

Technical Note

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Proposed Lidl Store in Eastleigh - Air Quality Technical Note

1 INTRODUCTION

- 1.1 This Air Quality Technical Note has been prepared to support the planning application for a proposed Lidl store at North Stoneham, Chestnut Avenue/Stoneham Lane, Eastleigh.
- 1.2 The application site forms part of a much wider development site (c.85 ha) which was granted outline planning approval by Eastleigh Borough Council (EBC) in January 2016 (Ref. O/15/76023). This allowed for 1,100 dwellings, a care home, new local centre including primary school, pre-school, community building, offices, and public open space on land south of Chestnut Avenue.
- 1.3 A Reserved Matters application (Ref. RM/18/84537) for appearance, landscaping, layout, and scale (pursuant to outline planning permission O/15/76023) of the local centre including the retail units, café, gymnasium, community centre, nursery, offices and 26no. age restricted flats was approved in March 2019. This planning permission is extant with several components of the local centre having since been constructed. The application proposals will deliver the retail component of the consented local centre. Accordingly, this Technical Note considers the air quality effects of the proposed Lidl foodstore, subject of the application proposals.

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2 LEGISLATIVE AND POLICY CONTEXT

Ambient Air Quality Legislation

Air Quality Standards Regulations

- 2.1 The Air Quality Standards Regulations 2010 [i], amended by The Environment (Miscellaneous Amendments) (EU Exit) Regulations 2020 [ii], sets limit values for ambient air concentrations for the main air pollutants: particulate matter (PM₁₀ and PM_{2.5}), nitrogen dioxide (NO₂), sulphur dioxide (SO₂), ozone (O₃), carbon monoxide (CO), lead (Pb) and benzene, certain toxic heavy metals (arsenic, cadmium and nickel) and polycyclic aromatic hydrocarbons (PAHs). These limit values are legally binding on the Secretary of State. The Government and devolved administrations operate various national ambient air quality monitoring networks to measure compliance and develop plans to meet the limit values.

UK Air Quality Strategy

- 2.2 The Environment Act 1995 established the requirement for the Government and the devolved administrations to produce a National Air Quality Strategy (AQS) for improving ambient air quality, the first being published in 1997 and having been revised several times since, with the latest published in 2007 [iii]. The Strategy sets UK air quality standards* and objectives# for the pollutants in the Air Quality Standards Regulations plus 1,3-butadiene and recognises that action at national, regional and local level may be needed, depending on the scale and nature of the air quality problem. There is no legal requirement to meet objectives set within the UK AQS except where equivalent limit values are set within the Air Quality Standards Regulations.
- 2.3 The 1995 Environment Act also established the UK system of Local Air Quality Management (LAQM), that requires local authorities to go through a process of review and assessment of air quality in their areas, identifying places where objectives are not likely to be met, then declaring Air Quality Management Areas (AQMAS) and putting in place Air Quality Action Plans to improve

* Standards are concentrations of pollutants in the atmosphere which can broadly be taken to achieve a certain level of environmental quality. Standards, as the benchmarks for setting objectives, are set purely with regard to scientific evidence and medical evidence on the effects of the particular pollutant on health, or on the wider environment, as minimum or zero risk levels.

Objectives are policy targets expressed as a concentration that should be achieved, all the time or for a percentage of time, by a certain date.

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air quality. These plans also contribute, at local level, to the achievement of the limit values in the Air Quality Standards Regulations.

2.4 For the purposes of this assessment, the limit values set out in the Air Quality Standards Regulations 2010 and the objective levels specified under the current UK AQS have been used.

2.5 The limit values and objectives relevant to this assessment are summarised in Table 2.1. Where the EU limit values and the UK AQS objectives differ, the more stringent is shown.

Table 2.1: Summary of Relevant Air Quality Limit Values and Objectives

Pollutant	Averaging Period	Objectives/ Limit Values	Not to be Exceeded More Than
Nitrogen Dioxide (NO ₂)	1 hour	200 µg.m ⁻³	18 times per calendar year
	Annual	40 µg.m ⁻³	-
Particulate Matter (PM ₁₀)	24 Hour	50 µg.m ⁻³	35 times per calendar year
	Annual	40 µg.m ⁻³	-
Particulate Matter (PM _{2.5})	Annual	20 µg.m ⁻³	-

Local Planning Policy

2.6 The key policy in the Eastleigh Borough Council Local Plan, adopted in April 2022, is DM8 which states that:

“1. Development will not be permitted if it is likely to cause loss of amenity of impact on public health or other unacceptable environmental impacts through:

- a. Air pollution (including odours or particulate emissions);*
- b. Pollution of surface, underground, coastal waters or other watercourses;*
- c. Noise or vibration;*
- d. Light intrusion, both generally and with respect to the South Downs National Park's status as an International Dark Skies reserve; or*
- e. Land contamination*

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2. Developments susceptible to particular forms of pollution will not be permitted:

- a. Where it will be adversely affected by such pollution, unless measures can be taken that adequately mitigate the polluting effects; or*
- b. Where it would inhibit existing economic or other activities giving rise to acceptable polluting effects.*

...

3 PREDICTED AIR QUALITY IMPACTS

Construction Phase

- 3.1 For the construction phase of the proposed development, the key pollutant is dust. This comprises both the PM₁₀ fraction, that is suspended in the air that can be breathed, and the deposited dust that has fallen out of the air onto surfaces and which can potentially cause temporary annoyance effects.
- 3.2 The Institute of Air Quality Management (IAQM) *Guidance on the assessment of dust from demolition and construction* [iv] provides a methodology for assessing the risk of impacts from deposited dust and increases in suspended particulate matter. The IAQM Guidance concludes that with the effective implementation of appropriate mitigation, the residual effects can normally be “not significant” and recommends the mitigation is secured by for a condition or Section 106 agreement as appropriate. These mitigation measures could be formalised in a Dust Management Plan or a Construction Management Plan specified in a condition.

Operational Phase

- 3.3 Eastleigh Borough Council (EBC) has designated four Air Quality Management Areas (AQMA) across the borough due to elevated levels of NO₂ attributable to road traffic emissions. The nearest AQMA is approximately 0.8 km to the east of the Application Site. As such, the development is unlikely to affect air quality within a designated AQMA.
- 3.4 The Environmental Protection UK (EPUK) & Institute of Air Quality Management (IAQM) *Land-Use Planning & Development Control: Planning For Air Quality* [v], document sets out threshold criteria for determining when an assessment is required. Outside an AQMA, the thresholds are:

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- an increase in annual average daily Light Duty Vehicle (LDV) flows by more than 500; or
- an increase in annual average daily HDV flows by more than 100.

- 3.5 Figure 1 sets out the transport consultant's (Mayer Brown) estimates of the traffic generated by the consented use of that part of the consented Local Centre application and the Lidl store once operational. The development is predicted to lead to a net decrease in traffic flows when compared to the previously consented use and would therefore not trigger the need for an assessment.
- 3.6 The net change between the consented use of the land within the Local Centre and its proposed use (as a new Lidl store) indicates that vehicle flows would decrease by 23 on weekdays and 138 on Saturdays.
- 3.7 The EPUK & IAQM continues by stating that *"If none of the criteria are met then there should be no requirement to carry out an air quality assessment for the impact of the proposed development on the local area, and the impacts can be considered to have insignificant effects."*
- 3.8 The proposed development is therefore not considered to have a significant air quality effect. All things being equal, the proposed development is likely to have a beneficial air quality effect when compared with the consented use.

4 MITIGATION

- 4.1 As the effects of the air quality impacts are not considered to be significant, no mitigation is proposed.

5 CONCLUSIONS

- 5.1 This Air Quality Technical Note has been prepared to support the planning application for a proposed new Lidl store on Stoneham Lane in Eastleigh.
- 5.2 For the construction phase of the proposed development, the key pollutant is dust. The IAQM Guidance states that with the effective implementation of appropriate controls and mitigation, the residual effects can normally be "not significant".

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- 5.3 Once operational, based on the predicted net change in traffic flows, the development is expected to have a 'negligible' impact on pollutant concentrations compared with the consented development. All things being equal, the proposed development is likely to have a beneficial effect in the context of air quality. In conclusion, once the development is operational, the air quality effect is not considered to be significant.
- 5.4 The proposed development does not conflict with the Eastleigh Borough Council Local Plan.

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Figure 1: Traffic Generated by the Development

Time Period	Consented Block A			Proposed Lidl			Net Change		
	IN	OUT	TOTAL	IN	OUT	TOTAL	IN	OUT	TOTAL
06:00-07:00	19	19	38	0	0	0	-19	-19	-38
07:00-08:00	52	48	100	3	0	3	-49	-48	-97
08:00-09:00	64	61	125	37	27	64	-27	-34	-61
09:00-10:00	70	65	135	70	56	126	0	-9	-9
10:00-11:00	69	66	135	79	77	156	+10	+11	+21
11:00-12:00	66	67	133	92	91	183	+26	+24	+50
12:00-13:00	80	79	159	92	89	181	+12	+10	+22
13:00-14:00	71	71	142	90	97	187	+19	+26	+45
14:00-15:00	63	63	126	87	94	181	+24	+31	+55
15:00-16:00	66	69	135	93	91	184	+27	+22	+49
16:00-17:00	72	73	145	81	75	156	+9	+2	+11
17:00-18:00	73	75	148	83	78	161	+10	+3	+13
18:00-19:00	67	67	134	60	67	127	-7	0	-7
19:00-20:00	49	52	101	43	48	91	-6	-4	-10
20:00-21:00	32	36	68	32	39	71	0	+3	+3
21:00-22:00	40	42	82	0	11	11	-40	-31	-71
22:00-23:00	0	0	0	0	1	1	0	+1	+1
Daily	953	953	1906	942	941	1883	-11	-12	-23

Table 4.1: Vehicular Trip Generation – Weekday

Time Period	Consented Block A			Proposed Lidl			Net Change		
	IN	OUT	TOTAL	IN	OUT	TOTAL	IN	OUT	TOTAL
06:00-07:00	0	0	0	0	0	0	0	0	0
07:00-08:00	25	22	47	6	0	6	-19	-22	-41
08:00-09:00	55	41	96	38	27	65	-17	-14	-31
09:00-10:00	78	71	149	76	55	131	-2	-16	-18
10:00-11:00	92	97	189	90	84	174	-2	-13	-15
11:00-12:00	83	85	168	121	116	237	+38	+31	+69
12:00-13:00	72	80	152	109	123	232	+37	+43	+80
13:00-14:00	83	80	163	90	87	177	+7	+7	+14
14:00-15:00	86	81	167	93	87	180	+7	+6	+13
15:00-16:00	68	74	142	91	100	191	+23	+26	+49
16:00-17:00	72	73	145	98	100	198	+26	+27	+53
17:00-18:00	99	97	196	91	93	184	-8	-4	-12
18:00-19:00	88	94	182	51	64	115	-37	-30	-67
19:00-20:00	106	101	207	36	47	83	-70	-54	-124
20:00-21:00	63	73	136	14	18	32	-49	-55	-104
21:00-22:00	13	11	24	8	12	20	-5	+1	-4
22:00-23:00	0	0	0	0	0	0	0	0	0
Daily	1083	1080	2163	1012	1013	2025	-71	-67	-138

Table 4.2: Vehicular Trip Generation – Saturday

REFERENCES

- i Defra, 2010, The Air Quality Standards Regulations.
- ii The Environment (Miscellaneous Amendments) (EU Exit) Regulations 2020
- iii Defra, 2007, The Air Quality Strategy for England, Scotland, Wales and Northern Ireland. Volume 2.
- iv IAQM (2014) Guidance on the assessment of dust from demolition and construction
- v EPUK & IAQM (January 2017) Land-Use Planning & Development Control: Planning For Air Quality