

CITY AIRPORT DEVELOPMENT PROGRAMME  
(CADP1) S73 APPLICATION

# ENVIRONMENTAL STATEMENT

VOLUME 1: MAIN ES

DECEMBER 2022



# P e l l F r i s c h m a n n

City Airport Development  
Programme (CADP1) S73  
Application

Volume 1: Environmental Statement  
Chapter 13: Other Environmental Topics

December 2022

## 13 Other Scoped-Out Environmental Topics

### 13.1 Introduction

13.1.1 This chapter of the ES considers the environmental topics that were examined at the EIA scoping stage and determined to be unlikely to be materially affected by the proposed amendments or to have the potential to give rise to new or materially different significant environmental effects from those identified in the 2015 UES.

13.1.2 The rationale for scoping out these topics was first set out in the Scoping Report (**ES Volume 2: Appendix 2.1**) which was subsequently confirmed by the Scoping Opinion issued by LBN on 24<sup>th</sup> November (**ES Volume 2: Appendix 2.4**). LBN and their advisors agreed that a full re-assessment of these topics was unnecessary and, accordingly, they could be scoped-out of the formal EIA. However, for the sake of completeness, this chapter provides a further account of these environmental topics, considering the passage of time since the 2015 UES was prepared, changes to policy and practice, and comments raised by LBN and statutory consultation bodies during the scoping stage.

13.1.3 The topics are grouped together and presented within this chapter in accordance with the environmental 'factors' listed in the EIA Regulations, namely:

- Townscape (including visual impacts);
- Water Resources and Flood Risk;
- Ecology and Biodiversity;
- Land and Soil (including contamination);
- Cultural Heritage (including archaeology and built heritage assets);
- Waste; and
- Major Accidents and/or Disasters.

## 13.2 Townscape and Visual Impacts

### Baseline Context

13.2.1 The site of the airport has undergone dramatic change in visual character and appearance since the last commercial maritime operations ceased in 1983, morphing from a port and industrial based landscape (with associated warehouse, jetties, cranes and associated infrastructure) to a dedicated modern airport and transport hub.

13.2.2 The airport is now surrounded by infrastructure closely aligned to its operations, including the Docklands Light Railway (DLR), hotels, offices, car parks and emerging commercial developments such as the ABP Royal Albert Dock scheme to the north. An established residential community of predominantly terrace houses and flats are situated directly to the south of the airport, with the Tate and Lyle factory dominating the skyline to the southwest. Further new residential developments are being built to the west, north and east, including major developments such as Silvertown Quays and Gallions Quarter. The A112, Hartmann Road, Connaught Bridge and the A1020 route around the airport with the DLR running along the south on a ramp

13.2.3 The area generally consists of urban development contrasting with the open areas of water of the Docks and the River Thames. Some isolated landscaped areas exist; however, in most locations there is relatively little vegetation. The airport and surrounding land are not within a designated Area of Townscape Value (LBN policy SP5) or crossed by protected views.

13.2.4 The extensive urban area provides a night-time character which is strongly influenced by artificial light from buildings and street lighting. Illumination from outside the airport results in a strong night sky glow to the west. The illuminated buildings of Canary Wharf and central London are prominent night-time features.

13.2.5 The existing airport terminal is a relatively discrete flat roofed building, of approximately 12.8m in height with the air former traffic control (ATC) tower at a maximum height of 14.87m (20.36m AOD), located at the western end of the King George V (KGV) Dock. The ATC Tower is due to be demolished now that Digital Air Traffic Control Tower (DATCT) has been constructed on the southern dockside.

13.2.6 The runway is located on a spit of land to the north and east of the terminal which separates Royal Albert Dock from KGV Dock. The existing aircraft stands (with lighting masts at 12m height) are located between the runway and terminal, serviced by piers which extend west and east from the terminal building. The existing East Pier is 9m high and extends along the south side of aircraft stands 21-23, ending in a temporary noise barrier (8m high) which screens aircraft on stand 24 from residents to the south of the airport. A 5.1m high barrier screens stands 25-28 as approved under Condition 6 of the CADP permission (Planning Ref 19/02620/AOD).

### Summary of Findings of 2015 UES

13.2.7 The 2015 UES included an assessment of Townscape and Visual effects. This concluded that the proposed new terminal buildings (WTE, WEC, ETE and New East Pier) would generally enhance the setting of the Docks and improve the aesthetic quality of the airport, with only a few minor to moderate adverse effects on the north side of Royal Albert Dock and to a small number of apartments with north facing 2nd or 3rd floor windows located within 100m of the airport within Silvertown. No significant effects were identified on townscape character.

13.2.8 A further Visual Impact Assessment completed by RPS in 2016 in support of proposed DATCT also determined that there would be no significant adverse effects from this new structure at any of the selected key views.

### Existing Controls at the Airport

13.2.9 There are no planning conditions attached to the CADP1 planning permission that specifically relate to townscape and visual impacts.

## Policy and Legislative Context

13.2.10 There are no updates to legislation and policy since the 2015 UES that are considered material to the findings of the Townscape and Visual Assessment.

## Summary of Consultation Responses Received

13.2.11 A summary of the issues raised in LBN's Scoping Opinion and how these have been addressed in the ES is provided in Table 13.1 below. No comments were raised by other statutory or non-statutory consultees that relate to townscape and visual impacts.

**Table 13.1 Summary of Consultation Responses in Relation to Townscape and Visual Impacts**

Issue Raised	LCY Consultant Team Response
It is not considered (...) that the proposed S73 amendments would change effects identified from viewpoints and visual receptors within the Royal Docks Character Area reported in the 2015 TVIA. However, given the western part of the site is not covered by the 2015 TVIA Viewpoints, acknowledgement of visual change in this area could be provided.	Potential changes to visual effects identified in the 2015 UES are discussed under 'Potential Impacts of the Proposed Development'.
When considering the new airport stands (comprising surface level painted markings), their visual screening and visual effect on receptors, it is not clear whether their use for larger Code C aircraft is taken into account. The visual effect of larger parked aircraft will be much greater than the surface level stands which accommodate them alone. This should be clarified in relation to the townscape and visual effects identified in the 2015 UES to confirm the S73 application brings no additional townscape and visual effects to those previously reported.	For the sake of clarity, and as explained earlier in the ES, the proposed amendments do not seek an increase in the number of aircraft stands from the currently permitted 25. Potential changes to townscape and visual effects identified in the 2015 UES are discussed under 'Potential Impacts of the Proposed Development'; supplemented by photographs of the western apron from viewpoints outside of the airport.

## Potential Impacts of the Proposed Development

13.2.12 The proposed amendments to the CADP1 consent do not entail any physical changes to the approved airport buildings and infrastructure, nor any increase in the number of aircraft stands or to the maximum flight numbers permitted.

13.2.13 The reconfiguration of some existing stands at the Jet Centre to the west of the airfield to accommodate larger Code C aircraft (as shown on updated Plan P4 submitted with the S73 application) will require minor surface level works only (e.g. re-painting stand markings). This area of the airfield is currently used by smaller corporate aviation aircraft and is visually screened by the Jet Centre building and existing noise barriers to the south, and blast screens to the west. The area surrounding the Jet Centre is dominated by road infrastructure, vacant and industrial sites and other airport associated infrastructure, as illustrated in Figures 13.1-13.4. Notably, this part of the airfield is not visible in any of the viewpoints identified by the Townscape and Visual Impact Assessment (TVIA) contained in the 2015 UES or the subsequent 2016 assessment undertaken to assess the visual impacts of the DATCT.

13.2.14 The positioning of a larger Code C aircraft in the Jet Centre will not be a permanent visual fixture. Such larger aircraft are currently positioned and move across the rest of the airfield and are visible from multiple locations in the surrounding area. Aircraft will be parked at the Jet Centre from time to time, and given the existing use of this part of the site by smaller aircraft, and the existing visibility of larger aircraft across the remaining airfield, the change would be viewed as another aircraft utilising the airport infrastructure and will not appear unusual or at odds in the existing context. The 2015 UES did not assess the potential visual and townscape impacts associated with the transition to larger, new generation aircraft as this was, and still is, considered unlikely to give rise to significant adverse effects.

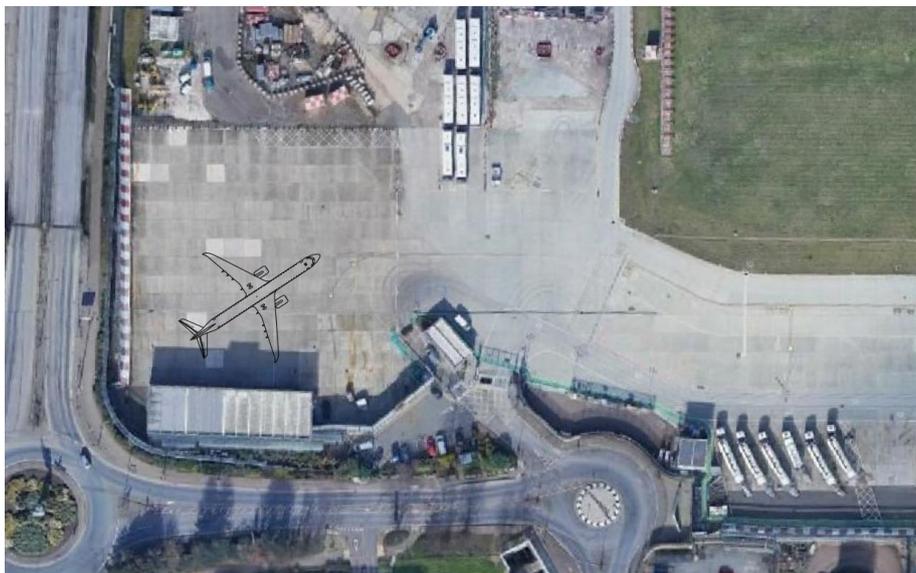
13.2.15 In light of the above, neither the works, nor the larger aircraft that would use this part of the airfield in the future, are considered likely to cause any significant visual effects to visual receptors outside of the airport boundary.

13.2.16 The proposed development is therefore not anticipated to give rise to any new or materially different significant townscape and visual effects from those identified in the 2015 UES and no further mitigation is considered necessary.

**Figure 13.1: Aerial View of the Jet Centre Illustrating Area of Proposed Code C Stand**



**Figure 13.1: Aerial View of the Jet Centre Illustrating Area of Proposed Code C Stand**



**Figure 13.2: Aerial View of the Jet Centre Illustrating the Potential Positioning of Aircraft on the Proposed Stand**



Figure 13.3: View of the Jet Centre from Connaught Bridge



Figure 13.4: View of the Jet Centre from Roundabout Junction between Connaught Bridge and Connaught Road

## Conclusions

13.2.17 In light of the above, the proposed development is not anticipated to give rise to any new or materially different significant effects in relation to townscape and visual impacts. The residual effects of the proposed development therefore remain as reported in the 2015 UES.

## 13.3 Water Resources and Flood Risk

### Baseline Context

13.3.1 The airport is located between the Royal Albert Dock and KGV Dock, comprising two of the three Royal Docks. These are manmade waterbodies which were constructed between the 1880s and the 1920s, with an average depth of approximately 10 – 11 m. The water level within the Royal Docks is maintained within this range by pumping from the River Thames; this being the responsibility of Royal Docks Management Authority (RoDMA). The KGV Dock joins the Gallions Reach section of River Thames by the KGV gate, located at the entrance lock to the Royal Docks, approximately 400 m east of the airport. The gate provides flood protection to the impounded area of the docks.

13.3.2 A flood risk assessment (FRA) was undertaken by RPS in 2013 in support of the CADP1 planning application in order to assess the potential impacts of all sources of flooding to the airport. This FRA outlined the potential for the airport to be impacted by flooding, the impacts of the proposed CADP1 on flooding in the vicinity of the airport (up to 2025), and the proposed measures which could be incorporated into the development to mitigate the identified risk. The FRA was produced in accordance with the guidance detailed in the National Planning Policy Framework (NPPF) at the time and took account of the CIRIA SuDS manual (C697), and the 2010 LBN Strategic Flood Risk Assessment (SFRA).

13.3.3 The FRA concluded that there was a negligible risk of tidal and fluvial flood as, although the airport is located within an area which is notionally at risk of tidal flooding, primarily being within Flood Zone 3 (which corresponds with an annual probability of over 1 in 200 (0.5%)), the whole site is protected by the presence of the River Thames flood defences, including the Thames Barrier and dock gates to the east of the airport.

13.3.4 An addendum to the 2013 FRA was prepared by RPS in 2017 to support the submission of a Section 96a (non-material amendment) application for variations to the original consent. This assessment was undertaken using the updated Thames Tidal Upriver Breach Inundation Modelling (May 2017). A Flood Management Plan was also produced by RPS in 2017.

13.3.5 The Thames Tidal Downriver Breach Inundation Modelling study was subsequently updated (June 2018). It shows that the flood extent would potentially impact the site during a breach of the flood defences. Whilst only limited areas of the site are indicated to be within the breach flood extent, should flooding occur these are not considered to significantly constrain site operations (as shown in Annex A of the FRA, contained at **ES Appendix 13.1**).

13.3.6 A review of the updated 2017 LBN SFRA<sup>1</sup> which included the most recently published Environment Agency tidal breach modelling (May 2017) for upstream of the Thames Barrier, suggests that the Royal Docks retain a negligible risk of flooding in the 'non-breach' scenario. However, it is noted that the GLA suggest that further analysis is required in due course, in particular through updated SFRAs and site-specific FRAs.

13.3.7 An updated FRA, prepared by RPS in July 2022 (**See ES Appendix 13.1**) demonstrated that the probability of tidal flooding to the site has not increased since the production of the original 2013 FRA and 2017 FRA Addendum, as it remains at residual flood risk associated with a breach of the defences.

13.3.8 The EA flood map for surface water indicates that the majority of the site is at 'very low' risk of surface water flooding but there are areas of 'low' to 'high' risk alongside the existing terminal buildings. Additionally, EA Reservoir Flood mapping indicates that the site is located within an area potentially at risk from reservoir flooding when there is also fluvial flooding. However, this flood risk can ultimately be considered low due to the standards of reservoir operational procedures.

13.3.9 Potable water at the airport is supplied by Castle Water Limited. Unfortunately, neither the airport nor Castle Water hold any reliable data on potable water consumption at the airport for the 2019 baseline year, or for subsequent years. However, in the 2015 UES, it was reported that the airport had a relatively low water

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<sup>1</sup> London Borough of Newham Level 1 & 2 Strategic Flood Risk Assessment - Final Report, 25<sup>th</sup> September 2017

consumption, at 6.2 litres per passenger, due in part to the shorter dwell time of passengers in the terminal building compared to other airports. There is no reason why this consumption rate per passenger would increase significantly with the proposed development. The absolute volumes of water consumption at the airport would likely increase as a result of the increase in passenger throughput to 9.0 mppa, however it can also reasonably be assumed that water consumption per passenger will reduce in the future, accounting for additional water efficiency measures to be incorporated into the new CADP1 terminal buildings (as described below). In the context of EIA, changes to the consumption of potable water are therefore not considered to constitute a significant environmental effect of the proposed development.

13.3.10 The water quality of KGV Dock is monitored regularly by the RoDMA. Samples are mainly taken for health and safety reasons but provide an indication of the water chemistry of the KGV Dock including salinity levels, oxygen and nutrient availability. RoDMA data for the 2nd August 2022<sup>2</sup> confirms onsite parameters complied with the Former Guideline Value 76/160/EE and the SI 1991, No.1597 or Mandatory Value 76/160/EEC. Under the Directive 2006/7/EC and the Bathing Water Regulations 2013, E.Coli and Intestinal Enterococci were within the threshold for 'Excellent'.

### Summary of Findings of the 2015 UES

13.3.11 The 2015 UES concluded that there would be a negligible effect on flood risk to the airport or surrounding area during either the construction or operational phases of the CADP1 scheme. The proposed surface water drainage strategy (as subsequently approved by planning condition, see below) also identified a moderate beneficial effect on the sewer network through reduced discharge flow rate.

13.3.12 Previous assessment of water quality in the KGV Dock identified that the dock water at this location complied with the Mandatory Value of SI 1991, No. 1597 and 76/160/EEC for total coliforms and all on site parameters, with the exception of transparency depth. Based on the concentrations of E.coli and presumptive enterococci (less than 250 and 100 per 100ml respectively), the water is of 'Excellent Quality' for coastal and transitional waters (2006/7/EEC and SI 2013 No. 1675). The 2015 UES concluded that the impact of surface water run-off on water quality once the CADP is built and during construction would be negligible.

### Existing Controls at the Airport

#### Flood Risk

13.3.13 The FRA appended to the 2015 UES recommended that a Flood Management Plan (FMP) should be produced and flood warning officer designated, to ensure occupants and staff follow appropriate controls in the event of a flood. This FMP was duly prepared by the airport.

13.3.14 In accordance with Condition 69 of the CADP1 planning permission, a Surface Water Drainage Scheme was also submitted to and approved and by LBN in July 2018 (Planning Ref: 18/01391/AOD).

#### Water Quality

13.3.15 The bio-chemical quality of the water in the Docks is influenced by water pumped into it from the tidal Thames. A number of activities at the airport also have the potential to affect water quality. However, through utilisation of the airport's Environmental Management System (EMS) (which is certified to ISO14001:2015<sup>3</sup>) the impact of such activities is considerably reduced and effectively monitored.

13.3.16 Suitable infrastructure has been present for many years at the airport to minimise the risk of accidental discharges to the Docks as well as the volume of surface run-off overall. This includes the following:

- Effective site-wide drainage system with built-in oil separator interceptors coupled with annual pressure tests of underground storage tanks;
- Designated bunded area for fire training, including the provision of a separate foam drainage tank;

<sup>2</sup> <https://londonsroyaldocks.com/wp-content/uploads/2022/08/20220802-RoDMA-Bathing-Water-Quality-Monitoring.pdf>

<sup>3</sup> International Standard Organisation (ISO) Environmental Management Systems (EMS) Standard BS EN ISO14001:2015

- Suitable storage tanks and units, bunding and drip trays to minimise the potential of fuel and chemical leaks;
- Comprehensive system of operational procedures to ensure that the risks of accidental spills and other contamination are minimised; and
- Dedicated spill response service to contain and clear any airside spills.

13.3.17 The airport has measures in place to limit water pollution as far as practical in line with methodology agreed by a discharge permit approved by the Environment Agency.

13.3.18 Additional measures are in place to reduce the likelihood of pollution events associated with the use of de-icing agents. This includes use of a 'glyvac' system to suck up residual fluid, monitor water quality and track de-icer usage to use the minimum necessary.

13.3.19 As described above, RoDMA undertakes water quality sampling and continuously monitors pollution in the Docks, as well as removing litter and detritus on a regular basis. The airport itself also monitors and reports on water quality as part of its ongoing sustainability and environmental commitments and reports the results in its Annual Performance Report (APR).

### Water Demand

13.3.20 In relation to water demand and consumption, the airport has implemented an increasingly comprehensive water efficiency programme. For example, it has installed low water fittings throughout the terminal building and associated offices. These include:

- Waterless urinals;
- Low water use soffits in taps;
- Sensor taps; and
- Low flow toilets.

13.3.21 In accordance with Condition 63 of the CADP1 planning permission, all new main buildings will achieve a BREEAM 'Very Good' or 'Excellent' rating. This will be achieved, in part, through the design and specification of water efficient fixtures and fittings within the new CADP1 buildings and infrastructure.

13.3.22 The airport's Sustainability and Biodiversity Strategy, the most recent version of which was submitted to and approved by LBN in 2021 in accordance with Condition 56 of the CADP1 permission (Planning Ref: 21/00061/AOD) sets targets in relation to water resources, specifically:

- Review of the Building Standards and contractual requirements for tenants and concessionaires in relation to water usage;
- Operate within the conditions stipulated in LCY's water discharge permit with regards to biochemical oxygen demand and evidence performance on an annual basis; and
- Achieve a reduction in surface water run-off rate of at least 63% against the 2013 baseline (as assessed in the UES) by completion of the CADP works (noting that an interim target of 5% attenuation has been agreed with the Environment Agency until the new landside drainage system can be installed).

### Summary of Consultation Responses Received

13.3.23 In addition to the EIA Scoping Report submitted to LBN in July 2022, a draft updated FRA was submitted to the Environmental Agency (EA) for comment and a subsequent meeting held with the EA on 16th August 2022. A summary of the issues raised by the EA in response to the EIA Scoping Report, and LBN's Scoping Opinion, and how these have been addressed in the ES is provided in Table 13.2 below.

**Table 13.2 Summary of Consultation Responses in Relation to Water Resources and Flood Risk**

Consultee	Issue Raised	LCY Consultant Team Response
Environment Agency	More passengers may increase the potential receptors at risk [from flood events at the airport].	<p>The proposed amendments would result in an increase in the number of <b>annual</b> passenger movements from 6.5 to 9.0 mppa; however, it would not result in a significant increase in the hourly peak number of passengers. This is due to a combination of 'peak spreading' of flights (due to more leisure-based destinations) and the proposed change to operational hours which would distribute flights and passengers more evenly across the day and week. The maximum number of flights permitted per hour (45 ATMs) would not change and accordingly the proposed amendments would not result in an increase to permissible peak hourly movements. Accordingly, the number of passengers that would need to be evacuated during a breach event would not be significantly greater in the Development Case than under the consented CADP1 scheme without the increased passenger cap (i.e. the Do Minimum scenario).</p> <p>In any case, the risk of the terminal and apron flooding is low due to the presence of the Thames Barrier and other flood defences. Should these flood defences be breached, the FRA shows that it would take some time for the airport to be inundated (and only to a shallow depth), allowing sufficient time for passengers and staff to be evacuated to a safe place. This is demonstrated in the amended Flood Management Plan at Appendix 13.2.</p>
Environment Agency	Increasing the likelihood of aircraft collision with the Thames Barrier.	<p>Aircraft and airspace safety is strictly controlled by the CAA. The Thames Barrier is located approximately 750m south of the airport runway, far removed from the designated take-off and landing flightpaths which are aligned east-west in accordance with the orientation of the runway. Therefore, no LCY aircraft fly above or close to the barrier and, as such, there is extremely low risk of collision with this structure.</p> <p>Additionally, the proposals do not seek to increase the number of annual aircraft movements at the airport. Therefore, any chance of collision with the Thames Barrier, however low, would be the same with or without the proposal. This is further discussed under Section 13.8: Major Accidents and Disaster of this Chapter.</p>
LBN	Any new findings of the updated FRA will be detailed in the ES Chapter, with due consideration to the Environment Agency's latest modelled breach extents.	<p>The findings of the updated FRA are summarised within this chapter. The updated FRA itself is included as Appendix 13.1.</p>
	Consider the implications on potable water supply. The assessment and consultation [should] also consider any increase in wastewater capacity.	<p>Potential impacts associated with increases in potable water demand are described under 'Potential Impacts of the Proposed Development' (see below).</p> <p>Thames Water have not raised any concerns to-date regarding the capacity of its wastewater utilities to deal with the increased passenger throughput in the future, and this is unlikely to be a constraint to the proposed development. However, this will be confirmed through further consultation with Thames Water in due course.</p>

## Potential Impacts of the Proposed Development

### Flood Risk

13.3.24 The proposed amendments being brought forward by the S73 application will not result in any changes to the area of hardstanding or airport infrastructure nor will they significantly increase the hourly peak number of passengers. Accordingly, there would be no increase in flood risk or surface water run-off and no new or materially different likely significant environmental effects from those identified in the 2015 UES. Nevertheless, an updated FRA using the most up-to-date data, including the Thames Tidal Downriver Breach Inundation Modelling (June 2018), has been undertaken in support of the S73 application (**see ES Volume 2: Appendix 13.1**). This FRA accounts for changes in climate change factors and updated Environment Agency, GLA and LBN's policies including revisions to the 2017 SFRA.

13.3.25 The updated FRA concludes that because the proposed amendments will not include any new physical infrastructure or changes to building footprints, the existing drainage system will remain as previously proposed / agreed, and no additional attenuation is required. An updated Flood Management Plan is provided in **ES Volume 2: Appendix 13.2**.

### Water Quality

13.3.26 The proposed amendments to the CADP1 scheme will not result in any new or materially different likely environmental effects with respect to water quality in the docks and other surface water features.

13.3.27 The construction activity that posed the greatest risk to water quality in the docks was the piling associated with the construction of the new deck over KGV Dock. Therefore, the piling methods were selected to avoid pollution of the underlying groundwater and to minimise the disturbance of dock sediment and bed material as far as reasonably possible, thus reducing the risk of adverse effects on water quality. Regular monitoring of the water in the docks during these works (2018 to 2020) showed no significant deterioration in bio-chemical conditions compared to baseline readings taken before the works commenced. These piling works are now complete, and all future CADP1 construction activity (as described in Chapter 6) presents a minimal risk of pollution of the docks.

13.3.28 RoDMA data for the 2nd August 2022 confirms onsite parameters complied with the Former Guideline Value 76/160/EE and the SI 1991, No.1597 or Mandatory Value 76/160/EEC. Under the Directive 2006/7/EC and Bathing Water Regulations 2013, E.Coli and Intestinal Enterococci were within the threshold for 'Excellent'.

13.3.29 The remaining CADP1 construction works would be undertaken in accordance with the Construction Environmental Management Plan (CEMP) approved under Condition 88 of the CADP1 consent which includes measures to reduce the risk of water pollution and surface water runoff during construction works.

### Water Demand

13.3.30 The proposed development would likely result in an overall increase in potable water demand as result of the increase in the number of passengers moving through the airport. As described earlier in this section, sufficient data is not available to determine baseline water consumption (for 2019 or subsequent years) to calculate this on a per passenger basis, or to ascertain any upward or downward trends in recent years. It is however expected that, due to the water efficiency measures that have been implemented in recent years at the airport, water consumption is likely to be lower than the preceding years prior to their installation.

13.3.31 LCY will continue to monitor water use at the airport and will implement further metering in areas of high usage, especially within the terminal. Through the phased development of future works associated with CADP1, additional water efficiency measures will be introduced to further reduce water demand at source, including by the design and specification of water fixtures and fittings within the new CADP1 building infrastructure. These improvements are required by virtue of the commitment to achieve at least a BREEAM 'Very Good' rating for the new terminal buildings, as required by Condition 63 of the CADP1 planning permission. The Sustainability and Biodiversity Strategy, submitted in accordance with Condition 56 of the CADP1 permission and approved by LBN, also sets targets for reducing water use per passenger.

13.3.32 Absolute potable water demand is expected to increase as a result of the proposed development, but not to a level which would create a constraint on supply or which would otherwise be deemed 'significant' in EIA terms. Moreover, for the reasons set out above, water consumption on a per passenger basis is expected to fall as the airport grows towards 9.0 mppa.

13.3.33 No constraints on wastewater capacity are envisaged, but this will be confirmed with Thames Water in due course.

### Conclusions

13.3.34 In light of the above, the proposed development is not anticipated to give rise to any additional significant effects on flood risk, water quality, water treatment or supply.

## 13.4 Ecology and Biodiversity

### Baseline Context

13.4.1 An updated Preliminary Ecological Appraisal (PEA) has been produced based on an updated desk study and Phase 1 Habitat Survey undertaken in April 2022. The PEA is included in **ES Volume 2: Appendix 13.3** of the ES. As part of the desk study, Greenspace Information for Greater London (GiGL) was contacted for details of non-statutory designated sites and records of protected and notable species within 1km of the site, and information about statutory designated sites within 1km was obtained via the government 'MAGIC' website<sup>4</sup>.

13.4.2 The PEA was undertaken in accordance with the Guidelines for Preliminary Ecological Appraisal (CIEEM, 2017) and takes account of the standard Phase 1 Habitat Survey methodology as set out by the Joint Nature Conservation Committee (JNCC) in the Handbook for Phase 1 Habitat Survey - A technique for environmental audit.

13.4.3 The airport is not located within or adjacent to any statutory designated sites for nature conservation. The nearest internationally designated site, which is identified by Natural England (NE) as being vulnerable to impacts from traffic emissions and recreational pressures, is Epping Forest Special Area of Conservation (EFSAC), the southernmost extent of which is located approximately 8km north of the airport. Epping Forest contains Atlantic acidophilous beech forests which are an Annex 1 habitat. Although rare epiphytes (mosses and lichens) at the EFSAC have declined in recent years, largely as a result of air pollution, it remains important for a range of rare species, including the moss *Zygodon forsteri*.

13.4.4 The closest Site of Special Scientific Interest (SSSI) is Gilbert's Pit, approximately 1.5 km south of the airport. However, this SSSI is designated for its geological, rather than ecological, features. There are no other SSSIs within 2km of the site; the nearest being designated for ecological features is Oxleas Woodlands SSSI, approximately 3km to the south of the airport.

13.4.5 The Royal Docks is designated as a non-statutory Site of Borough Importance for Nature Conservation (SBINC), forming Site Ne.BI10: The Royal Docks and London City Airport, which adjoins at the eastern end with a Site of Metropolitan Importance for Nature Conservation (Site M031: River Thames and tidal tributaries). The boundary of the current SINC was last updated in 2007 and includes sections that are now covered by the new deck/ aircraft stands and parallel taxiway. As such, this will likely decrease the overall area of the current SINC boundary when it is revised<sup>5</sup>.

13.4.6 The airport site is urbanised in nature, dominated by airport infrastructure including the terminal building, forecourt, runway, ancillary buildings and car-parking space. The majority of the land therefore consists of buildings and hardstanding with very limited vegetation. The airport is also located within a heavily urbanised area comprising predominantly residential, commercial and industrial land uses. Accordingly, the ecological value of the site is considered to be low, as confirmed by the updated PEA.

13.4.7 There are no ancient woodland or veteran trees on or in proximity to the airport and none of the trees or plants present on site are listed on Schedule 8 of the Wildlife and Countryside Act 1981 (as amended) or are otherwise of conservation interest. Moreover, the site does not contain habitat considered suitable to support statutorily protected species or species of conservation interest. The PEA confirmed that there are no records of protected species on the site.

13.4.8 The main habitats within the site are linear strips of poor amenity grassland which, together with areas of artificial grass, exist around the runway and taxiways. The remaining natural grass is frequently mown and receives applications of herbicide for weed control. Importantly, the airport does not comprise an urban 'Open

<sup>4</sup> Defra (Online Resource) *Magic Map*. <https://magic.defra.gov.uk/magicmap.aspx>

<sup>5</sup> London Wildlife Trust (2018) *Royal London Docks Preliminary Ecological Assessment* (Paragraph 4.6)

Mosaic Habitat' as listed in the draft national Open Mosaic Habitat (OMH) inventory published by Natural England.

13.4.9 The potential to increase biodiversity value on site is constrained to a certain extent by the need to discourage birds and other species that could present a risk to aircraft or would otherwise conflict with the CAA safety requirements. Any planting that would, for example, significantly increase insect populations, which in turn attracts birds to the site, is therefore not appropriate in this airport setting.

13.4.10 In respect to aquatic ecology, the KGV Dock walls were surveyed in 2013 during the preparation of the CADP1 planning application and 2015 UES. This revealed an abundance of algae, aquatic invertebrates and molluscs attached to the submerged dock walls, which are likely to provide a food source for fish. In this regard, it is notable that the Royal Docks supports a variety of fish species such as Grey Mullet (*Chelon labrosus*), Tench (*Tinca tinca*), Pike (*Esox lucius*) and Sea Bass (*Dicentrarchus labrax*). This represents a relatively unusual mix of both sea and freshwater fish species, arising as a result of the Dock's enclosed location and it being a brackish waterbody (i.e., transitional between saline seawater and freshwater).

13.4.11 In order to mitigate against the loss of habitat as a result of the demolition/ capping over of part of the KGV dock wall during the construction of the new CADP1 deck, the 2015 UES recommended the installation of 'artificial fish refugia' in KGV Dock. These structures were designed and installed in KGV Dock in 2017, in accordance with Condition 68: Fish Refugia of the CADP1 planning permission (Planning Ref 18/00671/AOD). These fish refugia can be categorised as an 'aquatic biodiversity enhancement feature' which provide an alternative physical substrate to replace the lost dock wall; acting both as a source of food to fish as well as providing shelter for young fish fry. The refugia comprise a series of twin wire-mesh panels (3m x 3m) suspended from a concrete pontoon (or 'Dolphin') in KGV Dock.

13.4.12 To monitor and assess physical condition and level of colonisation of the refugia, an underwater photographic survey was undertaken in 2020. Although not being a full ecological survey, this photographic survey did reveal that those panels, which are still in place, have a good coverage of algae (with high coverage levels of between 80% and 100%). This demonstrates that the refugia have been successfully colonised by algae and associated biota since 2017 and are therefore evolving in order to provide shelter, nursery habitats and food opportunities for various fish species. However, the survey also recorded that a significant number of the panels/ nets, especially those at the northern edge of the Dolphin, have either been damaged or lost since their installation. This is thought to be as a result of both storms (such as that which occurred in November 2021) and accidental collision by barges during the CADP1 piling and deck works between 2018 and 2020. As such, the airport is investigating the damage to the fish refugia with a view to replacing the damaged or missing nets as soon as feasible..

### Summary of Findings of 2015 UES

13.4.13 The 2015 UES concluded that there would be no significant adverse effects on ecological receptors or designated sites during either construction or operation of the CADP1 scheme, assuming the following mitigation measures would be put in place:

- Installation of fish refugia to compensate for the loss of Dock wall habitat;
- Soft start piling techniques when piling in the Dock;
- Appropriate quality control measures relating to the discharge of drainage water into the Dock;
- Use of best practice construction techniques to minimise risk of accidental pollution incidents and to minimise noise and disturbance; and
- Implementation of an appropriate landscape strategy.

13.4.14 This package of mitigation measures was secured by way of various planning conditions which have since been approved and implemented, as described in the subsequent section. It is assumed that these conditions would be retained under any future planning consent.

## Existing Controls and Initiatives at the Airport

13.4.15 As discussed above, 'artificial fish refugia' were installed in the KGV Dock in 2017 in accordance with Condition 68: Fish Refugia of the CADP1 planning permission, to mitigate against the loss of dock wall habitat. The fish refugia will be retained and maintained in accordance with the Condition.

13.4.16 Condition 56 of the CADP1 planning permission requires LCY to develop and implement a Sustainability and Biodiversity Strategy. The Strategy is reviewed every 3 years, with the latest iteration produced in 2021 setting out new targets, actions and initiatives to enhance biodiversity off-site and to promoting access to, and the appreciation of, biodiversity in the wider community. Targets set out in the Strategy include:

- Provide £10,000 a year to LBN for educational biodiversity and environmental programmes for the local community from 2023 onwards. Where LBN are unable to use the money within 6 months of it becoming available, transfer the money to the Community Trust Fund for use on projects relating to biodiversity in the next round of grant allocation; and
- Fund other environmental and biodiversity projects with preference given to areas of nature deficiency from 2023 onwards. Subject to interest from schools and community groups, options could include
  - (1) funding allotment boxes in SINC's;
  - (2) enhancing biodiversity by installing bat boxes or hedgehog homes to protect these key species; or
  - (3) funding biodiversity related projects in schools.

Such projects would be subject to a combined annual funding of £5,000 from 2023.

13.4.17 Previous initiatives have included the transfer of 20,000 tonnes of excavated clean dock bed material by barge to Rainham Marshes Habitat Creation Scheme in Essex during the initial CADP1 construction works (piling and deck works). This initiative contributed to the restoration of the wetland habitat in this area, enhancing this SSSI for wetland birds and wildlife. Other funds were distributed to LBN to spend directly on Council funded initiatives and others were distributed to the sponsor biodiversity events in the Royal Docks including Spring Festivals, Sow and Grow events and Clean Up events.

13.4.18 As part of LCY's Sustainability Roadmap which was published in 2022, a new biodiversity fund of £25,000 has also been committed to which will further support local projects to enhance nature and achieve biodiversity net gain off site.

13.4.19 In accordance with Condition 36 of the CADP1 planning permission, a Landscape Strategy was submitted to and approved by LBN in 2018 (ref: 18/00576/AOD) and subsequently updated in 2019 (ref: 19/02559/AOD). The Strategy, which was informed by and is in accordance with the findings of the 2015 UES, illustrates the proposed hardscaping and planting layouts and types for the Western Service Yard (WSY), Terminal Forecourt (FCT) and Dockside. It will be implemented as the remaining elements of CADP1 get built out and includes the planting of indigenous plant species which contribute towards biodiversity whilst minimising bird attraction. This will create some additional biodiversity value and ensure compliance with the guidance contained within 'Safeguarding of Aerodromes – Advice Note 3'<sup>6</sup> which advocates use of species which are least likely to attract large numbers of birds to roost, nest or feed. In accordance with Condition 36, these new landscaping areas will be monitored and managed to ensure their successful establishment.

## Policy and Legislative Context

13.4.20 There are no updates to legislation and policy since the 2015 UES that are considered material to the findings of the Ecology and Biodiversity assessment.

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<sup>6</sup> Airport Operations Association (2016) *Safeguarding of Aerodromes – Advice Note 3: Wildlife Hazards around Aerodromes*

## Summary of Consultation Responses Received

13.4.21 A summary of the issues raised in LBN's Scoping Opinion and by other statutory consultees, and how these have been addressed in the ES is provided in Table 13.3 below.

**Table 13.3 Summary of Consultation Responses in Relation to Ecology**

Consultee	Issue Raised	LCY Consultant Team Response
Natural England	Natural England issued a generic consultation response to the Scoping Report that did not take into account the nature of the proposals, being a non-material amendment to an existing, implemented, partially constructed consent. A variety of requests were made that are not considered relevant to the proposed development.	A full response to each of the issues raised by Natural England was prepared and issued to LBN on 26 <sup>th</sup> September 2022. The response is included in Appendix 13.4 and further relevant information provided in this section under 'Potential Impacts of the Proposed Development'.
LBN	It is noted that a Preliminary Ecological Appraisal (PEA) will be undertaken, however there is no mention of undertaking BNG condition assessments or metric calculations at this point. Further consideration and clarification as to how BNG will be recorded and achieved is required.	<p>The proposed amendments to the CADP1 planning permission would not give rise to any habitat loss or replacement, or impacts on ecological receptors. The proposals also do not alter the approved CADP1 landscaping scheme (approved under Condition 36).</p> <p>All issues around increasing biodiversity value, connectivity etc. were addressed as part of the 2015 UES and then subsequently incorporated into a number of planning conditions attached to the CADP1 planning permission. These biodiversity enhancement measures have been advanced through the development and agreement with LBN of the airport's Sustainability &amp; Biodiversity Strategy as well as the establishment of 'artificial fish refugia' in KGV Dock. These are discussed under 'Existing Controls and Initiatives at the Airport'. When the remainder of the CADP1 is built out, including the approved landscaping scheme within the new terminal forecourt, there will be additional biodiversity benefits (e.g. through the planting of indigenous plant species).</p> <p>A Biodiversity Net Gain assessment is not considered necessary and would be highly disproportionate to the limited environmental effects associated with this application. It is also understood that there is also no policy or legal basis to undertake one for this S73 application.</p> <p>The 2015 UES concluded that the potential for impacts to protected or notable species was very low and this remains the case; the updated PEA has not identified any new habitats, protected or notable species since the site was last surveyed.</p>
	The scoping report does not make reference to consultee comments. It would be recommended to provide relevant comments or agreements reached with consultees, in particular the Local Planning Authority, with regard to biodiversity and on or offsite enhancement or habitat creation.	<p>The airport's approach to biodiversity enhancement and habitat creation is set out in its Biodiversity and Sustainability Strategy that is submitted to and approved by LBN on a three yearly basis. Through this process, LBN are involved in and agree to measures proposed in the Strategy.</p> <p>As part of the Strategy, as discussed under 'Existing Controls and Initiatives at the Airport', LBN will be provided £10,000 per year to spend and invest in biodiversity projects as they see fit.</p> <p>As part of the airport's Sustainability Roadmap, £25,000 has been allocated to fund additional biodiversity projects. A selection process is underway to determine which projects will be funded. Consultation with statutory and non-statutory will be undertaken as appropriate.</p>

Confirmation from the Environment Agency with regard to the scope of the EIA should be provided by way of written recommendation that Ecology and Biodiversity either be scoped in or out.	<p>The Environment Agency provided their formal response to the Scoping Report on 25<sup>th</sup> August 2022, following a virtual meeting held with the Applicant Team on 16<sup>th</sup> August 2022. Issues raised in their response were limited to the topics of flood risk and major accidents and disasters. The EA’s written response included no commentary or requirements in relation to Ecology and Biodiversity. The Applicant sought further feedback from the EA via several emails and no response was received. The EA has been given ample opportunity to request further assessment work in relation to ecology and biodiversity, should they have wished to do so. The Applicant has therefore assumed that the EA is satisfied with the approach set out in the Scoping Report.</p> <p>It is also noted that paragraph 11.10 of LBN’s Scoping Opinion states: <i>“Given the applicant has undertaken an updated desk study and Phase 1 (including search of protected species records) this should suffice as evidence that appropriate surveys have been undertaken by suitably qualified ecologists and <b>therefore the scoping out can be deemed to be appropriate...</b>”</i></p> <p>It is therefore understood that LBN is satisfied that the topic of Ecology and Biodiversity can be scoped out of the ES.</p>
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## Potential Impacts of the Proposed Development

13.4.22 The construction works within the KGV Dock (i.e. the piling and deck to provide the new stands and parallel taxiway) are now complete and there are no proposed changes to the remaining, as yet unbuilt, CADP1 buildings and infrastructure. Accordingly, there will be no additional land-take or habitat loss, or direct impacts to any on- or off-site habitats as a result of the proposed amendments. The direct impacts of the proposed development will therefore remain as reported in the 2015 UES.

13.4.23 There are no changes to the proposed construction activities or methods and accordingly, there will be no new or materially different significant effects on ecological receptors during the construction phase.

13.4.24 Natural England as issued formal advice concerning the handling of Habitats Regulations Assessment (HRA) in the vicinity of Epping Forest Special Area of Conservation (EFSAC). This requires all residential development that falls within the 6.2km ‘zone of influence’ to be subject to a project-level HRA screening and where necessary, appropriate assessment. Even if the reference to ‘residential development’ widened to include other types of development (including the airport) this requirement would not apply, as the airport falls outside this zone of influence as used in Newham planning policy<sup>7</sup>.

13.4.25 Guidance from the Joint Nature Conservation Council (JNCC) sets a distance boundary beyond which plan HRAs need not consider their calculated effects on designated sites<sup>8</sup>. The technical report which underpins the JNCC guidance<sup>9</sup> explains the rationale for this, which applies equally to individual developments and distances from those developments.

13.4.26 The proposed development would give rise to higher traffic flows on the local highway network in the DC Scenario when compared to the DM Scenario for all operational assessment years, as a consequence of the higher number of passengers passing through the airport. However, at Epping Forest and other locations remote from the airport, the impact of the proposed development is expected to be, at worst, neutral. There would be no net increase in traffic and related emissions on roads within 200m of the EFSAC boundary in the DC Scenario compared to the DM Scenario. This is because any traffic to and from LCY would otherwise be travelling to an alternative airport such as Stansted, Heathrow or Gatwick. Should this S73 application not be approved, more people would choose to drive to other, potentially more distant airports.

<sup>7</sup> London Borough of Newham (2018) *Newham Local Plan*

<sup>8</sup> Joint Nature Conservation Committee (2021) *Technical Report: Guidance on Decision-making Thresholds for Air Pollution*

<sup>9</sup> Joint Nature Conservation Committee (2021) *Technical Report: Decision-making Thresholds for Air Pollution*

13.4.27 Moreover, it is understood that Epping Forest District Council (EFDC) is proposing an Air Pollution Management Strategy (APMS) including the potential for a Clean Air Zone (CAZ) around Epping Forest. Therefore, any airport-derived traffic would be subject to restrictions imposed by these schemes.

13.4.28 In light of the above, there would be no adverse effect on the integrity of EFSAC and the pollution-vulnerable epiphytes which are located there.

13.4.29 There are not anticipated to be any significant adverse effects associated with traffic emissions on any other statutory designated sites in the vicinity of the airport. The justification for this is set out in Table 13.4.

**Table 13.4: Summary of potential impacts on statutory designated sites**

Designated Site	Distance from airport	Impact	Conclusion
Oxleas Woodlands SSSI	3km to the south	TfL's SATURN models suggest that in the future there will be a very small reduction in daily airport-derived traffic flows on the A207 through Oxleas Woodlands. This AADT calculation includes the total volume of traffic associated with the proposed development. As such, there will be no increase in air pollution (NOx and ammonia etc) at this SSSI and therefore no consequential impact on vegetation or other ecological receptors.	The proposed development would not give rise to any adverse effect on the features within or integrity of this SSSI.
Inner Thames Marshes SSSI	7km to the east	Due to its distance from the airport, there is no likelihood that traffic associated with the proposed development would impact upon this site. Furthermore, during the piling and decking works over KGV Dock (i.e., the first phase of CADP1, completed between 2018 and 2020), the contractors transferred approximately 20,000 tonnes of clean excavated material by barge to the Rainham Marshes Habitat Creation Scheme. This initiative helped restore the wetland habitat in this area, enhancing this SSSI for wetland birds and wildlife, and therefore representing a positive environmental impact. No additional material will be transported to Rainham Marshes during subsequent 'landside' stages of the CADP1 works.	The proposed development would not give rise to any adverse effect on the features within or integrity of this SSSI.
Ingrebourne Marshes	10km to the northeast	Due to its distance from the airport, there is no likelihood that traffic associated with the proposed development would impact upon this site.	The proposed development would not give rise to any adverse effect on the features within or integrity of this SSSI.

13.4.30 The proposed change to the airport's operational hours on Saturdays (up to 18:30 and 19:30 during the summer season) and the 3 additional flights between 06:30 to 06:59 will not have any consequential effects on birds and other wildlife. Birds within and around the airport are already habituated to noise from aircraft and other sources during Mondays to Fridays (from 06:30 to 10:30) and on Saturday mornings and Sunday afternoons. Therefore, the proposed additional flights in the Saturday pm period and early mornings (06:30 to 06:59) is highly unlikely to have any noticeable or significant effect on bird behaviour.

## Conclusions

13.4.31 In view of the above, it can be concluded that the proposed development is unlikely to give rise to any additional adverse effects on sensitive ecological receptors.

13.4.32 The residual effects of the proposed development and mitigation measures proposed (some of which have already been implemented) therefore remain as reported in the 2015 UES.

## 13.5 Cultural Heritage

### Baseline Context

13.5.1 The airport is located within a LBN designated Archaeological Priority Area. As part of its updated Local Plan, LBN published an evidence-based report: Archaeology Priority Areas (Public Consultation Version 2, February 2015). This identifies the site as being located in a Tier 3 Archaeological Priority Area (Newham APA 3.3: Royal Docks). Tier 3 is defined as follows:

*“Tier 3 is a landscape scale zone within which the GLHER holds evidence indicating the potential for heritage assets of archaeological interest.”*

13.5.2 The airport is not located within or adjacent to any designated Conservation Area and there are no Scheduled Ancient Monuments within a 1km radius of the centre of the site. However, there are eight listed buildings located on both the north and south sides of the airport which include:

- Central Buffet at Custom House. A Grade II listed structure comprising a former restaurant, now disused. It was built in 1883 by Vigers and Wagstaffe. The building is currently on the EH “Heritage at Risk Register”.
- Central Offices at Custom House. A Grade II listed structure. It was built in 1883 by Vigers and Wagstaffe. The building is currently on the EH ‘Risk Register’.
- Entrance to Woolwich Pedestrian Tunnel. A Grade II listed structure (Rotunda) built by the chief engineer for London County Council, Sir Maurice Fitzmaurice.
- North Woolwich Station including turntable and platform lamp standards. A Grade II listed structure comprising a railway station, now converted to railway museum. It was built in 1847 by Sir William Tite.
- Former St Mark’s Church (Brick Lane Music Hall), North Woolwich Road, Silvertown. A Grade II listed structure built in 1861-2 by S.S. Teulon.
- The Connaught Tavern. A Grade II listed structure by Vigers and Wagstaffe.
- Gallions Hotel. A Grade II\* listed building by Vigers and Wagstaffe.
- The War Memorial at former St Marks Church.

13.5.3 There are also eight locally listed buildings within the search area.

13.5.4 KGV Dock is not a designated heritage asset; however, it was identified by GLAAS during the CADP1 planning process as a local heritage asset. There are no specific archaeological entries for KGV Dock in the GLHER. The Docks do however hold rich industrial heritage value associated with their past industrial usage and former dockside warehouses.

### Summary of Findings of 2015 UES

13.5.5 The UES submitted in 2015 included a comprehensive assessment of the potential impacts of the CADP1 proposals on archaeology and built heritage.

13.5.6 The assessment concluded that there would be a minor beneficial effect on the setting of KGC Dock as a result of mitigation embedded into the design of the CADP1 which will positively affect the way the asset is appreciated, including the installation of historic information boards for people to better understand the history of the Docks.

13.5.7 The majority of direct effects on the individual structural components of KGV Dock and the associated pontoons (known as ‘Dolphins’) were considered to be Minor Adverse, but mitigation in the form of ‘historic building recording’ and the publication of the results would enhance knowledge of this heritage asset.

13.5.8 The effects on buried archaeological remains as a result of piling and excavation for foundations and drainage infrastructure were considered to vary from Neutral to Moderate depending on the presence of archaeological deposits and remains. However, approaches to evaluation and mitigation of these impacts were to be addressed through the placing of archaeological planning conditions on the CADP1 planning permission (which was indeed done by LBN – see below).

13.5.9 The effects on the settings of statutory listed buildings were assessed as being no worse than Minor Adverse and the effects on all locally listed buildings would be Neutral.

### **Existing Controls at the Airport**

13.5.10 Condition 62: Archaeology attached to the CADP1 planning permission requires the implementation of a programme of archaeological evaluation in accordance with a Written Scheme of Investigation (WSI). A WSI was prepared by RPS and agreed with the LPA's Archaeological Adviser (GLAAS) and submitted to and approved by LBN (ref: 17/00508/AOD).

13.5.11 The airport has invested considerable time and resources in surveying and recording the local heritage including the KGV Dock and its surviving Dolphin structures, dock wall and adjoining dockside features, such as sections of old railway tracks.

13.5.12 In advance of construction works commencing, archaeological investigation works were undertaken which included:

- Geo-archaeological boreholes with sub-surface topographic modelling; and
- 'Level 2' photographic record of KGV Dock.

13.5.13 In addition, an archaeological Watching Brief was carried out during the construction works in the Dock and the removal of Dolphin No. 7 at the westernmost end of KGV Dock.

### **Policy and Legislative Context**

13.5.14 There are no updates to legislation and policy since the 2015 UES that are considered material to the findings of the Cultural Heritage assessment.

### **Summary of Consultation Responses Received**

13.5.15 No consultation responses were received in relation to cultural heritage. No issues or requests for clarification were raised in LBN's Scoping Opinion issued on 24<sup>th</sup> November 2022.

### **Potential Impacts of the Proposed Development**

13.5.16 The S73 application is not proposing any physical changes to the approved CADP1 buildings and infrastructure or new areas of hardstanding. Accordingly, the proposed amendments are not considered likely to give rise to any significant effects on either below ground or above ground heritage assets.

13.5.17 The piling and deck works, which had the potential to give rise to greatest impacts on archaeological heritage and the setting of the Dock, are now complete. No additional construction works are proposed that were not previously assessed in the 2015 UES and no further mitigation is required. It is assumed that Condition 62: Archaeology would be retained as currently worded and does not need to be amended as part of the S73 planning consent.

### **Conclusions**

13.5.18 In view of the above, the proposed development is not considered likely to give rise to any new or significant effects in relation to archaeology and built heritage and accordingly no further assessment has been undertaken.

## 13.6 Waste

### Baseline Context

13.6.1 The majority of airport waste is currently produced by airlines, tenants and retail concessions. This includes in-flight waste, terminal waste, aircraft maintenance waste, catering waste and general waste from passengers. Additionally, waste is produced by airport staff, tenants (office waste) and retail concessions.

13.6.2 The airport currently recycles a range of waste materials as part of its Dry Mixed Recyclable (DMR) collections. This primarily comprises paper, cardboard, cans, and plastic packaging. DMR is segregated on site at a central storage area and removed by a waste contractor on a daily basis to prevent the attraction of birds and vermin.

13.6.3 Some concessions direct excess food to charity at the end of each day. Where this is not possible, food waste is collected separately and used off-site for waste to biofuel conversion or anaerobic digestion.

13.6.4 Various initiatives to increase recycling rates have recently been implemented at the airport, including the transfer of waste using clear bags to assist in the identification of waste types. Furthermore, a number of workshops have been run to increase waste recycling awareness amongst staff, concessions and the waste contractor.

13.6.5 Waste production and recycling rates over the past several years are presented in Table 13.5 below. Recycling rates prior to and after the Covid-19 pandemic exceeded 57%, with rates decreasing slightly during the pandemic in 2020 as a result of service disruptions, a trend observed across the waste management industry.

**Table 13.5 Waste Production at the Airport**

Year	Total Waste Generated (t)*	Waste generated per passenger (kg)	% Waste Recycled
2022 (January – July)	407	0.18	61.4%
2021	360	0.50	60.4 %
2020	505	0.56	57.1%
2019	1344	0.26	62.0%
2018	1254	0.26	59.0%
2017	1246	0.28	57.0%

\* Rounded to the nearest tonne

13.6.6 In the past few years, the airport has also achieved many notable successes related to its waste management. These include:

- 27% reduction of waste per passenger in 2019 against the 2013 baseline;
- A reduction in the use of single-use plastics by banning plastic straws and stirrers across the airport, and installing a bottle refill point for passengers in the departure lounge, thereby reducing the disposal of bottles;
- Segregating coffee granules and sending them for beneficial reuse as a biofuel;
- Recycling over 60% of total waste throughout 2018 and 2019;
- Maintaining its record as a zero-landfill company. Waste generated that cannot be reused or recycled is sent to a waste-to-energy plant. This ensures no operational waste is diverted to landfill, the least environmentally preferred practice.

### Summary of Findings of 2015 UES

13.6.7 The 2015 UES identified a Negligible to Minor Adverse effect from waste produced during the operational phase of CADP1. Specifically, the assessment made the following conclusions:

- The effects of waste arising from demolition activities would result in a Negligible to Minor Adverse effect on existing and proposed waste management infrastructure. Demolition works associated with CADP1 are now partially complete (e.g. removal of Dolphin No. 7).
- The effects of waste arising from earthworks and piling was considered to result in a Negligible to Minor Adverse effect on existing and proposed waste management infrastructure. These works are now largely complete.
- Assuming implementation of a Site Waste Management Plan, the effects of waste arising from other construction activities would result in a Negligible to Minor Adverse effect on existing and proposed waste management infrastructure.
- Future operational waste production would increase following the completion of CADP1 and this would give rise to a Negligible to Minor Adverse effect.

13.6.8 Overall, the volumes of waste generated as a result of CADP1 are relatively small when compared to the predicted figures for waste generation and proposed waste management capacity within the East London Waste Authority (ELWA) boroughs. The additional waste from CADP1 is therefore not likely to adversely impact upon this existing and proposed infrastructure. Furthermore, the proposed mitigation measures and the long-term commitment and initiatives adopted by LCY to reduce waste generation, are likely to result in residual effects being less significant than predicted.

### Existing Controls at the Airport

13.6.9 Construction waste arising from the CADP1 development works is managed in accordance with a Waste Management Strategy. This was submitted to and approved by LBN in 2019 in accordance with Condition 70 of the CADP1 planning permission (planning ref 19/02559/AOD). All construction waste produced as part of the CADP1 works has been and will continue to be managed in accordance with this Strategy. The Strategy is reviewed on a regular basis and will evolve as appropriate as the CADP1 construction phases progress.

13.6.10 The Sustainability and Biodiversity Strategy approved under Condition 56 includes targets and initiatives to minimise operational waste production and promote sustainability by monitoring waste leaving the airport more closely, raise awareness to staff on recycling, and develop ways to monitor how and where waste is generated at the airport. Specifically, the Strategy includes the following targets:

- Reduce total waste kg per passenger by 10% from 2019 baseline by the end of December 2022;
- Recycle 70% of total kg of waste by the end of December 2022;
- Promote a furniture reuse scheme to third parties across the airport;
- Include waste management in the criteria for any new concessions, including how they will reduce waste and promote recycling, and integrate site-specific requirements into new contracts where practicable;
- Carry out a feasibility study for the reduction of single-use plastic bags used by passengers during security checks; and
- Carry out two employee and third-party engagement activities per year to promote reduction, reuse and recycling of waste.

13.6.11 Progress on these targets are reported annually through the Sustainability and Biodiversity Action Plan Progress Report, published as part of the airport's APR.

### Policy and Legislative Context

13.6.12 There are no updates to policy and legislation that would materially affect the assessment methodology adopted or findings of the 2015 UES in relation to waste management.

## Summary of Consultation Responses Received

13.6.13 A summary of the waste issues raised in LBN's Scoping Opinion and how these have been addressed in the ES is provided in Table 13.6 below. No comments were raised by other statutory or non-statutory consultees that relate to waste.

**Table 13.6 Summary of Consultation Responses in Relation to Waste**

Issue Raised	Consultant Team Response
<p>The Scoping Report does not indicate what the expected volumetric increases of waste may be and other factors which may be increased due to this. For instance, additional waste haulage is likely to be required and this could be considered in greater detail.</p>	<p>Given the variation in waste production on a per passenger basis in recent years (as illustrated in Table 13.5), it is not considered appropriate or useful to quantitatively estimate future operational waste arisings at the airport.</p> <p>It is expected that absolute waste volumes would increase commensurate with passenger growth at the airport; however, it is also expected that waste production on a per passenger basis would fall following the initiatives implemented at the airport, as described under 'Existing Controls at the Airport', and as illustrated in the downward trend between 2017 and 2022 (excluding the peak Covid-19 years).</p> <p>Potential impacts associated with waste haulage is discussed below.</p>
<p>It is acknowledged that any increase in waste removal/haulage will be negligible compared to the overall increases in traffic the site will see based on the proposed expansion and these numbers may be accounted for elsewhere. Clarification on this point may be prudent to ensure noise and traffic measures are not affected.</p>	<p>There are approximately 26 scheduled vehicle movements <i>per week</i> associated with waste collection activities at the airport. These movements are accounted for in the existing traffic flows set out in the Transport Assessment (Volume 3 of the ES). Existing servicing trips at the airport were 152 <i>per day</i> in 2019. The contribution of scheduled waste collection vehicle movements is therefore very small.</p> <p>Future servicing activity has been assessed by applying an uplift from the current 152 vehicles to 177 per day for 6.5mppa and 9.0mppa respectively, reflecting additional servicing requirements with more passengers. The proportion of waste collection vehicles to total servicing movements is not expected to change from the existing baseline.</p> <p>Accordingly, the increase in haulage movements associated with the increase in waste generation is accounted for in the traffic flows which have been used for the assessment of noise, air quality and carbon emissions.</p>

## Potential Impacts of the Proposed Development

13.6.14 Construction activities that were predicted to give rise to the greatest volumes of waste have now been largely completed. These included piling within the dock, earthworks and piling associated with some of the proposed new buildings and extensions, and demolition of the Dolphin and dock wall.

13.6.15 The proposed amendments do not alter the approved physical buildings and infrastructure associated with CADP1. Accordingly, the proposed amendments are not anticipated to result in any changes in the volume or composition of construction waste generated by the remaining elements of the CADP1.

13.6.16 In light of the above, and accounting for the embedded mitigation that already forms part of CADP1 scheme and the subsequently approved planning conditions, the effects of the proposed development on existing and proposed waste management infrastructure during construction are not anticipated to be significant and remain as reported in the 2015 UES.

13.6.17 Waste production at the airport will inevitably increase under both the DM and DC Scenarios as the airport grows. The scale of increase would be greater under the DC Scenario due to the increase in the number of arriving and departing passengers.

13.6.18 The most recent annual dataset available (2020 - 2021) calculates that the total local authority collected waste in LBN was 134,014 tonnes<sup>10</sup>. Prior to the Covid Pandemic (2018-2019), the total was 129,399 tonnes. It is noted however that this total only comprises waste collected by the Local Authority and it excludes other forms of waste collected by private waste contractors, which is the case for most businesses and

<sup>10</sup> Department for Environment, Food and Rural Affairs (2022) *ENV18 - Local authority collected waste: annual results tables*.

construction sites. There are no accurate data sets which provide estimates of annual privately collected waste volumes in Newham. However, it is estimated that waste generated by the airport comprises a negligible total (less than 0.5%) of all waste generated within Newham.

13.6.19 The volume of waste generated by the additional 2.5 million passengers is considered to be relatively modest in the context of all waste produced within Newham and London as a whole. Moreover, as many passengers will be East London residents, they would be generating waste elsewhere if they were not passing through the airport. The East London Waste Authority (ELWA), which manages the disposal of waste from Newham and three neighbouring Boroughs, has constructed two major Mechanical Biological Treatment (MBT) plants as well as upgraded the four primary Reuse and Recycling Centres, with further initiatives planned to increase recycling rates. The additional waste generated is not considered likely to adversely affect the function or capacity of this existing and proposed waste infrastructure.

## **Conclusion**

13.6.20 It is considered that the proposed development would not give rise to any significant or materially different effects with regard to waste management. Therefore, the effects of the proposed development remain largely as reported in the 2015 UES.

## 13.7 Ground Conditions and Contamination

### Baseline Context

13.7.1 Based on the British Geological Survey (BGS) mapping (1:50,000 scale) and previous intrusive site investigation reports carried out between 2001 and 2013, the stratigraphic sequence beneath the airport comprises Made Ground, Alluvium, River Terrace Deposits, Lambeth Group and Thanet Sand Formation. There are no existing or recommended Regionally Important Geological Sites (RIGS) or Locally Important Geological Sites (LIGS) within the LBN.

13.7.2 The airport site is predominantly comprised of impermeable hard surfaces. Some limited soft-standing exists on the airfield grassland areas and to the north-west of the site, in the vicinity of the fire training ground.

13.7.3 Site investigations carried out at the airport over the past 15+ years have only encountered localised areas of hydrocarbon and metal contamination within the Made Ground underlying the site. No contamination was detected within the Alluvium, River Terrace Deposits or Thanet Formation. Therefore, widespread contamination has not been detected and the investigations carried out to date have not revealed a likely significant impact to the wider environment.

13.7.4 Existing sources of potential contamination relate to bulk fuel storage and aircraft maintenance, including refuelling and de-icing. However, the airport operates in a tightly controlled environment so there is very little risk of accidental spills or other pollution incidents.

### Summary of Findings of 2015 UES

13.7.5 The 2015 UES included a comprehensive assessment of the potential impacts of the CADP1 development on ground conditions and concluded that there would be no significant adverse effects during either construction or operation, subject to appropriate mitigation measures being adopted.

13.7.6 The contamination risk assessment submitted to part discharge Condition 39 of the CADP1 planning permission in December 2019 (Planning ref 19/02559/AOD) concluded the following:

- The potential risk to future on-site users from contaminants of concern originating from the first phases of CADP1 (i.e. the piling and deck and other facilitating works) is considered to be LOW.
- The potential risk to off-site human health receptors from contaminants of concern originating from the first phases of CADP1 is considered to be LOW.
- During construction works, providing contractors undertake and implement a site-specific risk assessment and appropriate mitigation measures are taken, the potential risk to groundworkers is considered to be LOW.
- The potential for concentrations of contaminants of concern sourced from the first phases of CADP1 to pose a significant risk to groundwater receptors is considered to be LOW.
- The potential for concentrations of contaminants of concern sourced from the first phases of CADP1 to pose a significant risk to surface water receptors is considered to be LOW.
- Assuming the recommended mitigation measures are adopted, the risk posed by ground gas to on site human health receptors and infrastructure is considered to be LOW.
- Assuming appropriate mitigation measures are adopted, the risk posed to buried services is considered to be LOW.

### Existing Controls at the Airport

13.7.7 Condition 39 requires that further ground conditions investigations are undertaken prior to commencement of each relevant phase of construction and that an appropriate remediation strategy for dealing with any identified contamination be submitted to and approved by LBN.

13.7.8 These investigations and a Piling Risk Assessment (PRA) have since been completed and Condition 39 has been partially discharged, with other requirements of this condition to be discharged as and when additional phases of CADP1 commence.

13.7.9 With regard to potential risks of contamination from everyday airport operations, the areas of fuel storage, aircraft maintenance and fire training ground are all well maintained and managed with surface run-off draining to dedicated interceptors.

### **Policy and Legislative Context**

13.7.10 There are no updates to legislation and policy since the 2015 UES that are considered material to the findings of the Ground Conditions and Contamination assessment.

### **Summary of Consultation Responses Received**

13.7.11 No issues or requests for clarification were raised in LBN's Scoping Opinion issued on 24<sup>th</sup> November 2022 with respect to ground conditions and contamination. The EA also agreed, in their consultation response to the Scoping Report, that this topic could be scoped out of the EIA. No additional issues were raised subsequently.

### **Potential Impacts of the Proposed Development**

13.7.12 The proposed amendments to the CADP1 consent would not result in any physical changes to the approved airport buildings and infrastructure or any new areas of hardstanding. There are no changes to, or additional construction activities proposed and no additional contamination risks during the operation of the airport associated with the proposed amendments.

13.7.13 Accordingly, the proposed development is not considered likely to give rise to any significant effects on ground conditions.

### **Conclusions**

13.7.14 In light of the above, the proposed development is not anticipated to give rise to any new or materially different significant effects on ground conditions. The residual effects of the proposed development therefore remain as reported in the 2015 UES.

## 13.8 Major Accidents and Disasters

### Introduction

13.8.1 The EIA Regulations 2017 require that, where applicable, the potential likely significant effects resulting from, and relating to, major accidents and disasters relevant to a development to be considered in the EIA process.

13.8.2 A 'major accident' is defined for the purposes of this report as an occurrence resulting from an uncontrolled event caused by a man-made activity or asset leading to serious damage or destruction of receptors. The term 'disaster' is used to describe a natural occurrence leading to serious damage or destruction of receptors. In both cases, the occurrence could be either immediate or delayed.

13.8.3 The airport site is not located within a geographical region that has historically been subject to natural disasters. It is considered that the likelihood of an earthquake, for example, with a magnitude sufficient to cause damage to buildings and/or loss of life at the site is extremely low. The topography of the site is also not considered to be sufficiently steep such that a major mass movement disaster would arise.

13.8.4 In respect to the proposed development, major accidents and disasters can therefore be largely captured under the heading of 'Third party risk', which includes inter alia:

- The fatality risk to people on the ground from the effects of aircraft accidents; and
- Birdstrike risk, i.e. risk of collisions occurring between aircraft and large birds.

13.8.5 With regard to fatality risk, it should be noted that the number of aircraft accidents worldwide is extremely low in comparison to other modes of transport and industrial activities. This is primarily due to the high levels of regulation including airspace management, frequent testing and maintenance of aircraft, and rigorous pilot, aircrew and other staff training associated with aviation operations.

### Summary of Findings of 2015 UES

13.8.6 The risk of 'Major Accidents and/or Disasters' was introduced as an addition assessment topic under the EIA Regulations 2017 and, accordingly, it was not explicitly considered during the preparation of the 2015 UES.

### Existing Controls at the Airport

13.8.7 The Government has established Public Safety Zones (PSZs) in proximity to the ends of airport runways in order to reduce the number of people on the ground exposed to fatality risk from aircraft accidents. Under the PSZ policy<sup>11</sup>, the Secretary of State regards the area closest to the runway as a Public Safety Restricted Zone (PSRZ). Regardless of the number of commercial ATMs, the PSRZ is set (for an aerodrome such as LCY with greater than 45,000 ATMs) at 500 metres from the landing threshold at each end of the runway (75 metres from the runway centre line) and there is a general presumption against development and people should not be expected to live or have their workplaces within such areas. The risk of an aircraft accident occurring within the PSRZ is 1 in 10,000.

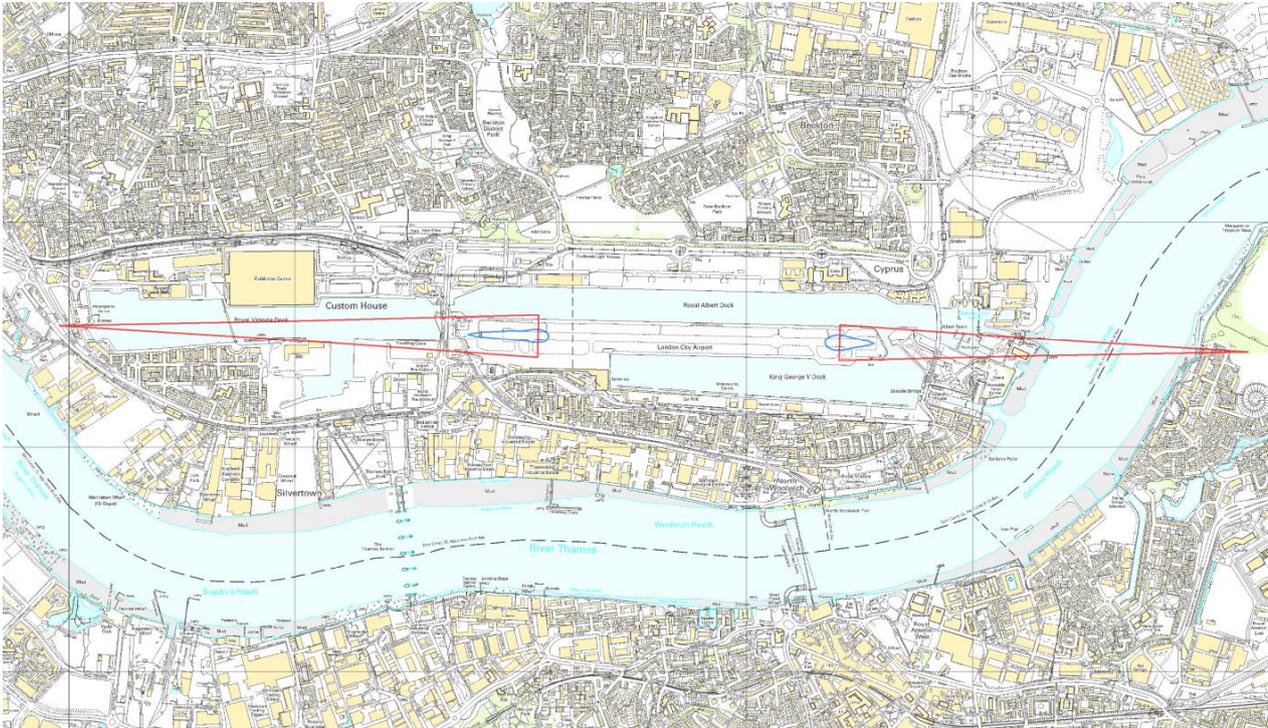
13.8.8 Government Policy also defines a Public Safety Controlled Zone (PSCZ) extending to 1,500 metres from the landing threshold (140 metres from the runway centre line), where the presumption against development still applies but there are two types of exceptions i) extensions or alterations or changes of use to properties where the number of people occupying the property do not increase beyond the existing or consented position; and ii) certain forms of new or replacement development which involve a low density of people living, working or congregating. The risk of an aircraft accident occurring within the PSCZ is 1 in 100,000.

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<sup>11</sup> Department for Transport (2021) *Policy Paper: Control of development in airport public safety zones*

13.8.9 A map showing the location of the current PSZ around the airport is provided in Figure 13.5 below.

13.8.10 The PSZ policy limits the potential for development in these areas, therefore limiting the number of properties that could be exposed to any additional risk in the future.



**Figure 13.5: Existing PSZ Around the Airport**

13.8.11 With regard to risk of bird strike, existing bird control measures are in place at the airport to mitigate the risk of bird strike hazard. These include the use of pyrotechnics, acoustic bird dispersal devices and handheld 'Aerolasers'.

13.8.12 In regard to other potential 'major accidents and/or disasters' (e.g. terrorism incident, fire or explosion), LCY, like all modern airports, operates to very stringent standards of safety and security in accordance with UK and international aviation law and the relevant CAA mandated standards for design and operation. Regulatory controls that govern the operational safety at airports are described in Chapter 5 of the ES under "Regulatory Controls".

### **Summary of Consultation Responses Received**

13.8.13 No issues or requests for clarification were raised in LBN's Scoping Opinion issued on 24<sup>th</sup> November 2022.

13.8.14 A summary of the issues raised by other consultees and how these have been addressed in the ES is provided in Table 13.8 below.

**Table 13.8 Summary of Consultation Responses in Relation to Major Accidents and Disasters**

Consultee	Issue Raised	Consultant Team Response
Environment Agency	Increased risk of collision with the Thames Barrier due to an increase in the number of ATMs.	<p>The S73 application does not seek to increase the number of ATMs permitted under the CADP1 consent.</p> <p>A map of the PSZ and the risk of collision associated with the inner and outer zones is provided Figure 13.5 above, and described under 'Existing Controls at the Airport'. The PSZ is a fixed area regardless of the number of aircraft movements. Any increase in the number of flights does not affect the size of the PSZ or risk of crash within the PSZ.</p> <p>Furthermore, the Thames Barrier lies well outside of the PSZ, as illustrated in Figure 13.5m being 750m south of the airport runway. It is far removed from the designated take-off and landing flightpaths which are aligned east-west in accordance with the orientation of the runway and therefore no LCY aircraft fly above or close to the barrier.</p> <p>Aircraft safety and airspace is strictly controlled and managed by the CAA. The proposed development would not impact upon the existing controls that are in place across the aviation industry in accordance with UK and international law and CAA mandated standards.</p>

## Potential Impacts of the Proposed Development

### Construction Phase

13.8.15 Construction of the remaining CADP1 structures could in theory be the cause of major accident, for example indirect effects on the existing fuel storage tanks (e.g. collision with construction vehicle) leading to an explosion or significant pollution of the Docks. However, all construction works will be managed in accordance with the CEMP, approved in December 2019 under Planning Condition 88 (Planning Ref 19/02619/AOD) and relevant regulations such that the risk of such effects occurring is considered to be extremely low and similar to other ongoing activities at the airport.

13.8.16 Some construction work will take place while the runway is in operational use. However, strict operational controls will be imposed to ensure safe working practices and to avoid incursion of construction plant, vehicles and personnel into live aircraft manoeuvring areas. These will follow well established and robust control and management protocols.

13.8.17 The Obstacle Limitation Surfaces (OLSs) in place at the airport would also not be breached at any time during the construction phase, unless during essential out-of-operational hours (OOOH), as described in Chapter 6. Thus, the actual likelihood of an accident occurring as a result of the construction activity is minimal.

### Operational Phase

13.8.18 As with all airports, LCY adopts all possible precautionary measures to ensure the safety of construction and operations. The airfield is governed by a rigorous safety regime, licensed by the CAA. Therefore, the risk of a major aviation safety breach, accident or related disaster involving an aircraft because of the proposed development is determined to be negligible.

13.8.19 In addition, it is widely accepted in the aviation industry that modern new generation aircraft, which the proposed development would incentivise the use of, are generally safer than the older variants that they replace. Notably, the CAA's consultation on PSZs<sup>12</sup> states:

*“Globally, there is an initiative to reduce the protection areas around aerodromes to take account of the flight performance of new aircraft types. This performance increases substantially with the introduction of each new aircraft type. The consequence of this is a decrease in the amount of accidents outside the aerodrome boundary. It is widely known that despite growing air traffic, the number of accidents is decreasing.”*

<sup>12</sup> Civil Aviation Authority (2020) <https://consultations.caa.co.uk/aerodrome-standards-department/public-safety-zones/>

13.8.20 Under government policy and with reference to the PSZ policy criteria, neither the proposed development, nor the resulting increased use of larger aircraft, would give rise to any impacts on the area covered by PSRZ or PSCZ or the risk of aircraft collision within them.

13.8.21 The highest risk areas remain within these zones and where there would continue to be a presumption against development within them.

13.8.22 The level of bird strike risk has the potential to be changed by any development that alters the number likely to be present, the bird types seen or their movement patterns by way of increasing or reducing the attractiveness of a particular area to birds. The proposed amendments do not alter the existing natural features in or around the airport, and accordingly it is not considered likely that there would be a material impact on the existing number, type or movement patterns of birds in the area. New planting proposed in the Forecourt as part of the consented CADP1 scheme would also be designed so as to not encourage large birds.

13.8.23 The potential effects of natural disasters on the airport are limited to extreme weather and flooding. The potential effects associated with flood risk are assessed in the updated FRA (**Appendix 13.1 of this ES**) and are considered to be negligible, as discussed in Section 13.1 of this Chapter ('Water Resources and Flood Risk'). The airport is resilient to flooding through the implementation of design standards with an inclusion of climate change allowances that accommodate for greater flooding in the future. The potential for climate change related incidents to affect the proposed development is assessed in detail in Chapter 11 of the ES. In summary, the airport does not suffer from exceptional climatic conditions or significant flood risk that regularly affect its operations, nor is it expected to in the future.

13.8.24 The airport has protocols in place to address pollution events, including accidental discharges to the Docks, and all users of the site adhere to these procedures. These are considered sufficient to manage the risks of accidental contaminant release.

13.8.25 In regard to other potential 'major accidents and/or disasters' (e.g. terrorism incident, fire or explosion), the proposed development would not impact upon the existing controls that exist across the aviation industry in accordance with UK and international law and CAA mandated standards.

## Conclusions

13.8.26 In light of the above, it is not considered likely that the proposed development would give rise to any significant effects with regard to major accidents and disasters.