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VIRTUS Data Centres
Former Sipson Garden Centre

Aviation Safeguarding Assessment

2026/10/16

2026UK596010

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VIRTUS Data Centres
Former Sipson Garden Centre - Aviation Safeguarding Assessment

2026/10/07

2026UK596010

Prepared for

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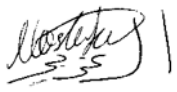
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Revisions

Rev	Date	Details
A	2026/10/07	Draft Issue for comment
B	2026/10/16	Review comments incorporated

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Appendix A – OLS Analyses

Abbreviations and glossary

Abbreviations

Abbreviation	Description
AIP	Aeronautical Information Publication
ARP	Aerodrome Reference Point
ATZ	Aerodrome Traffic Zone
CAA	Civil Aviation Authority
CAP	Civil Aviation Publication
EGLL	London Heathrow airport
HAL	Heathrow Airport Limited
ICAO	International Civil Aviation Organization
NATS	National Air Traffic Services
OLS	Obstacle Limitation Surface

Glossary of terms

Term	Explanation
AIP	A document containing essential aeronautical information.
ARP	The designated point representing an aerodrome.
ATZ	A zone around an aerodrome for air traffic control.
CAA	The UK national authority overseeing civil aviation.
CAP	CAA publication related to civil aviation.
EGLL	The ICAO airport code for London Heathrow airport.
HAL	The company which owns London Heathrow Airport.
ICAO	A United Nations Agency for global aviation.
NATS	The UK-based air traffic control service provider.
OLS	Surfaces defining the limits of obstacles around an aerodrome.

References

The below list of references form the key design documents provided to be used in this Aviation Safeguarding Assessment:

- PGF-ACM-00-XX-DR-AR-100000 - Site Location Plan
- PGF-ACM-00-XX-DR-AR-100100 - Proposed Masterplan
- PGF-ACM-00-XX-DR-AR-100200 - Proposed Site Sections

1. Introduction

1.1 Background

WSP has been commissioned by VIRTUS Data Centres (VIRTUS DC) to undertake an aviation safeguarding assessment of the proposed data centre at the former Sipson Garden Centre, Sipson Road (the “Proposed Development”). The site lies approximately 1.4km North of the northern 09L/27R runway shoulder at London Heathrow Airport (“Heathrow”).

Because of its proximity to Heathrow, the site lies within the area officially safeguarded under the Town and Country Planning (Safeguarded Aerodromes, Technical Sites and Military Explosives Storage Areas) Direction 2002, as explained in DfT/ODPM Circular 01/2003. The local planning authority is therefore required to consult Heathrow Airport Limited (HAL) on the application.

Two broad sets of height constraints apply to development near an aerodrome. The first derives from aerodrome certification requirements, which define a set of Obstacle Limitation Surfaces (OLS) that should ideally be kept free of obstacles. The second derives from the design of instrument flight procedures, which require specified minimum clearances over obstacles beneath the published approach and departure routes. In addition, the airport operator will consider whether a development could affect its communications, navigation and surveillance (CNS) equipment, or give rise to other hazards such as wildlife attraction, turbulence from exhaust plumes, or confusing lighting and glare.

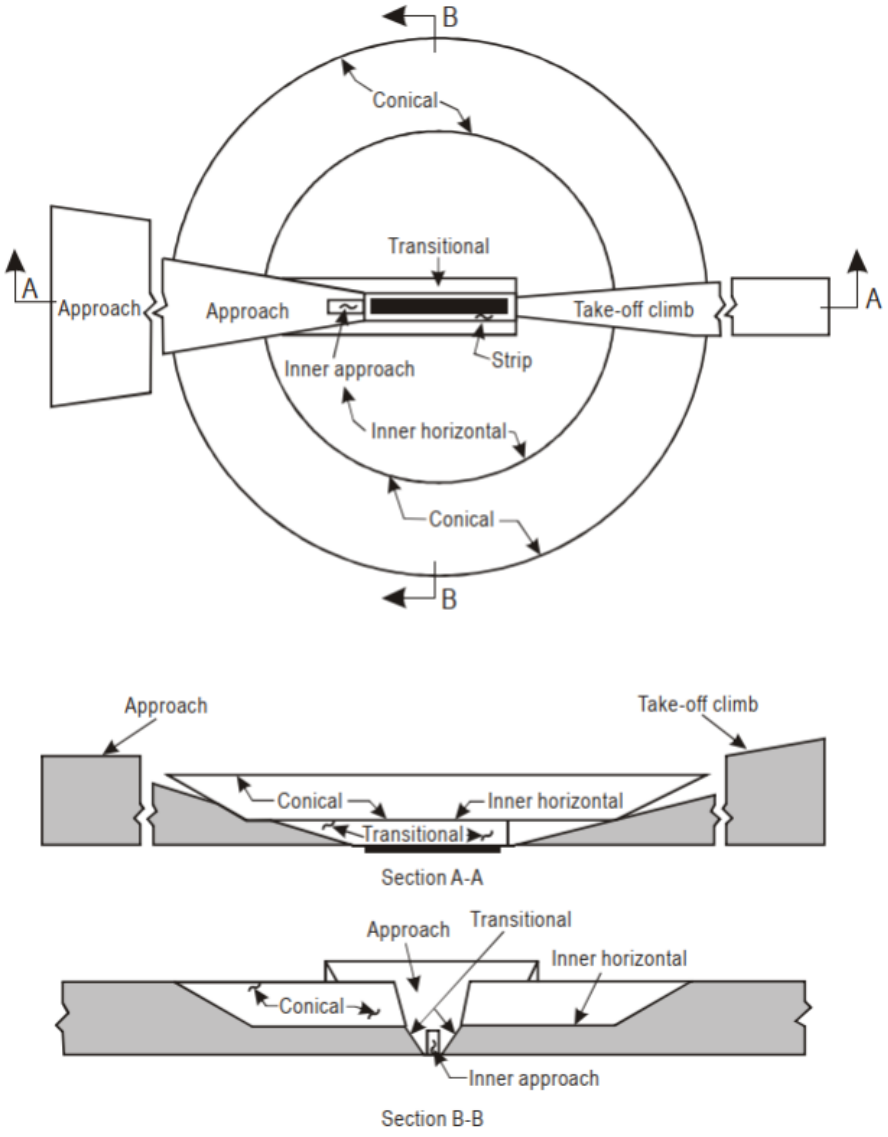


Figure 1-1: Obstacle Limitation Surfaces (ICAO Annex 14 Figure 4-1)

As per CAP 736 Annex B, aerodromes have a geographical zone "within which the CAA considers it necessary to impose restrictions in order to protect flight operations". Figure 1-2 (not to scale) from Annex B is provided below showing the protected areas:

- Within three nautical miles (approximately 5.5km) of an aerodrome's notified Aerodrome Reference Point (ARP) or similar; and
- Within ten nautical miles (approximately 18.5km) of the notified ARP along the track of the extended runway centreline and 500 metres either side of said centreline.

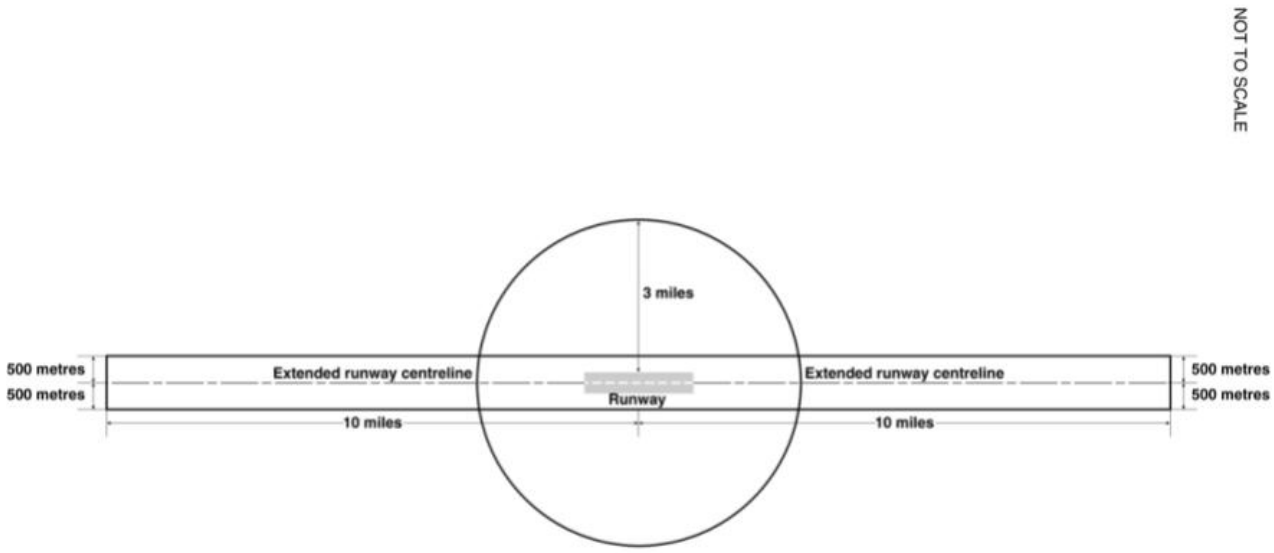


Figure 1-2: Typical Protected Area surrounding an aerodrome subject to restrictions (CAP 736 Annex B)

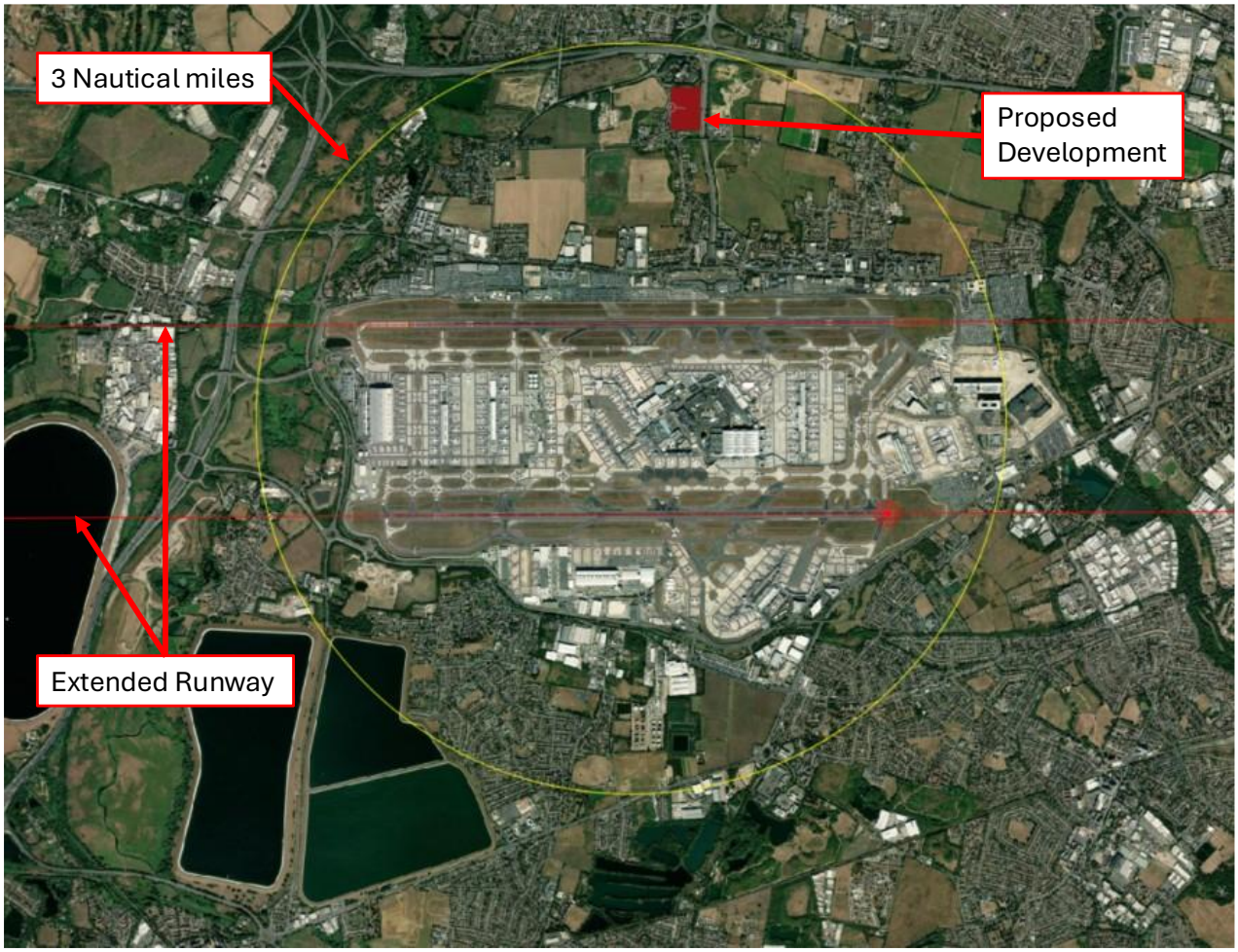


Figure 1-3: Protected Area surrounding London Heathrow Airport

1.2 Purpose and scope of this report

This report assesses the Proposed Development against the Physical considerations.

Section 2 sets out the relevant characteristics of the aerodrome(s). Section 3 describes the site and the Proposed Development. Section 4 addresses physical safeguarding, including the use of construction cranes. Section 5 provides advisory comments and consideration on the obstruction lighting, wildlife & bird hazard management, and lighting & reflective glare. Section 7 sets out the conclusions.

The Proposed Development has been designed with the intention that it complies with all relevant aviation safeguarding requirements subject to consultaiton.

Technical and operational safeguarding are not assessed in detail within this report. This information needed for these assessments, including equipment locations, safeguarding zones, performance models and procedure design data is held by Heathrow Airport Limited (HAL) and is not publicly available. HAL shall consider these matters as part of the statutory consultation response. Section 6 explains this further and gives consideration of likly further assesment.

1.3 Limitations statement

- Operational and Technical Safeguarding are excluded and where deemed necessary, will rely on third party specialists managed by WSP Aviation.
- Items named under the Aviation Advisory related to wildlife, ecology, landscaping, facades and finishes are purely advisory with detailed study and analysis excluded. Any studies identified related to these items based on feedback from the airport shall be subject to separately agreed fee undertaken by the relevant discipline responsible (i.e facade, MEP, ecology discipline).
- Ground elevation levels from Google Earth Pro will be used in lieu of receipt of survey data.
- Information from Heathrow Airport's Aeronautical Information Publication will be used to inform the assessment, noting that operational and technical safeguarding information is not publicly available and may require input from Heathrow Airport.
- No allowance has been made for the design and inclusion of local Helicopter operation for the development.
- Heathrow Airport should be consulted due to its close proximity to the site. WSP assume that the local authority will submit this to Heathrow as part of the developer's application.

1.4 Regulatory framework

Physical safeguarding requirements derive from the following documents.

- DfT Circular 01/2003 and the Safeguarded Aerodromes Direction 2002
- UK regulation (EU) 139/2014 and CS-ADR-DSN
- CAA CAP 738, Safeguarding of Aerodromes
- CAA CAP 168, Licensing of Aerodromes
- CAA CAP 1096, Guidance to crane users on aviation lighting and notification
- CAA CAP 772, Wildlife hazard management at aerodromes
- CAA/CAST advice notes

2. Aerodrome Characteristics

2.1 London Heathrow Airport (LHR)

Heathrow has two parallel runways, designated 09L/27R (northern runway) and 09R/27L (southern runway), each served by precision instrument approach procedures in both directions. Aircraft normally land on one runway and depart from the other, with the runways alternated during the day under westerly operations. Both runways are classified as Code 4 precision approach runways for the purpose of defining the OLS.

The key aerodrome data used in this assessment are taken from the UK Aeronautical Information Publication (AIP), entry EGLL AD 2, AIRAC 10/2026 and are summarised in Table 1.

Table 1: Heathrow aerodrome data – Source: UK AIP EGLL

Item	Value
Aerodrome elevation	83 ft (25.3 m AOD)
Runway 09L threshold elevation	79 ft (24.1 m AOD)
Runway 27R threshold elevation	78 ft (23.8 m AOD)
Runway 09R threshold elevation	75 ft (22.9 m AOD)
Runway 27L threshold elevation	77 ft (23.5 m AOD)
Runway 09L dimensions	3901 x 50 m
Runway 27R dimensions	3901 x 50 m
Runway 09R dimensions	3658 x 50 m
Runway 27L dimensions	3658 x 50 m

2.2 Holding patterns

Arriving aircraft are held, when required, at four holding facilities: BIG (Biggin), OCK (Ockham), BNN (Bovingdon) and LAM (Lambourne). The minimum holding level must provide a minimum obstacle clearance of 300 m (984 ft) above the highest obstacle. All four lie many kilometres from the site.

2.3 Proposed new runway (Third Runway)

The Government supports the expansion of Heathrow through a new runway (and ancillary works) of up to 3,500 x 60 m, to the north west of the existing northern runway (09L/27R).

A draft Heathrow Expansion National Policy Statement was published in June 2026. Its public consultation closed on 1 September 2026, and Parliamentary scrutiny runs until 26 November 2026. HAL is targeting a Development Consent Order (DCO) decision in 2029 with the opening of the new facility by 2039.

HAL safeguards the proposed runway and its associated surfaces and may object to development that could conflict with its future operation, even where the development is compatible with the existing two-runway airport.

The runway alignment used in this assessment is taken from Heathrow Airport Ltd's (HAL) "Our Proposal for Expanding Heathrow, the UK's Gateway to Growth" (published 2025). On that alignment, the eastern end of the Third Runway lies approximately level with the site, about 360 m to the south of it. The runway position, threshold locations and elevations are not final and may change through the DCO process.

For this assessment, the Third Runway is assumed to be a Code 4 precision approach runway, with surfaces referenced to the existing aerodrome elevation of 23.0 m AOD. A secondary analysis has been completed with the inclusion of the Third Runway to maximise future proofing. Within this report, where the secondary analysis is being referenced, it will be headed as such for clarity.

Note that as part of the LHR New Runway proposal, ancillary works are expected including the construction of new roads / motorway sections, and the diversion of existing roads / motorway section. This is anticipated to be within the immediate vicinity of VIRTUS' Proposed Development.

Note that the HAL proposal is subject to change.

3. Site and Development Description

3.1 Site location and context

The site is located at Sipson Road, West Drayton, London, UB7 0HP, approximately 1.4km north of the Northern Shoulder of Runway 09L/27R at Heathrow. It is bounded by residential properties, and 1no. transit depot to the West, Holiday Inn London Heathrow Hotel to the North, the M4 Motorway to the East, and a collection of developments including: Lady Nafisa Secondary School for Girls, 1no. car park, and residential properties to the South.

In relation to the existing airport, the site lies approximately 1.4 km north of the centreline of the northern runway, and approximately 1.9 km east of the Runway 09L threshold and 1.4 km west of the Runway 27R threshold. It is therefore to the side of the runway, not beneath its approach or take-off paths.

In relation to the proposed Third Runway, the site lies approximately 360 m north of the extended runway centreline, close to the eastern end of the runway.

The site currently comprises grass land, and parking area for the transit depot, with existing ground levels approx. 27 – 29m AOD. The surroundings are characterised by commercial and residential land.

3.2 Proposed Development

The proposed development comprises One data centre building (two data halls), an admin block, external plant and ancillary infrastructure, along with security measures, landscaping and access arrangements.. The illustrative site masterplan is shown in Figure 3-1 and the building sections Figure 3-2.

The Proposed Development comprises of a site area 69,900 m^2, including the data centre building and associated ancillary buildings.. The data centre building has a main height of 13.0 m, with rooftop plant extending a further 6.7 m, giving a height of 19.7 m above ground level and approximately 48.7 m AOD. Noting the previous, the maximum heights provided in the parameter plans allowed is 20.0 m therefore this will be the figure used in the aviation assessment in keeping with a conservative assessment approach.

Table 3-1: Proposed Development heights

Element	Height above ground (m)	Ground level (m AOD)	Height (m AOD)
Main roof	13.0	29.0	42.0
Rooftop plant (top)	19.7	29.0	48.7
Max. plan height	20.0	29.0	49.0

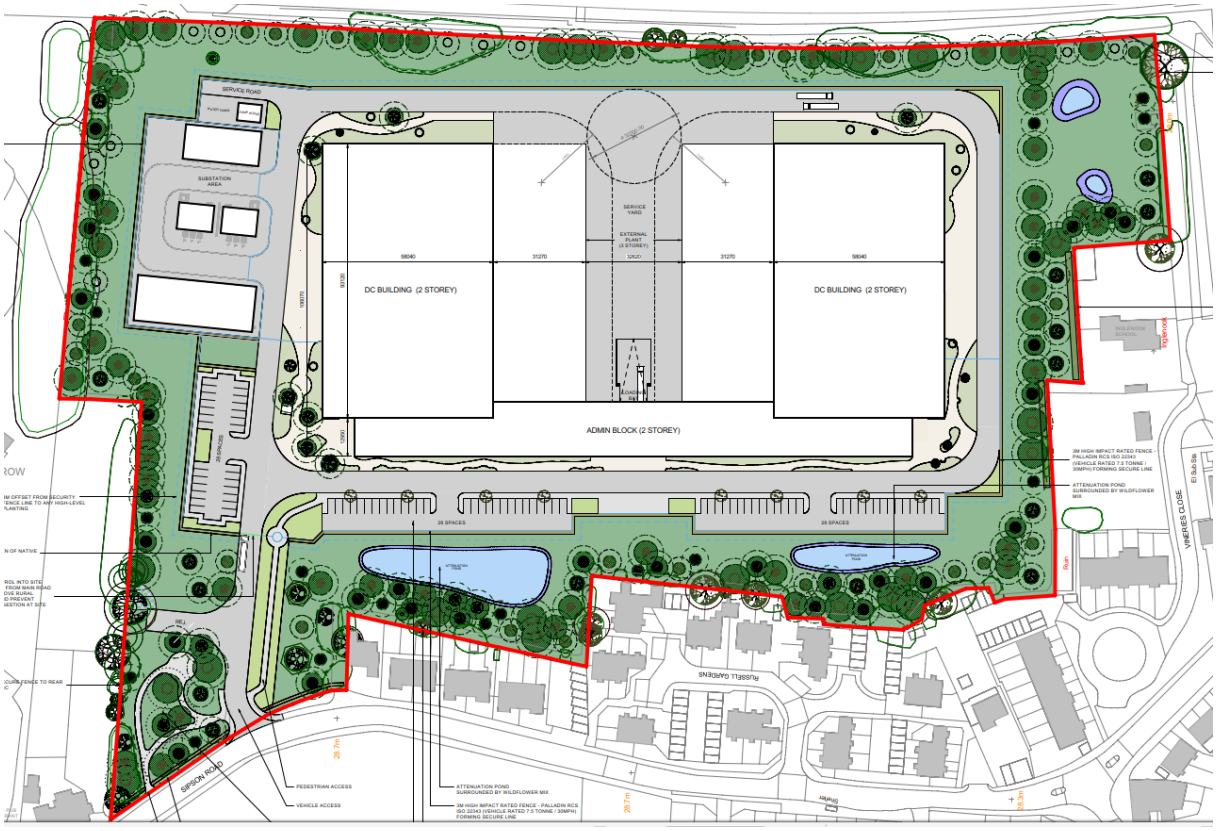


Figure 3-1: Proposed Development Masterplan

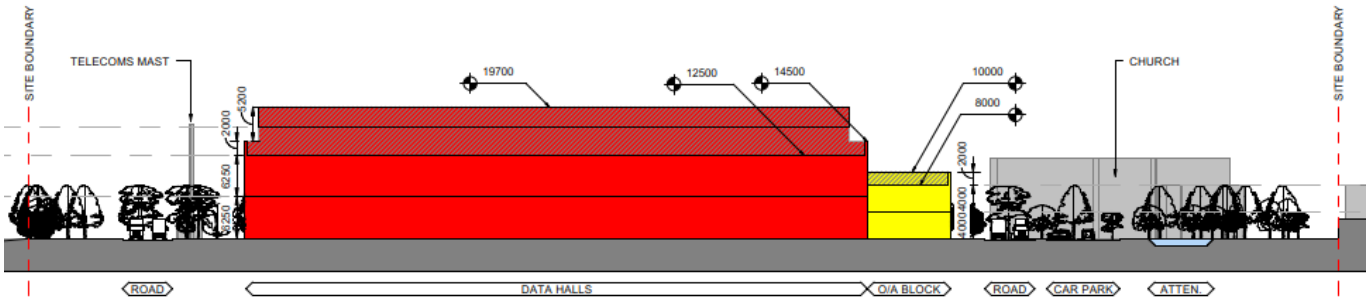


Figure 3-2: Proposed Development Section

4. Physical Safeguarding

4.1 Method

Physical safeguarding is concerned with ensuring that buildings and structures do not present a collision hazard to aircraft. The assessment has been undertaken in five steps:

1. The height of each Obstacle Limitation Surface of the existing runways over the site has been calculated, and the lowest (controlling) surface identified.
2. The same has been done for the indicative OLS of the proposed Third Runway.
3. The proposed building height has been compared with the minimum holding altitudes.
4. Existing obstacles in the vicinity have been reviewed to provide context for the proposed height.
5. Obstacle lighting requirements have been identified.

The OLS are not absolute limits. An object that penetrates a surface may be acceptable if HAL is satisfied, through aeronautical study, that it does not affect the safety or regularity of operations. However, a development that remains below the OLS is unlikely to attract an objection on physical safeguarding grounds.

4.2 Obstacle Limitation Surfaces

For a Code 4 precision approach runway, the OLS comprises:

- Approach surface: an inclined plane beginning 60 m before the runway threshold, with an inner edge 300 m wide, diverging at 15% each side and rising at 2% in its first section.
- Take-off climb surface: an inclined plane beginning 60 m beyond the end of the runway or clearway, with an inner edge 180 m wide, diverging at 12.5% each side and rising at 2%.
- Transitional surface: a surface rising at 14.3%, to a maximum of 45 m above the runway strip elevation, from the sides of the runway strip and approach surface.
- Inner horizontal surface: a horizontal plane 45 m above the aerodrome elevation, extending to a radius of approximately 4,000 m.
- Conical surface: a surface rising at 5% from the edge of the inner horizontal surface.

4.2.1 Approach and take off surfaces

The site lies approximately 1.4 km to the side of the northern runway, roughly opposite its midpoint. It is therefore well outside the approach and take-off climb surfaces of both runways, which lie along the extended runway centrelines beyond each runway end.

4.2.2 Transitional and inner horizontal surfaces

The transitional surface rises at 14.3% from the edge of the runway strip, approximately 140 m from the runway centreline and meets the inner horizontal surface approximately 340 m from the runway

centreline. At approximately 1.4 km from the centreline, the site lies beyond the transitional surface and beneath the inner horizontal surface.

The inner horizontal surface lies 45 m above the aerodrome elevation of 23.0 m AOD, at 68.0m AOD.

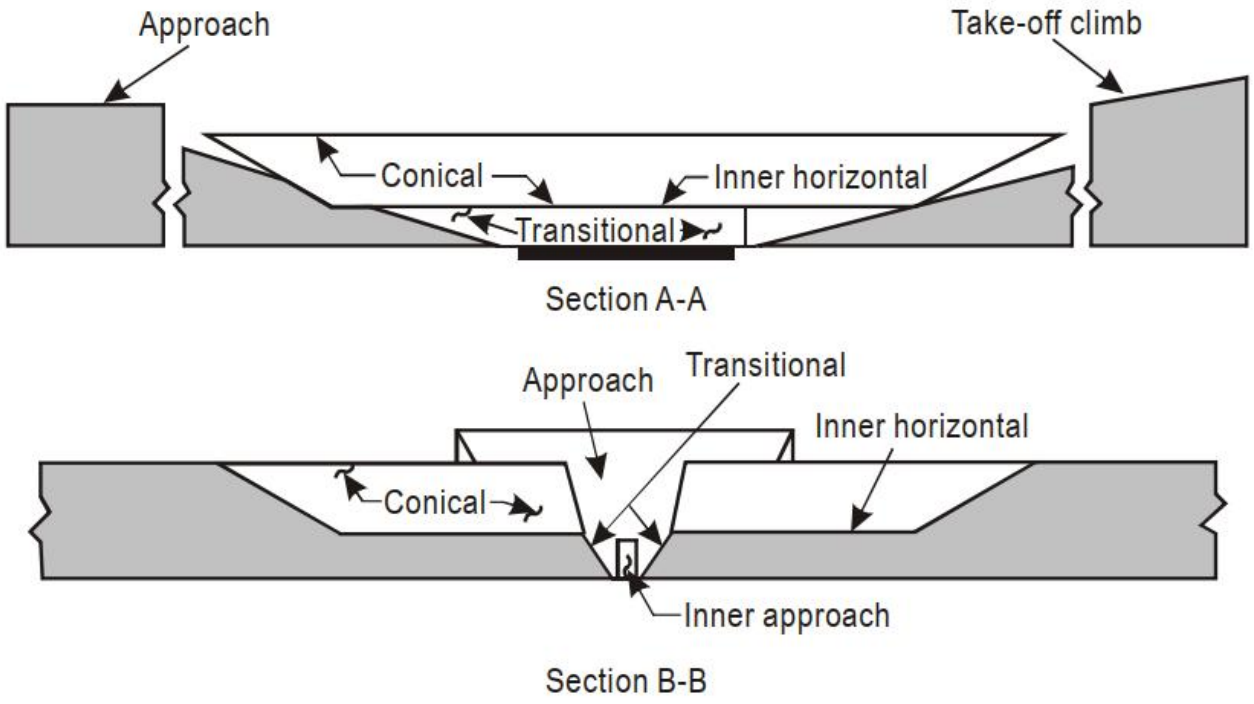


Figure 4-1: ICAO Annex 14 - Transitional Surface Illustration

4.2.3 Existing Runway Results

Table 4-1: Existing runway OLS at the site

Surface	OLS height (m AOD)	Max building height (m AOD)	Margin (m)
Inner horizontal surface (controlling)	68.0	49.0	19.0
Approach / take-off climb surfaces	Not over the site	–	–
Transitional surface	Not over the site	–	–

The Proposed Development does not penetrate any of the Obstacle Limitation Surfaces of the existing runways. The minimum margin between the top of the development and the controlling surface is approximately 19.3 m.

The maximum permissible height on the site, defined by the inner horizontal surface, is therefore 68 m AOD, equivalent to approximately 39 m above ground level. Note that the above measurements are based on Google Earth Pro elevation data and so may not be accurate. Up to date topographical survey data is required to confirm the above results.

4.3 Holding patterns

Within a holding area, typically aircraft must be given a minimum obstacle clearance of 300 m (984 ft) above the highest obstacle. The Proposed Development, at approximately 49.0 m AOD, has no effect on the holding patterns.

4.4 Existing obstacles

Existing obstacles in the vicinity of the site have been reviewed to provide context for the proposed building height.

The tallest building within the surrounding area is the circa 12 storey Holiday Inn London Heathrow Hotel, that is significantly taller than the Proposed Development.



Figure 4-2: Holiday Inn London Heathrow Hotel

The Proposed Development, at a maximum plan height of 20.0 m above ground level, is expected to be significantly lower than the adjacent Holiday Inn hotel, which lies in the same position relative to both the existing and proposed runways. The Proposed Development would therefore not be the tallest or most prominent structure in its immediate vicinity and would be partly shielded by the hotel.

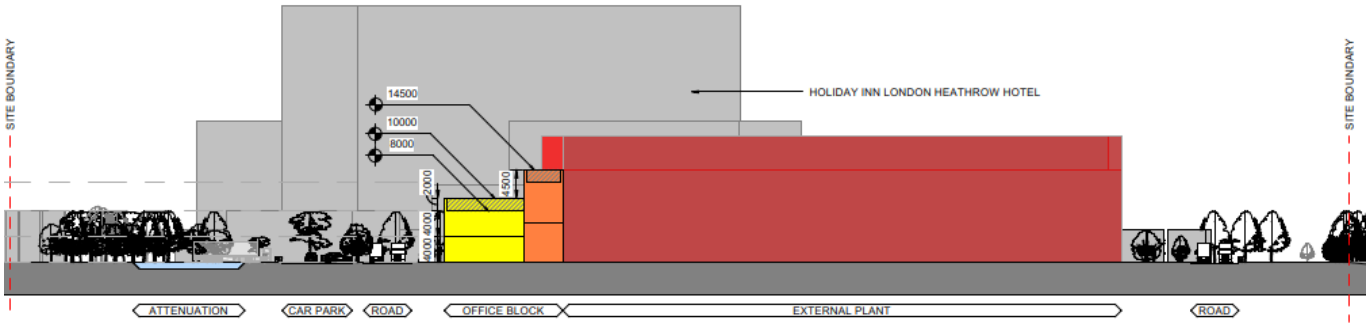


Figure 4-3: Proposed Development in reference to Existing Holiday Inn Hotel

4.5 Obstacle lighting

The Proposed Development maximum plan height does not penetrate any OLS and, at 20.0 m above ground level, is well below the 150 m threshold above which the Air Navigation Order requires structures to be lit. Obstacle lighting of the permanent building is therefore not expected to be required.

Construction cranes will require lighting in accordance with CAP 1096 and HAL's crane permit conditions (see Section 5.4). Final requirements will be confirmed by HAL through its consultation response.

4.6 Safeguarding of the proposed Third Runway

Because HAL safeguards the proposed Third Runway, the Proposed Development has also been assessed against the OLS that would apply to that runway, based on the alignment and surface dimensions as described in Section 2.3.

The new runway would introduce approach and take-off climb surfaces at each end, transitional surfaces along each side, an enlarged inner horizontal and conical surface, and new Public Safety Zones at each runway end.

4.6.1 Third Runway Results

The site lies approximately 400 m to the side of the Third Runway centreline, close to its eastern end. Near the runway end, the approach and take-off climb surfaces extend only approximately 90-140 m either side of the centreline. The site therefore lies outside them.

At 400 m from the centreline, a minimal portion of the site lies within the outer edge of the transitional surface, where it meets the inner horizontal surface. The controlling surface is therefore the transitional surface, at approximately 37 m above the aerodrome elevation of 23.0 m AOD, at 60.0m AOD.

Table 4-2: Third Runway OLS at the site (indicative)

Surface	OLS height (m AOD)	Max building height (m AOD)	Margin (m)
Transitional / inner horizontal surface (controlling)	Approx. 60	49.0	Approx. 11.0
Approach / take-off climb surfaces	Not over the site	–	–

The Proposed Development would not penetrate any OLS associated with the proposed Third Runway, on the alignment assumed. The minimum margin is approximately 11.0 m.

This conclusion is not sensitive to small changes in the runway design. Even if the runway end moved such that the site came under the approach or take-off climb surface, those surfaces lie well above the building at this lateral distance. A penetration would only arise if the runway centreline moved several hundred metres closer to the site.

4.6.2 Other LHR expansion considerations

4.6.2.1 Public Safety Zones

The indicative Public Safety Zones (PSZ) for the Third Runway would extend along the extended runway centreline. At 400 m to the side of the centreline, the site is unlikely to lie within them. Typically, PSZ are an isosceles triangle shape that consists of 2no. zones:

1. Controlled Zone – Maximum width of 280m from runway centreline
2. Restricted Zone - Maximum width of 150m from runway centreline

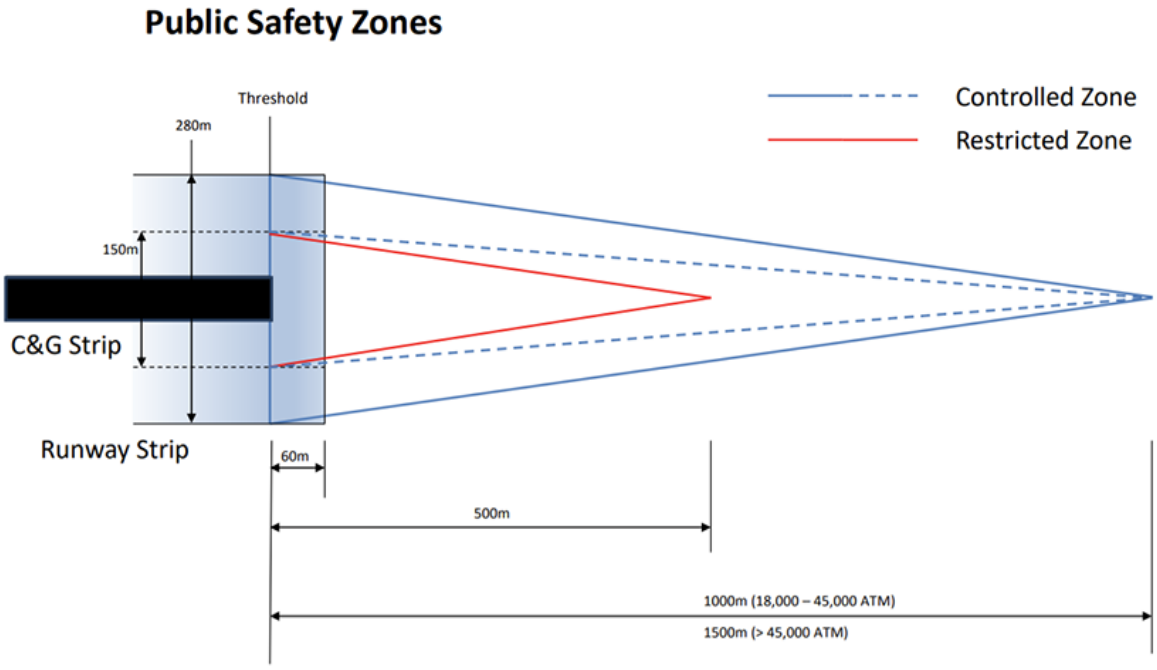


Figure 4-4: DfT - Public Safety Zones

4.6.2.2 Cranes

Cranes for the Proposed Development would be removed long before the Third Runway opens (c. 2039), so the Third Runway surfaces are not expected to constrain construction.

4.6.2.3 Land Requirements

The site may lie within or next to the proposed DCO Order Limits or the airport related development zone around Sipson Road. This consideration is separate from aviation safeguarding but may affect the scheme.

4.7 Summary of physical safeguarding

Constraint	Controlling value (m AOD)	Proposed (m AOD)	Margin (m)	Result
Existing runways: inner horizontal surface	68.0	49.0	19.0	Complies
Existing runways: approach / take-off surfaces	Not over the site	–	–	Not applicable
Third Runway: transitional / inner horizontal surface (indicative)	Approx. 60	49.0	Approx. 11.0	Complies
Holding patterns	1,830	49.0	Very large	Complies
Obstacle lighting	–	20.0 m Above Ground Level	–	Not expected to be required

5. Aviation advisory

This section gives high level guidance on related aviation considerations. It is intended to inform the design team and the further assessments to be carried out by others. It does not constitute a detailed assessment of these matters.

5.1 Lighting & Reflective Glare

External lighting near an aerodrome must not dazzle or distract pilots or be confused with aeronautical ground lighting. External lighting should be fully cut off, directed downwards with no upward light spill, and should avoid patterns or colours that could resemble runway or approach lighting. Lighting should be designed in accordance with AOA Advice Note 2.

Highly reflective cladding, glazing and solar photovoltaic (PV) panels can create glare for pilots and air traffic controllers. Low-reflectivity or matt finishes are preferred on façades and roofs. Since roof-mounted PV is proposed, HAL is likely to require a glint and glare assessment.

If PV panels are proposed and will be located at ground level, they will be partially obscured by soft landscaping and existing buildings. However following consultation and further design development of the panels, these may also require a glint and glare assessment depending on the direction & elevation of the panels.

5.2 Obstruction Lighting

Obstacle lighting of the permanent building is not expected to be required (Section 4.5). HAL may nonetheless request lighting in its consultation response. If so, the design team should allow for steady red lights at the highest points of the building, a monitored and resilient power supply, and access for maintenance

5.3 Wildlife & Bird Hazard Management

Heathrow assesses developments within a radius of approximately 13 km for features that could attract hazardous birds, particularly gulls, waterfowl and flocking species.

Data centres typically have roofs, which can attract roosting and nesting gulls. Other features that warrant attention include, SuDS ponds and open water, berry-bearing planting and external waste storage. Typical measures include roof inspection and deterrence, anti-perching measures, below-ground or netted attenuation, careful plant selection and enclosed waste compounds.

HAL commonly requests a Bird Hazard Management Plan by planning condition for developments of this type. Such plans typically include regular roof inspections during the breeding season, dispersal of gulls, and removal of nests and eggs under licence. However landscaping should first avoid species and features that attract birds.

The above should be considered during future design stages.

5.4 Crane Height Considerations

Construction cranes must remain below the OLS unless HAL agrees otherwise. The margin available above the completed building is approximately 19.0m below the existing inner horizontal surface.

Pending confirmation with future contractor/crane supplier, the available margins should be sufficient for a single saddle jib crane, but tight for two or more overlapping saddle-jib cranes. Luffing jib cranes, if used, would need their maximum jib height limited. All cranes will require a permit from HAL and registration with the CAA's Airspace Coordination and Obstacle Management Service (ACOMS) before erection, with lighting and notification in accordance with CAP 1096. A Crane Management Plan may be required by planning condition.

Should the need arise for future maintenance use of cranes, please note that this would be subject to notification to HAL.

5.5 Exhaust plumes

Data centres often include backup generators and cooling plant that vent warm air or exhaust. HAL may require a plume rise assessment to show that plumes would not create turbulence affecting aircraft. Given the site's position to the side of the runways, the risk is expected to be low, but the design team should consider the number, height and efflux of any stacks and vents.

6. Technical and Operational Safeguarding

Technical safeguarding considers whether a development could affect the performance of the airport's communications, navigation and surveillance (CNS) equipment, such as radar, the Instrument Landing System (ILS) and radio communications. Operational safeguarding considers whether a development could affect the airport's instrument flight procedures, flight paths, departure routes, visual circuits and the minimum altitudes used by air traffic control

A detailed assessment of either matter requires information held by HAL, including the locations and safeguarding zones of its CNS equipment, performance models and procedure design data. This information is not publicly available. HAL, and NATS where relevant, assess these matters as part of their consultation responses.

6.1 Limitations

Given these studies are outside of the scope of this current report, the following review is high level advisory guidance only. It is based on the information available at the time of writing and does not constitute a technical or operational safeguarding assessment. HAL holds the information needed to assess these matters and will consider them in its consultation response. HAL may therefore request further evaluation of technical or operational safeguarding matters, irrespective of the indications given.

Engagement with HAL Safeguarding is recommended to establish whether any further evaluation will be required, particularly in relation to the proposed Third Runway.

6.2 High level review

6.2.1 Existing Airfield

In the absence of this information, a high-level review has been undertaken to give an indication of whether technical or operational safeguarding matters are likely to be raised. The review is based only on the publicly available information and the development information available at the time of writing. It considers the general factors that tend to influence the effect of a building on CNS equipment and flight procedures.

The likelihood of further assessment would increase if the building height were increased above that of the adjacent hotel, or if large unbroken metallic façades were introduced facing the airport's existing runways.

The Proposed Development lies to the long edge of the northern runway, well below the inner horizontal surface, and is lower than the adjacent Holiday Inn hotel. It would not introduce a new dominant structure in the vicinity or a penetration. On this basis, the likelihood of HAL requesting further technical or operational safeguarding assessment in relation to the existing airport is considered to be low.

6.2.2 Proposed Third Runway

The site lies close to the eastern end of the proposed runway. The new runway would have its own ILS equipment and flight procedures, whose positions and designs are not yet published. Because the areas protected around ILS equipment can extend several hundred metres, the likelihood of HAL raising technical safeguarding matters in relation to the Third Runway is considered to be moderate. As the site lies outside the approach and take-off surfaces, the likelihood of operational safeguarding matters is considered to be low.

The likelihood of the requirement of further assessment would increase if the building height were increased above that of the adjacent hotel, or if large unbroken metallic façades were introduced facing the runways.

As the detailed safeguarding parameters associated with any future runway configuration has yet to be fully established, the potential safeguarding implications identified above are necessarily precautionary in nature.

7. Summary

On the basis of this assessment, the Proposed Development is considered to comply with Heathrow's physical safeguarding requirements for both the existing airport and the proposed Third Runway, subject to HAL review.

1. The site lies approximately 1.4 km north of Heathrow's northern runway, to the side of the runway and within the area safeguarded by HAL.
2. The Proposed Development, at a maximum plan height of 20.0 m above ground level (approximately 49.0 m AOD), does not penetrate any of the Obstacle Limitation Surfaces of the existing runways. The controlling surface is the inner horizontal surface at 68.0 m AOD, giving a margin of approximately 19.0 m.
3. Assessed against the indicative surfaces of the proposed Third Runway, the Proposed Development would not penetrate them. The controlling surface is the transitional surface, with a margin of approximately 11.0 m. This conclusion is subject to the final runway design.
4. The Proposed Development has no effect on the published holding patterns.
5. The Proposed Development is lower than the adjacent 12 storey Holiday Inn hotel and would not be the tallest structure in its vicinity.
6. Obstacle lighting of the permanent building is not expected to be required.
7. The margin of approximately 19.0 m allows a feasible crane strategy using a single saddle-jib crane; multiple overlapping cranes or luffing-jib cranes would need careful planning. All cranes are subject to HAL crane permits.
8. HAL is likely to request conditions covering bird hazard management, external lighting and, if applicable, glint and glare, and plume rise. High-level guidance has been provided to inform the design team during future design stages.

Appendix

Appendix A – OLS Analyses

OLS Analysis - Existing Runway 09L/27R

OLS Analysis - Future Third Runway

OLS ANALYSIS - EXISTING RUNWAY 09L/27R

SCALE 1:15000



OLS ANALYSIS - FUTURE THIRD RUNWAY

SCALE 1:15000



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