



**AIR QUALITY STATEMENT
FOR THE REDEVELOPMENT OF BEAUFORT ROBERTS HALL**

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1.0 INTRODUCTION

The London Borough of Lewisham has granted consent to redevelop the former Royal British Legion Beaufort Roberts Memorial Hall, 39-45 Eddystone Road, London, SE4 2DE to create 6 flats and 107 square metres of community space under Use Class F2. The Planning Permission DC/20/119755 was granted on the 2nd December 2022, subject to conditions.

Condition 13 relates to air quality and specifically requires the developer to provide an air quality assessment. The Condition reads as follows:

Air Quality Assessment

(a) No development above ground level shall commence until an Air Quality Assessment has been submitted to and approved in writing by the local planning authority.

(b) The Air Quality Assessment will need to utilise an appropriate air quality model and/or emissions assessment tool to predict air quality concentrations at agreed receptor locations.

Data should be presented for the first year of occupation as 'with development' and 'without development' to allow comparisons to be made.

Reason: In order that the local planning authority may be satisfied that the development is not going to result in significant health impacts to existing and future residents from a deterioration in local air quality and to comply with Development Management Local Plan (November 2014) Policy 23 Air quality.

This statement seeks to discharge Condition 13 and will assess the following:

- A review of local air quality data;
- An air quality dust risk assessment (AQDRA) for the demolition/construction phase of the proposed development;
- An air quality neutral assessment required for all developments.

2.0 SITE LOCATION

Beaufort Roberts Hall is located in Crofton Park, a predominantly residential area. The site is approximately 150 metres from the B218 Brockley Road, and adjacent to Buckthorn Cutting Nature Reserve with Honor Oak Recreation Ground located nearby.

The site is located with the Mayor of London's Ultra Low Emission Zone.



3.0 LOCAL AIR QUALITY DATA

Local air quality is monitored from a site in Honor Oak Park, approximately 500 metres from the subject site. The site is operated by Imperial College London and collects data on NOx and PM levels. Details of the monitoring site can be found on www.londonair.org.uk.

LAQN Monitoring Sites

Find postcode

Map Satellite Greyscale

Switch to: site location - site photos

Your selected monitoring site - **Lewisham - Honor Oak Park**

Site operated by -

Imperial College London

Classification: *Urban Background*

QA/QC: *AURN*

Monitoring Dates: *27 Nov 2018 to present*

Distance to Road: *Not available*

Sampling Height: *Not available*

Species Monitored: *Nitrogen Dioxide, Ozone, PM10 Particulate (by FDAS), PM10 Particulate (by FDAS), PM2.5 (not reference equiv.) (by FDAS), PM2.5 Particulate (by FDAS), Total Suspended Particulate (by FDAS).*

The Site measures pollution levels against the UK Government Air Quality Strategy. The Government's Air Quality Strategy levels are set out below:

Bulletins Site Details Statistics Episodes

What is the Air Quality Strategy?

The Air Quality Strategy was published by the UK Government and the devolved administrations in January 2000. Its aims are to:

- map out as far as possible future ambient air quality policy in the United Kingdom in the medium term
- provide best practicable protection to human health by setting health-based objectives for air pollutants
- contribute to the protection of the natural environment through objectives for the protection of vegetation and ecosystems
- describe current and future levels of air pollution
- provide a framework to help identify what we all can do to improve air quality


What are the Air Quality Strategy Objectives?

The Strategy's air quality objectives are set out in table the below:

Air Quality Strategy 2000 objectives and objectives prescribed in regulations for the purpose of local air quality management			
Pollutant	Objective	Concentration measured as	Date to be achieved by:
Benzene	16.25 $\mu\text{g m}^{-3}$ (5 ppb)	running annual mean	31 December 2003
Benzene (apart from Scotland and Northern Ireland)	5 $\mu\text{g m}^{-3}$ (1.54 ppb)	annual average	31 December 2010
1,3-butadiene	2.25 $\mu\text{g m}^{-3}$ (1 ppb)	running annual mean	31 December 2003
Carbon Monoxide (apart from Scotland)	10 mg m^{-3} (8.6 ppb)	maximum daily running 8-hour mean	31 December 2003
Lead	0.5 $\mu\text{g m}^{-3}$	annual mean	31 December 2004
	0.25 $\mu\text{g m}^{-3}$	annual mean	31 December 2008
Nitrogen Dioxide	200 $\mu\text{g m}^{-3}$ (105 ppb)	hourly mean	31 December 2005
	Not to be exceeded more than 18 times a year		
Sulphur Dioxide	40 $\mu\text{g m}^{-3}$ (21 ppb)	annual mean	31 December 2005
	350 $\mu\text{g m}^{-3}$ (132 ppb)	1 hour mean	31 December 2004
	Not to be exceeded more than 24 times a year		
	125 $\mu\text{g m}^{-3}$ (47 ppb)	24-hour mean	31 December 2004
PM ₁₀ Particles	Not to be exceeded more than 3 times a year		
	266 $\mu\text{g m}^{-3}$ (100 ppb)	15-minutes mean	31 December 2005
	Not to be exceeded more than 35 times a year		
PM ₁₀ Particles	50 $\mu\text{g m}^{-3}$	24-hour mean	31 December 2004
	Not to be exceeded more than 35 times a year		
PM _{2.5} Particles	40 $\mu\text{g m}^{-3}$	annual mean	31 December 2004
	25 $\mu\text{g m}^{-3}$	annual mean	01 January 2015

Information and table taken from The Air Quality Strategy for England, Scotland, Wales and Northern Ireland: Adherence, Defra, February 2002.

The results from the Monitoring Station show that the subject site is in an area where the Government's Air Quality Strategy Objectives have consistently been achieved since 2019.



LAQN Monitoring Statistics

Find protocols

Map Satellite Greyscale

Select a monitoring site to view:

Change objective: all objectives Include closed sites:

Show Authorities (OS Data):

Achieved Achieved but not met Exceeded No data Other

[What are the AQ5 Objectives?](#)

Statistics Site Details **Statistics** Pollution Episodes

Air Quality Statistics: 2023 Go

Your selected monitoring site - Lewisham - Honor Oak Park
Site operated by +

Imperial College London

The table below shows whether pollution levels recorded at the site you have selected remained within the Government's Air Quality Strategy Objectives in 2023. For further basic statistics click on the button below, or for more precise statistics, use the [Statistics Calculator](#).

Pollutant	Objective	Was it achieved?	Value
PM2.5	25 ug/m3 as an annual mean	YES	7
Particulate			
PM10	40 ug/m3 as an annual mean	YES	12
Particulate			
PM10	50 ug/m3 as a 24 hour mean, not to be exceeded more than 35 times a year	YES	0
Particulate			
Ozone	100 ug/m3 as an 8 hour mean, not to be exceeded more than 10 times a year	NO	18
Nitrogen			
Dioxide	200 ug/m3 as a 1 hour mean, not to be exceeded more than 18 times a year	YES	0
Nitrogen			
Dioxide	40 ug/m3 as an annual mean	YES	16

* Note that all objectives have been calculated using a method defined in 2023.

* Note that results are excluded where analyzers have not returned valid data for at least 30% of the year, unless a short-term objective was exceeded.

* Note that this information is calculated twice daily, so may not reflect the latest data.

Basic Stats Reports [Wind](#)
[Post](#)

[Annual Summary](#)

4.0 AIR QUALITY DUST RISK ASSESSMENT FOR CONSTRUCTION (AQDRA)

Dust and emissions from demolition and construction work can worsen air quality, but through careful planning and good management, these impacts can be reduced.

The Developer will adopt Best Practice Guidance, and will pay particular attention to sensitive receptors such as the immediate neighbours on Buckthorne Road, members of the public passing on foot and the nearby Buckthorne Cutting Nature Reserve.

The Developer will put in place the following mitigation measures:

Site Planning

- Erect effective barriers around dusty activities or the site boundary
- No bonfires
- Plan site layout—machinery and dust causing activities to be located away from sensitive receptors.

Construction traffic

- All vehicles should switch off engines – no idling vehicles
- Wash or clean all vehicles effectively before leaving the site
- All loads entering and leaving site to be covered
- No site runoff of water or mud
- All non-road mobile machinery to be Euro 6 compliant
- On-road vehicles delivering to site will be Euro 6 compliant as the site is located within the Mayor's ULEZ zone.

Demolition Works

- Use water as dust suppressant
- Cutting equipment to use water as suppressant or suitable local exhaust ventilation systems
- Securely cover skips and minimise drop heights

Site Activities

- Minimise dust generating activities
- Use water as dust suppressant where applicable
- Keep stockpiles for the shortest possible time

Site activities will be controlled by the site manager using information contained within the Construction Management Plan (CMP) and the Construction Environmental Management Plan and will be reviewed on a daily or weekly basis.

5.0 AIR QUALITY NEURTAL ASSESSMENT

Condition 13 requires the development to be assessed for predicted air quality concentrations for the first year of occupation as 'with development' and 'without development' to allow comparison to be made, as required by Development Management Local Plan Policy 23, Air Quality.

The assessment will be made using benchmark data contained with the **Air Quality Neutral: Update to Benchmarks March 2020 report published by the Greater London Authority.**

The assessment will compare building emissions and transport emissions in terms of NO_x and PM with and without development. The assessment will use trip analysis from the Yes Engineering Group Transport Statement, June 2022, submitted as part of the planning application, and benchmarks taken from the GLA Air Quality Neutral: Update to Benchmarks March 2020 report.

5.1 Current Building Emissions (without development)

The Beaufort Roberts Hall measures approximately 130 square metres internal area. The building is heated by gas boiler. Given the area, volume and age of building, it is assumed the gas boiler has an output of 30 kW.

Table 5: Proposed Building Emission Benchmarks Non-Residential Uses (gNOx/m²/annum)

Pollutant	Individual Gas Boilers	Electric Resistance Heating	Individual ASHPs	Gas Boiler Network	CHP + Gas Boiler Network	ASHP Network	ASHP + Gas Boiler Network
Retail (A1)	0.53	No Heat-related NOx Emission	No Heat-related NOx Emission	0.97	4.31	No Heat-related NOx Emission	0.97
Restaurants / Bars (A3-A5)	10.94			20.06	89.54		20.06
Offices (A2 & B1)	1.43			2.62	11.68		2.62
Industrial (B2-B7)	1.07			1.95	8.73		1.95
Storage (B8)	0.55			1.01	4.50		1.01
Hotel (C1)	10.32			18.91	84.42		18.91
Care Homes / Hospitals (C2)	9.97			18.27	81.56		18.27
Schools (D1)	0.90			1.66	7.39		1.66
Entertainment / Leisure (D2)	13.14			24.09	107.52		24.09

Table 5 of the Air Quality Neutral report, page 11, proposes building emission benchmarks for non-residential uses. Although the Use Class of the current building is not known it is assumed that the most appropriate use is D2.

Using benchmark data, the emission of grams of NOx of the building in current use can be expressed as follows:

Building	gNOx/m ² /annum	Area m ²	Total gNOx per annum
Hall	13.14	130	1,708.20

5.2 Proposed Building Emissions (with development)

The proposed development of 6 residential flats will be developed under Building Regulations 2022 which will require the following:

- From 15 June, new-build homes will need to produce at least 31 per cent less carbon emissions. The installation of electric heating systems combined with renewable energy sources such as solar are both seen as enablers for doing so
- New non-domestic builds will need to produce at least 27 per cent less carbon emissions with similar low energy measures to the previous in place
- A new metric for measuring energy efficiency has been introduced. 'Primary energy' will be used to measure the efficiency of a building's heating as well as the energy required to deliver fuel to a building (this even extends to including the efficiency of the power station supplying the electricity)
- New minimum efficiency standards have been provided. In all new domestic builds, the new U-value for walls will be 0.18 W/m², 1.4 for windows and rooflights and 1.4 for doors. In non-domestic builds there's a lowered U-value of 0.26 for walls and majority of windows/curtain walling must achieve 1.6 W/m²
- New and replacement heating systems in both domestic and non-domestic builds must have a maximum flow temperature of 55°C
- Existing non-domestic buildings must improve the efficiency of heating and hot water boiler systems through installation of new controls. In new buildings (non-domestic), the minimum lighting efficacy has been raised to 80 luminaire lumens per circuit watt for display lighting and 95 for general lighting
- Background trickle vents have been recommended for non-domestic buildings along with a new requirement for CO2 monitors in all offices. The recommended minimum air supply rate is 0.5 l/s.m²
- The Fabric Energy Efficiency Standard (FEES) level in new homes will be set by a 'full fabric specification' and SAP compliance will now be applied to extensions built on existing properties
- The new Approved Document O introduces glazing limits in new-build homes, care homes, schools and student accommodation to reduce unwanted solar gain. It also enforces new levels of cross-ventilation
- The new Approved Document S requires all domestic new builds to have the preparatory work completed for future installation of an electric vehicle charging point

The new flats will therefore be heated using electricity as the primary power source and specifically air source heat pumps, with photovoltaic panels.

Table 1: Proposed Building Emission Benchmarks – Class C3 Dwellings (gNOx/m²/annum)

Pollutant	Individual Gas Boilers	Electric Panel Heaters	Individual ASHPs	Gas Boiler Network	CHP + Gas Boiler Network	ASHP Network	ASHP + Gas Boiler Network
Small House (100m ²)	3.5 g/m ²	No Heat-related NOx Emission	No Heat-related NOx Emission	Strategy Not Appropriate	Strategy Not Appropriate	Strategy Not Appropriate	Strategy Not Appropriate
Medium House (130m ²)							
Large House (200m ²)							
0-10 Flats							
11-50 Flats	Strategy Not Appropriate	Strategy Not Appropriate	Strategy Not Appropriate	5.7 g/m ²	25.5 g/m ²	No Heat-related NOx Emission	5.7 g/m ²
51-400 Flats							
401-1000 Flats							
>1000 Flats	Strategy Not Appropriate	Strategy Not Appropriate	Strategy Not Appropriate				

Table 1 of the Air Quality Neutral report, page 8, confirms there are no heat related NOx emissions for electrically heated dwelling houses.

5.3 Current Transport Emissions (with and without development)

Table 3.2 of the Yes Engineering Group Transport Statement, submitted in support of the planning application confirms existing community use being one car trip per day.

Table 3.2 - Existing Community Use Peak Hour and Daily Trips (for 300m²)

Mode	Morning Peak Hour		Evening Peak Hour	
	Arrivals	Departures	Arrivals	Departures
Cars	0	0	1	1
Taxis	0	0	0	0
OGV	0	0	<1	<1
Cyclists	0	0	<1	<1
Pedestrians	0	0	9	6
Bus/tram passengers	0	0	3	1
Rail passengers	0	0	13	3

3.4 Net Trip Generation

The net expected trip generation has been calculated using the difference between the existing and predicted trip generation and is summarised in **Table 3.5**.

Table 3.5- Net Peak Trips

Mode	Morning Peak Hour		Evening Peak Hour	
	Arrivals	Departures	Arrivals	Departures
Cars	0	1	-1	-1
Taxis	-	-	0	0
OGV	-	-	-	-
Cyclists	-	0	-	-
Pedestrians	0	1	-7	-5
Bus/tram passengers	0	2	-1	-1
Rail passengers	-	1	-13	-3

Table 3.5 shows that based on the existing trip rates (shown in Table 3.2) the proposed development is predicted to generate just 1 additional car movements, both morning peak hour. The majority of transport movements from the development will be a reduction on the existing situation as confirmed in Table 3.5.

However, since October 2021, the area located inside the North and South Circular roads has been included in London's Ultra Low Emission Zone, with the effect of improving air quality in the immediate area.

Research has found that ULEZ has had significant effects in reducing air pollution. A 2022 study published in the Journal of Environmental Health found statistically significant reductions in nitrogen dioxide levels in the first 90 days after the introduction of the ULEZ. Another 2022 article, in the journal *Atmospheric Pollution Research*, examined the impact of ULEZ in its first year, finding a reduction in nitrogen dioxide concentrations of about 12% inside the zone compared with the year before its implementation.^[29]

29. Ward, Bob (24 August 2023). "[The truth about London's Ultra Low Emission Zone](#)". London School of Economics Grantham Research Institute. Retrieved 4 October 2023.

6.0 Conclusion

In conclusion, this statement confirms the following:

- The site is located in an area with consistently good air quality, as confirmed by Imperial College monitoring;
- The proposed development will not generate any heat related NOx emissions and will replace a building that produced 1,708g per annum;
- Construction activity will be controlled to limit detrimental effects on air quality;
- The development will give rise to one additional car journey per day. Given the site is now within the ULEZ this additional journey can be considered to have neutral effect on air quality.