

City Airport Development Programme (CADP1)

Condition 57: Air Quality Monitoring Strategy



June 2023

**LONDON CITY AIRPORT
AIR QUALITY MONITORING STRATEGY
2023 - 2026**

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1 INTRODUCTION

1.1. The City Airport Development Programme (CADP) 1 application (13/01228/FUL) was granted planning permission by the Secretaries of State for Communities and Local Government and Transport in July 2016 following an appeal and public inquiry which was held in March/April 2016.

1.2. Condition 57 of the CADP 1 permission requires that:

The development shall not commence until an Air Quality Monitoring Strategy has been submitted to and approved in writing by the Local Planning Authority. The Air Quality Monitoring Strategy shall be implemented on the commencement of the development. The Strategy shall include but not be limited to the following details:

- *Continuous monitoring of nitrogen dioxide at two locations;*
- *Continuous monitoring of Fine Particles (PM₁₀) at one location;*
- *The monitoring of nitrogen dioxide by diffusion tubes at not less than 16 locations at and around the perimeter of the Airport;*
- *Publishing the results of the continuous monitoring system at all times through a web-based system; and*
- *Reporting to the Local Planning Authority annually on 1 June (or the first working day thereafter) as part of the Annual Performance Report and each meeting of the Airport Consultative Committee.*

Every three years from approval of the first Air Quality Monitoring Strategy the Strategy shall be reviewed and the reviews shall be submitted to the Local Planning Authority for approval on 1 June (or the first working day thereafter) and implemented as approved

Reason: In the interests of reducing air quality impacts in accordance with the UES.

1.3. An Air Quality Monitoring Strategy to discharge Condition 57 was submitted to, and was approved by the London Borough of Newham, in February 2017; this covered the period 2017-2019. In accordance with Condition 57, a review of the Air Quality Monitoring Strategy was carried out during 2020, but the approval was delayed until November of that year due to the Covid-19 pandemic which resulted in the closure of London City Airport to all commercial operations at the beginning of April 2020.

1.4. The Strategy has been updated following a review of the current arrangements and the suitability of the monitoring regime, and covers the period 2023 – 2026.

2 AIR QUALITY MONITORING STRATEGY 2023 - 2026

MONITORING OF NITROGEN DIOXIDE AND PARTICULATE MATTER

BACKGROUND

- 2.1 A programme of ambient air quality monitoring commenced at the airport in 2006. The current Air Quality Monitoring Strategy (AQMS) was approved by the London Borough of Newham in November 2020. The AQMS includes continuous monitoring of nitrogen dioxide at two locations, and continuous monitoring of both PM₁₀ and PM_{2.5} at one location. The continuous monitoring is supported by a network of 16 nitrogen dioxide diffusion tube sites, located in and around the Airport and close to local housing.
- 2.2 The results from the monitoring programme described above are reported on a quarterly basis to the London Borough of Newham and the London City Airport Consultative Committee (LCACC), and are published in the Airport's Annual Performance Report. The continuous monitoring results are reported in real time through a web-based system

SUMMARY OF AIR QUALITY MONITORING STRATEGY

- 2.3 This CADP 1 Air Quality Monitoring Strategy 2023 – 2026 retains the existing, approved AQMS.

Automatic Monitoring

- 2.4 During 2022, the nitrogen dioxide monitor at LCA-CAH was decommissioned with approval by the London Borough of Newham, and a new monitor installed at LCA-KGV.
- 2.5 Automatic (continuous) monitoring at the LCA-ND (NO₂) and LCA-KGV (NO₂, PM₁₀ and PM_{2.5}) sites will be continued (see Figure 1) over the period of this Strategy.
- 2.6 All automatic monitoring stations will be operated by suitably qualified staff; this includes all site calibrations, data collection, verification and ratification. Routine site services (six-monthly) will be conducted in accordance with the manufacturers' specifications. Independent site audits will be conducted on a 6-monthly basis by an organisation accredited to ISO 17025.

Nitrogen Dioxide Diffusion Tubes

- 2.7 Passive monitoring of nitrogen dioxide concentrations will continue at a minimum of 16 sites in and around the Airport. Monitoring will be conducted in accordance with the guidance provided in Defra's Technical Guidance LAQM.TG21¹. The diffusion tubes will be sourced from, and analysed by, a UKAS-accredited laboratory.
- 2.8 As described in paragraph 2.4, the LCA-CAH automatic (continuous) NO₂ monitor was relocated in June 2022. This also affected the LCA09 diffusion tube site (which was collocated with the LCA-CAH automatic site). For the purpose of deriving a local bias-adjustment factor for the diffusion tubes, the LCA09 site (with triplicate tubes) was relocated to a position adjacent to the new automatic site (LCA22).

¹ Available at: <http://laqm.defra.gov.uk/supporting-guidance.html>

2.9 The locations of the diffusion tube sites are shown in Figure 2; a description of the sites is provided in Table 1.

Reporting

2.10 Data from the automatic sites are provided in real-time via a website hosted by the Airport². This will continue under this 2023 - 2026 Strategy. In each calendar year, quarterly reports for the periods Jan-Mar, Apr-June and July-Sept will be published. These reports will provide a summary of the data in each period. An Annual Report for each calendar year will be published, which will provide a full summary of the data and a comparison with the air quality objectives³. All reports will be made available to the London City Airport Consultative Committee. The Annual Report will be included in the Annual Performance Report (to be published by 1 June, or the first working day thereafter).

Table 1: Description of Diffusion Tube Monitoring Sites

Location	Site ID
Lamp post at top of Parker Street, adjacent to housing	LCA01
Lamp post on Camel Road, adjacent to nearest property on Hartmann Street	LCA02
Lamp post on access road in Silvertown Quay; approx. 36 metres from kerbside of main road	LCA03
Lamp post at waterfront to east end of Newham Dockside	LCA04
Lamp post on Straight Road, at kerbside	LCA05
Lamp post on pedestrian walkway adjacent to nearest housing at Gallions Way	LCA06
Landing Lights	LCA07
Jet Centre – airside	LCA10
Lamp post at waterfront, eastern end of the University of London	LCA11
ILS, to north of runway and south of Albert Dock	LCA12
Lamp post at north-west corner of Newham Dockside	LCA13
Lamp post on waterfront at western end of Newham Dockside	LCA14
Lamp post at kerbside (approx. 1m) of Royal Albert Way	LCA15
Lamp post adjacent to roundabout, near to access road in Silvertown Quay.	LCA20
Lamp post on Brixham Street	LCA21
KGV analyser (triplicate tubes)	LCA22

Note: LCA-17 was discontinued from January 2012, as the lamppost on which diffusion tubes were deployed had been removed. LCA-16 and LCA-19 were discontinued from January 2017, as the land on which the sites were located had been vacated for construction works. LCA-03 was discontinued from April 2018 due to ongoing issues with access. LCA-20 was commissioned at the start of April 2018. LCA21 was commissioned in April 2021 to replace LCA08. LCA09 was decommissioned in June 2022 when the CAH site was closed, and has been replaced by LCA22.

² A link to the real-time data is provided on the Airport's Air Quality & Carbon Management website, available at <http://www.londoncityairport.com/aboutandcorporate/page/airquality>

³ Should any new air quality standards, objectives or guidelines come into force in UK legislation during the period of this Strategy, then they will also be taken into consideration.

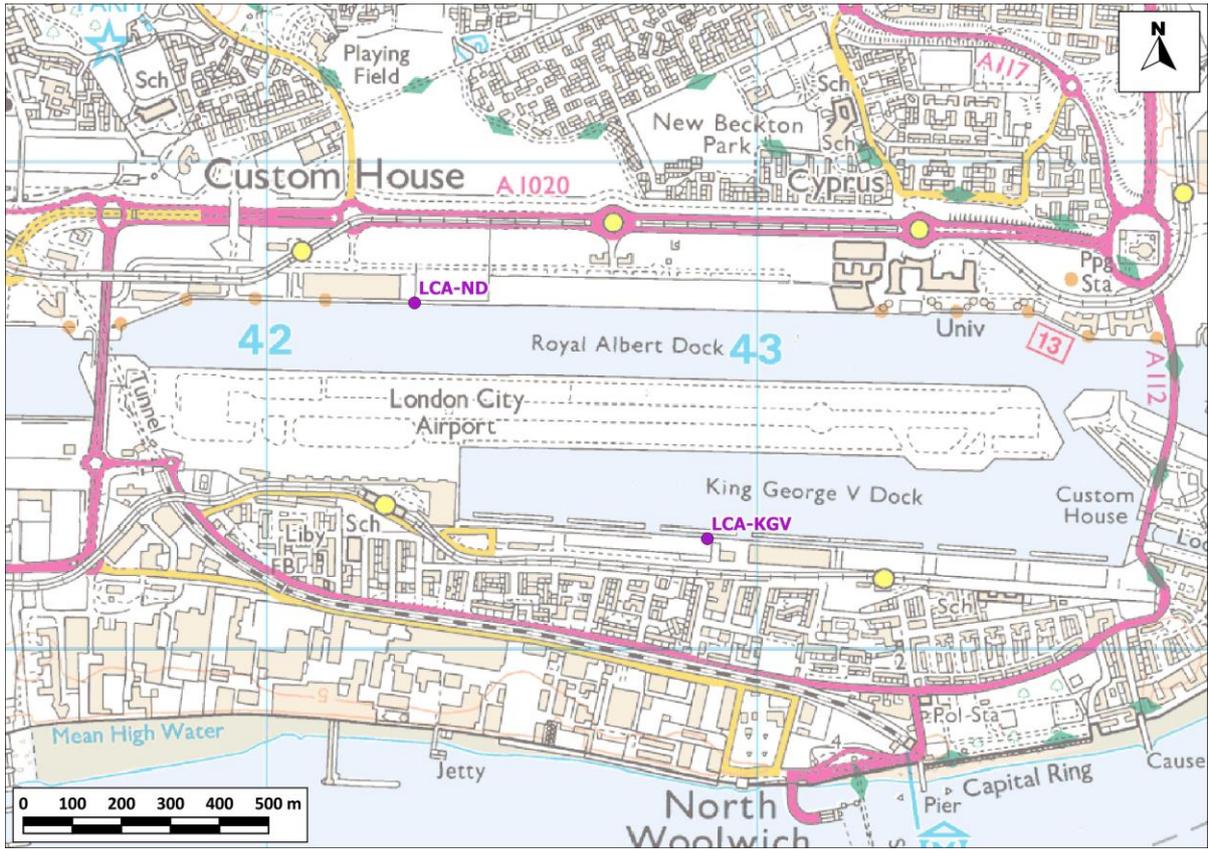


Figure 1: Location of Automatic Monitoring Sites

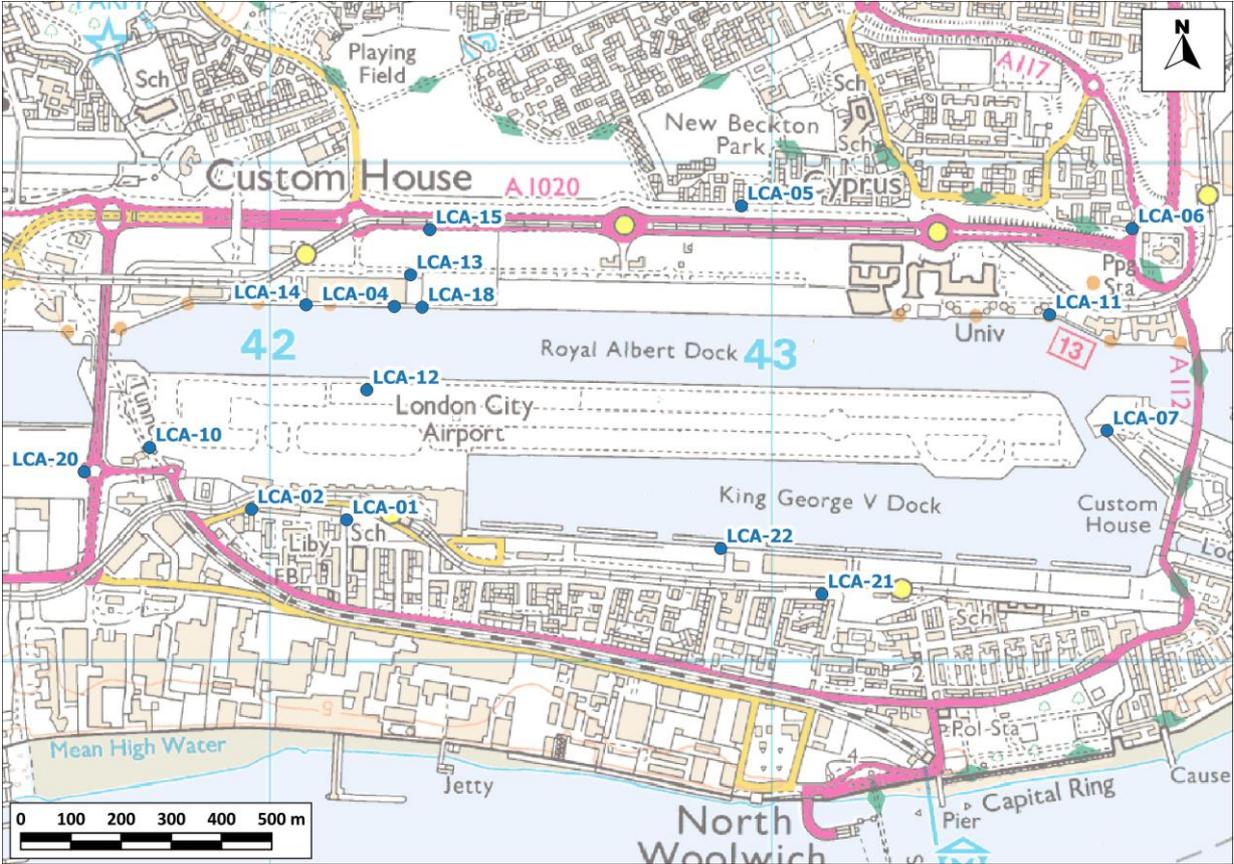


Figure 2: Location of Diffusion Tube Monitoring Sites

AIRPORT ODOURS

ODOUR MONITORING STUDY

- 2.11 Whilst airport odours may lead to loss of amenity, there are also concerns that exposure to Volatile Organic Compounds may be related to health impacts, to both users of the Airport and local residents. Given these concerns, a monitoring study will be carried out to quantify VOC concentrations expected to be associated with airport odours, at sites within and around the Airport. This will include:
- Pumped thermal desorption tubes (using a two-bed sorbent of Tenax and SulphiCarb) to determine concentrations of VOCs
 - Pumped sorbent tubes to specifically measure formaldehyde; and
 - A RAE PPB Surveyor 3000 PID Monitor (or similar) to measure total indicative concentrations of VOCs.
- 2.12 The sampling will be carried out by an operative who has had their odour sensory acuity tested at an accredited laboratory.
- 2.13 The outcomes of the sampling will be compared to relevant objectives for the protection of the health of staff, passengers and residents.
- 2.14 Due to the impacts of the Covid-19 pandemic, the odour monitoring study, originally proposed for 2021, was postponed. A proposal for the odour monitoring study was submitted to the London Borough of Newham by 31 December 2022, and has been approved. The study will be completed by September 2023.