tube Monitoring

Passive NO<sub>2</sub> diffusion tube monitoring is currently undertaken by CCBC at numerous locations, in fulfilment of their statutory LAQM obligations.

However, the nearest diffusion tube to the Site is located approximately 3.2km southeast of the Site, in NCC's administrative area, within an AQMA. Due to the disparity in settings and the separation distance between the Site and the diffusion tube, diffusion tube monitoring has not been considered further in this assessment.

#### 4.1.3 Defra Mapped Background Concentrations

Defra maintains a nationwide model of existing and future background air quality concentrations at a 1km grid square resolution which is routinely used to support LAQM requirements and air quality assessments. The data sets include annual average concentration estimates for NO<sub>2</sub>, PM<sub>10</sub> and PM<sub>2.5</sub> using a reference year of 2018 (the year in which comparisons between modelled and monitored concentrations are made).

The Defra mapped annual mean background concentrations for the current year (2024) and the opening year of the development (2026) for the grid square containing the Site are presented in Table 4-1.

The mapped background concentrations presented are well below the respective annual mean AQALs.

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<sup>19</sup> CCBC, Caerphilly 2021 Air Quality Progress Report, February 2022.



**Table 4-1: Defra Mapped Background Pollutant Concentrations**

Grid Square (X, Y) (m)	Year	Annual Mean Concentration ( $\mu\text{g}/\text{m}^3$ )		
		NO <sub>2</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
324500, 189500	2024	7.9	11.5	7.4
	2026	7.3	11.4	7.3
<b>AQAL</b>		<b>40</b>	<b>40</b>	<b>20</b>



## 5.0 Construction Phase Assessment

This section presents the potential air quality impacts and effects associated with the construction of the Proposed Development.

### 5.1 Construction Dust Assessment

Where figures relating to area of the site, volume of the site, approximate number of construction vehicles or distances to receptors are given, these relate to thresholds as defined in the IAQM guidance to guide the assessor to define the dust emissions magnitude and sensitivity of the area.

#### 5.1.1 Assessment Screening

As shown in Figure 5-1, there are human receptors within 250m of the Site, however, no designated ecological sites within 50m of the Site boundary or the roads anticipated to witness construction traffic movements up to 250m of the Site entrance(s). Therefore, an assessment of construction dust on human receptors only is required.

#### 5.1.2 Potential Dust Emission Magnitude

##### 5.1.2.1 Demolition

The Site is currently used as a construction yard / storage facility with no buildings that require demolition. Therefore, demolition activities have been scoped out of further assessment.

##### 5.1.2.2 Earthworks

The total Site area is <18,000m<sup>2</sup>, with earthworks required over a lesser area than this.

Given the size of the Site, it is considered that <5 heavy earth moving vehicles will be active at any one time.

The dust emission magnitude for earthworks is therefore considered to be 'small'.

##### 5.1.2.3 Construction

The total building volume requiring construction is estimated to be <12,000m<sup>3</sup>, using materials with a low dust emission potential (e.g. steel frame, metal cladding and glass).

The dust emission magnitude for construction is therefore considered to be 'small'.

##### 5.1.2.4 Trackout

Given the existing hard standing surface across the Site and the tarmacked access road into the Site, it is considered highly unlikely that the unpaved road length would exceed 50m at any point during construction.

Furthermore, it is considered that <20 outward HDV movements would occur in any worst-case day.

The dust emission magnitude for trackout is therefore considered to be 'small'.

##### 5.1.2.5 Summary

A summary of the dust emission magnitude for the activities is detailed in Table 5-1.



**Table 5-1: Potential Dust Emission Magnitude**

Activity	Dust Emission Magnitude
Earthworks	Small
Construction	Small
Trackout	Small

### 5.1.3 Sensitivity of the Area

#### 5.1.3.1 Dust Soiling Impacts

There are 1-10 high sensitivity receptors within 20m of the Site, and <100 high sensitivity receptors within 50m of the Site.

Furthermore, assuming construction vehicles travel in both directions along Commercial Street when leaving the Site, there are 10-100 high sensitivity receptors within 20m of the access routes up to 250m from the Site exit.

The sensitivity of the area with respect to dust soiling effects on people and property in relation to earthworks and construction is therefore considered to be 'medium' and 'high' in relation to trackout.

#### 5.1.3.2 Human Health Impacts

The 2024 mapped background PM<sub>10</sub> concentration for the 1km<sup>2</sup> grid square centred on the Site is estimated to be 11.5µg/m<sup>3</sup> (i.e. falls into the <24µg/m<sup>3</sup> class). As discussed in Section 4.1.2, no local background PM<sub>10</sub> monitoring exists in the development locale.

Given the above information regarding the number of receptors within 20m/50m of the Site boundary and identified trackout routes, the sensitivity of the area with respect to human health impacts in relation to earthworks, construction and trackout is therefore considered to be 'low'.

#### 5.1.3.3 Summary

A summary of the sensitivity of the surrounding area is detailed in Table 5-2, whilst the spatial density of nearby receptors is displayed in Figure 5-1.

**Table 5-2: Sensitivity of the Area**

Potential Impact	Sensitivity of Surrounding Area		
	Earthworks	Construction	Trackout
Dust Soiling	Medium	Medium	High
Human Health	Low	Low	Low

### 5.1.4 Risk of Impacts (Unmitigated)

The outcome of the assessment of the potential 'magnitude of dust emissions', and the 'sensitivity of the area' are combined in Table 5-3 below to determine the risk of impact (unmitigated) which is used to inform the selection of appropriate mitigation.



**Table 5-3: Risk of Dust Impacts (Unmitigated)**

Potential Impact	Earthworks	Construction	Trackout
Dust Soiling	Low Risk	Low Risk	Low Risk
Human Health	Negligible	Negligible	Negligible

Following the construction dust assessment, the Site is found to be at worst ‘Low Risk’ in relation to dust soiling effects on people and property, and ‘Negligible’ in relation to human health impacts (Table 5-3). However, potential dust effects during the construction phase are considered temporary in nature and may only arise at particular times (i.e. certain activities and/or meteorological conditions).

Nonetheless, commensurate with the above designation of dust risk, mitigation measures, as identified by IAQM guidance are required to ensure that any potential impacts arising from the construction phase of the Proposed Development are reduced and, where possible, completely removed. In accordance with IAQM guidance, providing effective mitigation measures are implemented, such as those outlined in Section 7.1, construction dust effects are considered to be not significant.





Figure 5-1: Construction Dust Assessment Buffers





## 6.0 Operational Phase Assessment

This section presents the potential air quality impacts and effects associated with the operation of the Proposed Development

### 6.1 Road Traffic Screening Assessment

The analysis undertaken by Corun Associates Ltd – the appointed transport consultant has been used to inform this section.

The Proposed Development includes for the construction of a new Lidl store, off Commercial Street in Risca. There is an existing Lidl store located approximately 470m to the northwest of the Site, also located off Commercial Street in Risca.

Lidl Great Britain Ltd have confirmed that there will be no overlap between the operation of the stores, and the existing store would close before the new store opens. The Proposed Development therefore represents a relocation of a Lidl store to the Site.

Both stores would generate road traffic flows, the majority of which are associated with customer vehicle trips. Given the similar locations, it is considered that the vehicle trips associated with both stores would be utilising a similar road network e.g. the local network in Risca, and the wider road network to nearby towns/cities (via the A467).

The new store will likely provide an alternative destination for existing trips on the network. The majority of trips will come from residents within the Risca area, who are currently undertaking retail trips to alternative existing stores in the Site's vicinity (including the current Lidl store). Such trips are therefore already on the local road network, however, would divert to the new store and/or be additionally visiting other destinations.

Furthermore, as detailed in the Transport Assessment (TA) prepared by Corun Associates Ltd, due to the surrounding setting of the Site in an established retail area, with the A467 and B4591 in the vicinity, the largest proportion of trips in relation to the Site are anticipated to be from 'pass-by', 'diverted' and 'transferred' trips. These trips are considered to be already on the road network and are therefore not 'additional'. The TA notes "*The store is therefore anticipated to generate a minimal volume of additional new primary trips on the highway network.*"

Considering the above factors and using the EPIC & IAQM guidance, the operational effects on local air quality arising from road traffic emissions associated with the Proposed Development are likely to be 'insignificant' and further detailed assessment is not considered to be required.



## 7.0 Mitigation Measures

This section presents any proportionate mitigation measures required during the construction and operational phases of the Proposed Development.

### 7.1 Construction Phase

IAQM guidance outlines a number of site-specific mitigation measures based on the assessed site risk. The measures are grouped into those which are highly recommended and those which are desirable. With the effective application of the dust mitigation measures, as detailed in Table 7-1, residual effects are considered to be 'not significant'.

**Table 7-1: Construction Dust Mitigation Measures**

Site Application	Mitigation Measures
<b>Highly Recommended</b>	
Communications	Display the name and contact details of person(s) accountable for air quality and dust issues on the site boundary. This may be the environment manager/engineer or the site manager.
	Display the head or regional office contact information.
Monitoring	Carry out regular site inspections to monitor compliance with the dust mitigation measures, record inspection results, and make an inspection log available to the local authority when asked.
	Increase the frequency of site inspections by the person accountable for air quality and dust issues on site when activities with a high potential to produce dust are being carried out and during prolonged dry or windy conditions.
	Agree dust deposition, dust flux, or real-time PM <sub>10</sub> continuous monitoring locations with the Local Authority. Where possible commence baseline monitoring at least three months before work commences on site or, if it a large site, before work on a phase commences. Further guidance is provided by IAQM on monitoring during demolition, earthworks and construction.
Operating Vehicle/Machinery and Sustainable Travel	Ensure all vehicles switch off engines when stationary - no idling vehicles.
	Avoid the use of diesel or petrol powered generators and use mains electricity or battery powered equipment where practicable.
Operations	Only use cutting, grinding or sawing equipment fitted or in conjunction with suitable dust suppression techniques such as water sprays or local extraction, e.g. suitable local exhaust ventilation systems.
	Ensure an adequate water supply on the site for effective dust/particulate matter suppression/mitigation, using non-potable water where possible and appropriate.
	Use enclosed chutes and conveyors and covered skips.
	Minimise drop heights from conveyors, loading shovels, hoppers and other loading or handling equipment and use fine water sprays on such equipment wherever appropriate.
Preparing and Maintaining the Site	Plan site layout so that machinery and dust causing activities are located away from receptors, as far as is possible.
	Erect solid screens or barriers around dusty activities or the site boundary that are at least as high as any stockpiles on site.
	Avoid site runoff of water or mud.



Site Application	Mitigation Measures
Site Management	Record all dust and air quality complaints, identify cause(s), take appropriate measures to reduce emissions in a timely manner, and record the measures taken.
	Make the complaints log available to the local authority when asked.
	Record any exceptional incidents that cause dust and/or air emissions, either on- or offsite, and the action taken to resolve the situation in the log book.
Waste Management	Avoid bonfires and burning of waste materials.
<b>Desirable</b>	
Communications	Develop and implement a Dust Management Plan (DMP), which may include measures to control other emissions, approved by the Local Authority. The level of detail will depend on the risk, and should include as a minimum the highly recommended measures in this document. The desirable measures should be included as appropriate for the site.
Construction	Avoid scabbling (roughening of concrete surfaces) if possible.
	Ensure sand and other aggregates are stored in bunded areas and are not allowed to dry out, unless this is required for a particular process, in which case ensure that appropriate additional control measures are in place.
Monitoring	Undertake daily on-site and off-site inspection, where receptors (including roads) are nearby, to monitor dust, record inspection results, and make the log available to the local authority when asked. This should include regular dust soiling checks of surfaces such as street furniture, cars and window sills within 100m of site boundary, with cleaning to be provided if necessary.
Operating Vehicle/Machinery and Sustainable Travel	Impose and signpost a maximum-speed-limit of 15mph on surfaced and 10mph on unsurfaced haul roads and work areas (if long haul routes are required these speeds may be increased with suitable additional control measures provided, subject to the approval of the nominated undertaker and with the agreement of the local authority, where appropriate).
Operations	Ensure equipment is readily available on site to clean any dry spillages, and clean up spillages as soon as reasonably practicable after the event using wet cleaning methods.
Preparing and Maintaining the Site	Fully enclose site or specific operations where there is a high potential for dust production and the site is active for an extensive period.
	Keep site fencing, barriers and scaffolding clean using wet methods.
	Remove materials that have a potential to produce dust from site as soon as possible, unless being re-used on site. If they are being re-used on-site cover as described below.
	Cover, seed or fence stockpiles to prevent wind whipping.
Trackout	Use water-assisted dust sweeper(s) on the access and local roads, to remove, as necessary, any material tracked out of the site. This may require the sweeper being continuously in use.
	Avoid dry sweeping of large areas.
	Ensure vehicles entering and leaving sites are covered to prevent escape of materials during transport.
	Record all inspections of haul routes and any subsequent action in a site log book.



Site Application	Mitigation Measures
	Implement a wheel washing system (with rumble grids to dislodge accumulated dust and mud prior to leaving the site where reasonably practicable).

## 7.2 Operational Phase

In accordance with EPIC & IAQM guidance, road traffic impacts associated with the operation of the Site can be considered as having an insignificant effect on local air quality.

The Proposed Development does not include the installation of any on Site combustion sources (e.g. boilers).

Furthermore, of the 112 parking spaces provided, 2 are proposed to be Electric Vehicle (EV) charging spaces.



## 8.0 Conclusion

SLR has undertaken an air quality assessment to support a planning application for the proposed construction of a new Lidl store in Risca, Caerphilly, Wales.

### 8.1 Construction Phase

A qualitative assessment of the potential dust impacts during the construction of the development has been undertaken following the IAQM guidance. Providing mitigation measures are implemented, such as those outlined in Section 7.1 of this report, residual effects from dust emissions arising during the construction phase are considered to be 'not significant'.

Given the short-term nature of the construction phase, there is predicted to be an insignificant effect on air quality from construction-generated vehicle emissions.

### 8.2 Operational Phase

As discussed in Section 6.1, the road traffic volumes associated with the Proposed Development are largely considered to be already on the road network and it is therefore anticipated to generate a minimal volume of additional new primary trips.

With use of the EPIC & IAQM guidance, the operational effects on local air quality arising from road traffic emissions associated with the Proposed Development are likely to be 'insignificant' and further detailed assessment is not considered to be required.



