

Statutory Consultation 2022

Preliminary Environmental Information Report

Volume 3: Appendix 7.4
Draft Air Quality Plan

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1 DRAFT AIR QUALITY PLAN

- 1.1.1 This Draft Air Quality Plan (AQP) describes the preliminary mitigation measures proposed to reduce and control impacts on air quality arising from the Proposed Development. The final plan, and therefore the final proposed measures described in it, will be submitted with the application for development consent and appropriately secured.
- 1.1.2 The measures described in the **Draft Green Controlled Growth Proposals** document (published as part of statutory consultation) provide an additional and supplemental mechanism through which the operation of the Proposed Development is monitored, independently reviewed, and measures taken should the environmental effects of the Proposed Development approach or exceed those predicted by the environmental assessment.

2 CONSTRUCTION PHASE IMPACTS

- 2.1.1 There will be demolition, earthworks, construction and construction vehicle movements associated with the Proposed Development.

2.2 Construction dust mitigation

- 2.2.1 Following the construction dust assessment, it is recommended that the high risk mitigation measures are considered during all three phases which are captured in the Draft Code of Construction Practice (CoCP) provided as **Appendix 4.2** in Volume 3 to the PEIR. The following measures follow the recommendations in the Institute of Air Quality Management (IAQM) guidance (Ref. 1).

Communications

- a. Develop and implement a stakeholder communications plan that includes community engagement before work commences on site.
- b. 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.
- c. Display the head or regional office contact information.
- d. Develop and implement a Dust Management Plan (DMP), which may include measures to control other emissions, approved by the Local Authority.

Site management

- a. 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.
- b. Make the complaints log available to the local authority when asked.
- c. Record any exceptional incidents that cause dust and/or air emissions, either on or off-site and the action taken to resolve the situation in the log book.

- d. Hold regular liaison meetings with other high risk construction sites within 500m of the site boundary, to ensure plans are co-ordinated and dust and particulate matter emissions are minimised.

Monitoring

- a. 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.
- b. Carry out regular site inspections to monitor compliance with the Dust Management Plan, record inspection results and make an inspection log available to the local authority, when asked.
- c. 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.
- d. Agree dust deposition, dust flux, or real-time PM₁₀ continuous monitoring locations with the Local Authority. Where possible commence baseline monitoring at least three months before work commences on site or, if it is a large site, before work on a phase commences. Further guidance is provided by IAQM (Ref. 2) on monitoring during demolition, earthworks and construction.

Preparing and maintaining the site

- a. Plan site layout so that machinery and dust causing activities are located away from receptors, as far as possible.
- b. Erect solid screens or barriers around dusty activities or the site boundary that are at least as high as any stockpiles on site.
- c. Fully enclose site or specific operations where there is a high potential for dust production and the site is active for an extensive period.
- d. Avoid site runoff of water or mud.
- e. Keep site fencing, barriers and scaffolding clean using wet methods.
- f. Remove materials that have a potential to produce dust from site as soon as possible, unless being re-used on site.
- g. Cover, seed or fence stockpiles to prevent wind whipping.

Operating vehicle/machinery and sustainable travel

- a. Ensure all on-road vehicles comply with non-road mobile machinery (NRMM) requirements.
- b. Ensure all vehicles switch off engines when stationary – no idling vehicles where practicable.

- c. Avoid the use of diesel or petrol powered generators and use mains electricity or battery powered equipment where practicable.
- d. Impose and signpost a maximum-speed-limit of 15 mph on surfaced and 10 mph 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).
- e. Produce a Construction Logistics Plan to manage the sustainable delivery of goods and materials.
- f. Implement a Travel Plan that supports and encourages sustainable travel (public transport, cycling, walking, and car-sharing).

Operations

- a. Only use cutting, grinding or sawing equipment fitted or in conjunction with suitable dust suppression techniques, such as water sprays or local extraction.
- b. Ensure an adequate water supply on the site for effective dust/particulate matter suppression/mitigation, using non-potable water where possible and appropriate.
- c. Use enclosed chutes and conveyors and covered skips.
- d. Minimise drop heights from conveyors, loading shovels, hoppers and other loading or handling equipment and use the fine water sprays on such equipment wherever appropriate.
- e. 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.

Waste management

- a. Avoid bonfires and burning of waste materials.

Demolition

- a. Soft strip inside buildings before demolition (retaining walls and windows in the rest of the building where possible, to provide a screen against dust).
- b. Ensure effective water suppression is used during demolition operations. Hand held sprays are more effective than hoses attached to equipment as the water can be directed to where it is needed. In addition, high volume water suppression systems, manually controlled, can produce fine water droplets that effectively bring the dust particles to the ground.
- c. Avoid explosive blasting, use appropriate manual or mechanical alternatives.
- d. Bag and remove any biological debris or damp down such material before demolition.

Earthworks

- a. Re-vegetate earthworks and exposed areas/soil stockpiles to stabilise surfaces as soon as practicable.
- b. Use Hessian, mulches or soil trackifiers where it is not possible to re-vegetate or cover with topsoil, as soon as practicable.
- c. Only remove the cover in small areas during work and not all at once.

Construction

- a. Avoid scabbling (roughening of concrete surfaces) if possible.
- b. Ensure sand and other aggregates are stored in bundled 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.
- c. Ensure bulk cement and other fine powder materials are delivered in enclosed tankers and stored in silos with suitable emission control systems to prevent escape of material and overflowing during delivery.
- d. For smaller supplies of fine power materials ensure bags are sealed after use and stored appropriately to prevent dust.

Trackout

- a. Regularly use water-assisted dust sweeper(s) on the access and local roads, to remove, as soon as practicable any material tracked out of the site.
- b. Avoid dry sweeping of large areas.
- c. Ensure vehicles entering and leaving the site are covered to prevent escape of materials during transport.
- d. Inspect on-site haul routes for integrity and instigate necessary repairs to the surface as soon as reasonably practicable.
- e. Record all inspections of haul routes and any subsequent action in a site log book.
- f. Install hard surfaced haul routes, which are regularly damped down with fixed or mobile sprinkler systems, or mobile water bowsers and regularly cleaned.
- g. Implement a wheel washing system (with rumble grids to dislodge accumulated dust and mud prior to leaving the site where reasonably practicable).
- h. Ensure there is an adequate area of hard surfaced road between the wheel wash facility and the site exit, wherever site size and layout permits.
- i. Access gates to be located at least 10m from receptors where possible.

2.3 Construction Traffic

- a. No construction related traffic to travel through the Hitchin Air Quality Management Areas (AQMA).
- b. No construction related traffic to use Eaton Green Road.
- c. Construction vehicles be registered on the Fleet Operator Recognition scheme (FORS scheme), aiming for silver standard as a minimum.
- d. Develop a Construction Traffic Management Plan and Construction Workers Travel Plan to be implemented by the lead contractor, in line with the requirements of the Draft CoCP; (refer to **Appendix 4.2** in Volume 3 of this PEIR).

3 OPERATIONAL PHASE IMPACTS

3.1.1 This document provides a Draft AQP for consultation which will be updated and submitted as part of the ES. This Draft AQP includes mitigation for the following sources:

- a. aircraft emissions;
- b. airside vehicles;
- c. surface access;
- d. energy and fixed plant;
- e. miscellaneous emissions; and
- f. odour emissions.

3.2 Aircraft Emissions

- a. All new stands fitted with fixed electrical ground power (FEGP).
- b. Retrofit all existing stands with FEGP or non-diesel GPUs by 2040.
- c. Review auxiliary power unit (APU) running time allowances and reduce to the minimum level practicable.
- d. Shut down all engines as soon as possible following arrival.
- e. If a delay occurs subsequent to engine start-up, shut down engines whenever possible.
- f. Recommend single/reduced engine taxiing.
- g. Develop a best practice operational guide for ground operations and departures to reduce emissions due to aircraft idling and hold.
- h. Work with the National Air Traffic Service and airlines to reduce hold times in the air and on the ground.
- i. Encourage the take up of sustainable aviation fuels.
- j. Encourage airlines to use newer and more efficient aircraft through operating policy and strategy.

- k. At least 90% of commercial passenger aircraft to be CAEP 8 or better by 2041.

3.3 Airside vehicles

- a. Encourage the use of zero or low emission vehicles and seek to provide appropriate fuelling infrastructure based on a cost-benefit approach.
- b. All airside vehicles will be electric vehicles by 2035 (including GSE, tugs, busses) where available for the vehicle type.
- c. Provide staff with training materials such as eco-driving guidance.
- d. All purchased airside vehicles to meet the latest emission standards, of Euro 6/VI. No Airside Vehicle Permits (AVPs) should be provided to newly purchased vehicles which do not comply unless there is a specific technical reason for the non-compliance. Keep a register of all non-compliant and older vehicles (pre-Euro 4) and work with operators to develop plans to reduce the emissions from airside vehicles (e.g. plans to update vehicle fleets and increase the use of low emission alternatives).
- e. Minimise idling of vehicles on-site.
- f. Carry out ad hoc emission testing of airside vehicles to confirm they meet the emission limits specified.

3.4 Surface access

- a. Increase the total number of vehicle electrical charging points in staff and passenger car parks.
- b. Aim for 45% of passengers and increased percentage staff using sustainable transport (public transport, walking and cycling) rather than personal vehicles by 2039.
- c. Install dedicated electric charging points for taxis.
- d. Aim to only allow airport access to zero emissions taxi vehicles by 2030.
- e. Seek to implement emissions based car parking charges.
- f. Seek to implement emissions based charges for drop off and pick up.
- g. Encourage all freight vehicles (logistics and cargo) to be Euro VI or better by 2030.
- h. All car park to terminal shuttle buses to be zero emissions by 2029.
- i. Seek to implement emissions based staff car parking charges.
- j. Support improvement of access for pedestrians and cyclists to the airport from the local area.

3.5 Energy and fixed plant

- a. Reduce the reliance on fixed combustion plant (boilers and generators) and mobile generators. Provide electrical power at all permanent locations.

- b. If new fixed plant are required, use zero emission where permissible e.g. electric or heat pumps.

3.6 Miscellaneous emissions

- a. The proposed fire training ground and engine testing areas have been located so that they do not significantly impact sensitive receptor locations.

3.7 Odour emissions

- a. Apply best practice handling methods for fuels as required by the Civil Aviation Authority (Ref. 3).
- b. Implement a system to record odour complaints and review the record of complaints on an annual basis.

3.8 Monitoring

- a. Provide monitoring results periodically to the local authority.
- b. Commit to continue air quality monitoring beyond 2041 and undertake annual air quality monitoring results to be available to the public and the local authority.
- c. Complete an annual aircraft emission inventory.

GLOSSARY AND ABBREVIATIONS

Term	Definition
APU	Auxiliary Power Unit
AQMA	Air Quality Management Area
AQP	Air Quality Plan
AVP	Airside Vehicle Permits
CAEP	Committee on Aviation Environmental Protection
CoCP	Code of Construction Practice
DMP	Dust Management Plan
ES	Environmental Statement
FEGP	Fixed Electrical Ground Power
FORS	Fleet Operator Recognition Scheme
GSE	Ground Support Equipment
IAQM	Institute of Air Quality Management
NRMM	Non-Road Mobile Machinery
T1	Terminal 1

REFERENCES

Ref 1 Holman et al. IAQM Guidance on the assessment of dust from demolition and construction, 2016. Institute of Air Quality Management, London.

Ref 2 Moorcroft et al. IAQM Guidance on Monitoring in the Vicinity of Demolition and Construction Sites (version 1.1), 2018. Institute of Air Quality Management, London.

Ref 3 Civil Aviation Authority CAA CAP 748 Aircraft fuelling and fuel installation management 2004