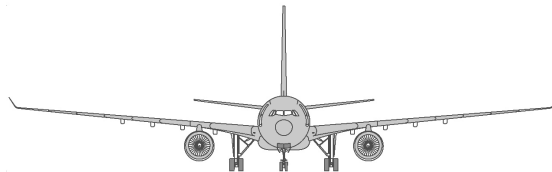


# **AERONAUTICAL ASSESSMENT REPORT**

**FOR  
SHD DEVELOPMENT AT  
BARRINGTON TOWER  
BRENNANSTOWN ROAD  
DUBLIN 18**

**FOR  
CAIRN HOMES PROPERTIES LTD.**

MARCH 2022



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**O ' D W Y E R   &   J O N E S   D E S I G N   P A R T N E R S H I P  
A V I A T I O N   P L A N N I N G   &   A R C H I T E C T U R E   C O N S U L T A N T S  
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*Note: In all maps /diagrams /aerial photos in this report  
which do not contain a North Point, north lies to the top.*

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otherwise, without the prior written permission of O'Dwyer & Jones Design Partnership, Dublin.*

## 1. Scope of Report and Location of the Site

1.1 This report assesses the aviation impact of a proposed residential development on a site of 3.81 hectares approx. at Barrington Tower on Brennanstown Road, Dublin 18, located north of the Green Luas line and M50 motorway (about 1km east of where the Luas crosses the motorway).

The site is outlined in red on the aerial view below:



1.2 The following are some recent changes of significance regarding aviation matters:

- (i) In December 2017, the standards relating to eight international and regional airports in Ireland (including Dublin, but not Casement) came under EASA [European Aviation Safety Agency] specifications, rather than ICAO [International Civil Aviation Organization] standards as previously. Weston Airport is temporarily exempted from EASA certification (due to low traffic figures) and remains (with Casement) under ICAO Standards.
- (ii) In November 2018, ICAO issued revised 'Annex 14' Standards, bringing these in line with the new EASA Aerodromes Specifications, with several changes to airport design specifications (including narrower Approach Surfaces).
- (iii) In February 2019, Casement Aerodrome's runway designations were changed due to magnetic variation: its main runway (formerly 11/29) was redesignated as 10/28, and its subsidiary runway (formerly 05/23) was redesignated as 04/22.

However, while these changes (above) affect various locations within Dún Laoghaire–Rathdown, they do not directly affect the Barrington Tower site.

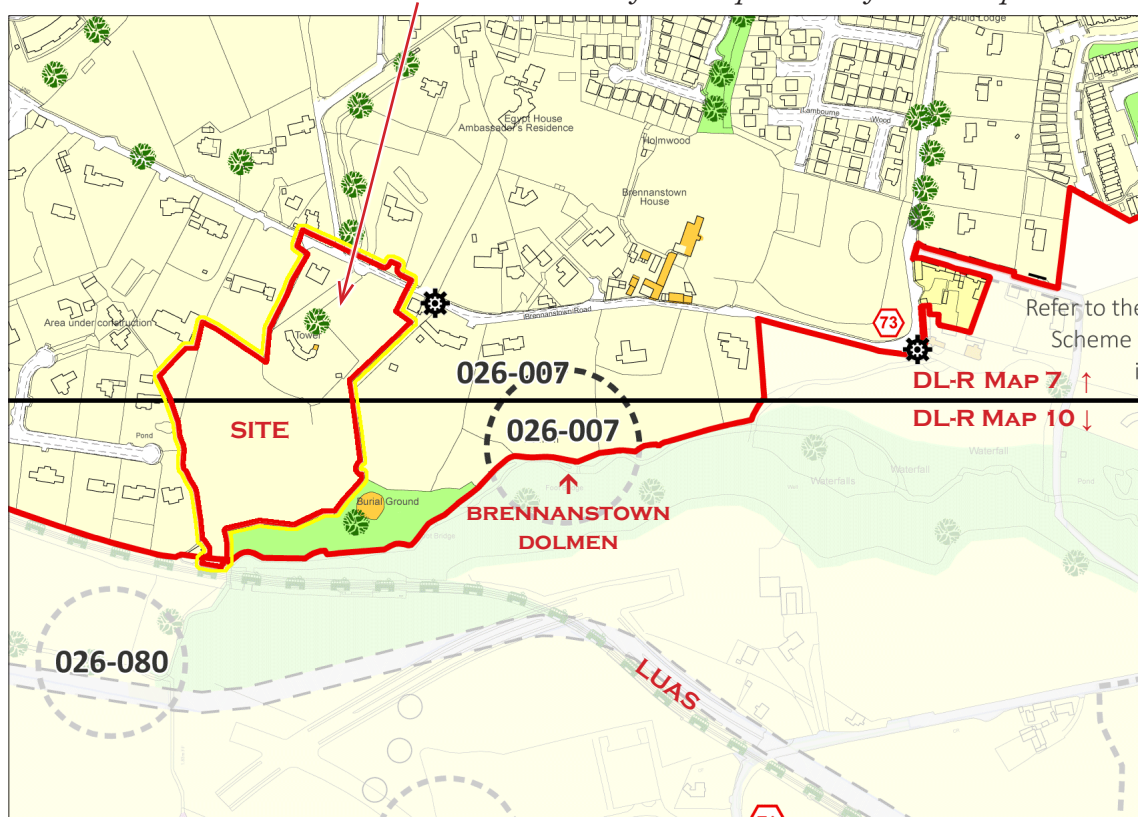
## 2. Relevant Parts of the Dún Laoghaire–Rathdown CDP 2022-2028

### 2.1 The Site's Zoning in the Dún Laoghaire–Rathdown Development Plan

In Maps 7 & 10 of the recently-adopted Dún Laoghaire–Rathdown Development Plan 2022-2028, this site – located between Brennanstown Road, Carrickmines, and the Luas line (near Carrickmines Luas station) – is zoned Objective 'A1': *'To provide for new residential communities and Sustainable Neighbourhood infrastructure in accordance with approved local area plans.'*

The site contains a protected structure: Barrington Tower ('Former Folly'); and at 200m due east is a National Monument site 026-007: the Brennanstown Dolmen.

*The site is shown outlined in red in extracts below from Maps 7 & 10 of the Development Plan.*



### 2.2 Text References in the Dún Laoghaire–Rathdown Development Plan 2022-28

Within the new Dún Laoghaire–Rathdown Development Plan 2022-28, there is a reference to aircraft under 'environmental noise' in Section 10.4 (page 200); and in Section 12.9.7 (page 292) it is noted that the Irish Aviation Authority will be consulted in relation to waste facilities which might cause potential interference with aviation due to bird strike hazard. These items do not affect this development.

The nearby Carrickmines Luas station is referred to in Section 5.4.2 (page 103) under the Park-and-Ride Programme and public transport improvement objectives.

### 3. Layout, Elevations OD, & Coordinates of the Proposed Development

3.1 Below to approx. scale 1:1,500 is a Site Layout Plan of the proposed residential development, in eight blocks AB, CD, E, F, G, H, I, & J, at Barrington Tower, Dublin 18. Elevations OD of the each block's highest element(s) are shown below.

In this diagram, darker blue shading indicates higher roof elements.






#### 4. Aeronautical Chart surrounding the Dún Laoghaire – Rathdown Area

- 4.1 Below is an extract from the ICAO 1:500,000 Aeronautical Chart of Ireland published in 2021 by the Irish Aviation Authority, onto which is superimposed (*in yellow*) an outline of the Dún Laoghaire–Rathdown area. This chart is intended for use by general air traffic operating under visual meteorological conditions. *Barrington Tower site is indicated by a red arrow. Aerodromes appear in the chart as circles.*



- 4.2 Around the (*yellow-outlined*) DL-R area in the Chart are: **Dublin Airport** to the north in Fingal, **Weston and Casement aerodromes** to the west in South Dublin, and **Newcastle aerodrome** to the south in Wicklow. There are no airfields in DL-R (and the nearest airstrip, at **Powerscourt**, with 600m grass runway 8.5km to south-west of the site, has been disused since 2010, and does not appear on the chart).

The location of the Barrington Tower site (centrally sited in DL-R) may be identified by a blue+white racecourse symbol  at Leopardstown, to the north-west of the site, and by the blue [motorway & dual carriageway] lines. A hang-gliding symbol  is shown at Killiney Hill, and the heights of telecommunication masts  in DL-R at Montrose and at Three Rock Mountain are listed.

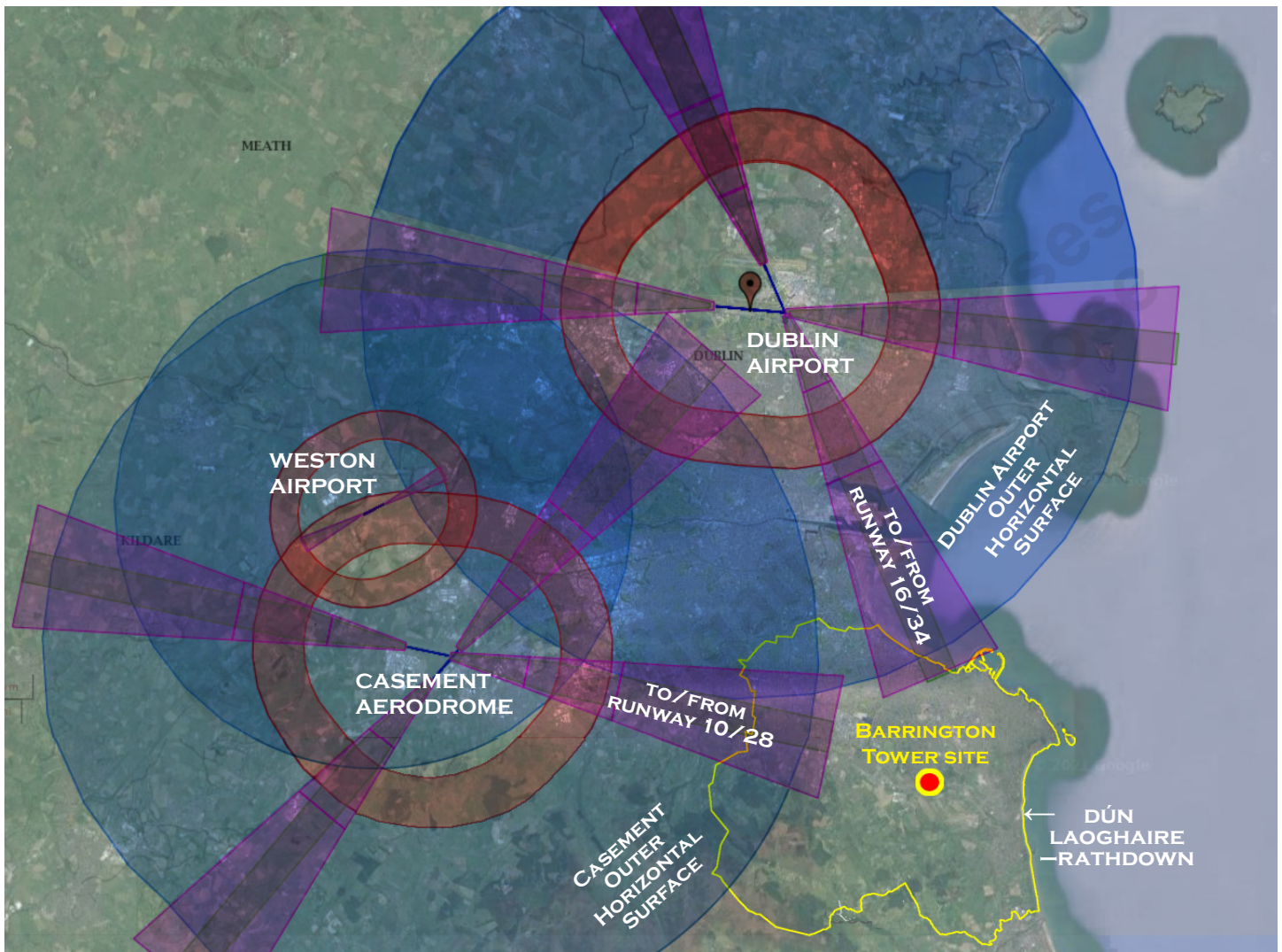
It can be seen that DL-R lies fully within the Dublin Airport ATC Control Area, which extends from ground level [‘SFC’] to 5,000 ft AMSL, and one significant aviation item in DL-R is the Non-Directional Beacon at Killiney [‘KLY NDB’]. *[These aviation items are referred to in further detail on the following pages.]*

## 5. Aerodromes & Airports which affect Dún Laoghaire–Rathdown

5.1 Below is a diagram (based on the IAA's 'Asset' data of 2017\*) of the overlapping European Aviation Safety Agency [EASA] 'Obstacle Clearance Surfaces' for Dublin Airport, and those of the International Civil Aviation Organization [ICAO] for Casement Military Aerodrome, and for Weston Airport.

*[\* This IAA data does not include all recent (post-2017) EASA & ICAO adjustments referred to in para. 1.2 above; however these recent changes have no effect on this particular site.]*

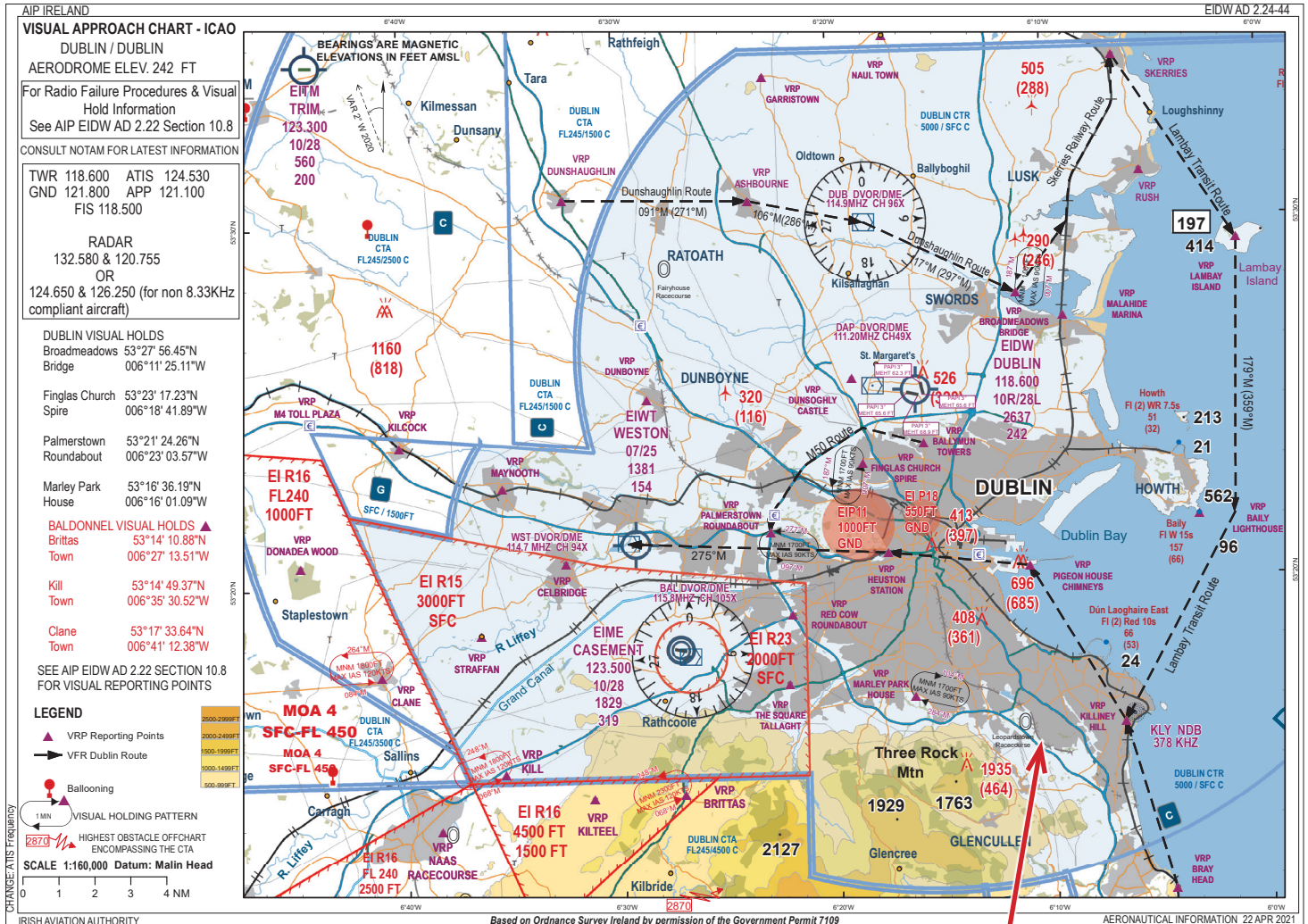
*In the diagram below the location of the Barrington Tower site is indicated by the red+yellow dot, with the outline of DLR also included in yellow.*



5.2 The nearest aerodromes to the Barrington Tower site are **Dublin Airport at 17.7km distance, Casement Aerodrome at 18.8km, and Newcastle (in Wicklow) at 21.2km**. The 'Obstacle Limitation Surfaces' for Dublin, Casement, and Weston are shown above (and those of Newcastle lie well outside the diagram and do not reach DL-R). It can be seen that, while the site lies close to the extended centrelines of Dublin Airport's cross runway 16/34, and of Casement Aerodrome's main runway 10/28, it falls outside both aerodromes' "obstacle limitation surfaces".

## 6. The Site in Relation to Flight Paths (for Casement and Dublin Airport)

6.1 Below is Dublin Airport's current Visual Approach Chart EIDW AD 2.24-44:



**BARRINGTON TOWER SITE**

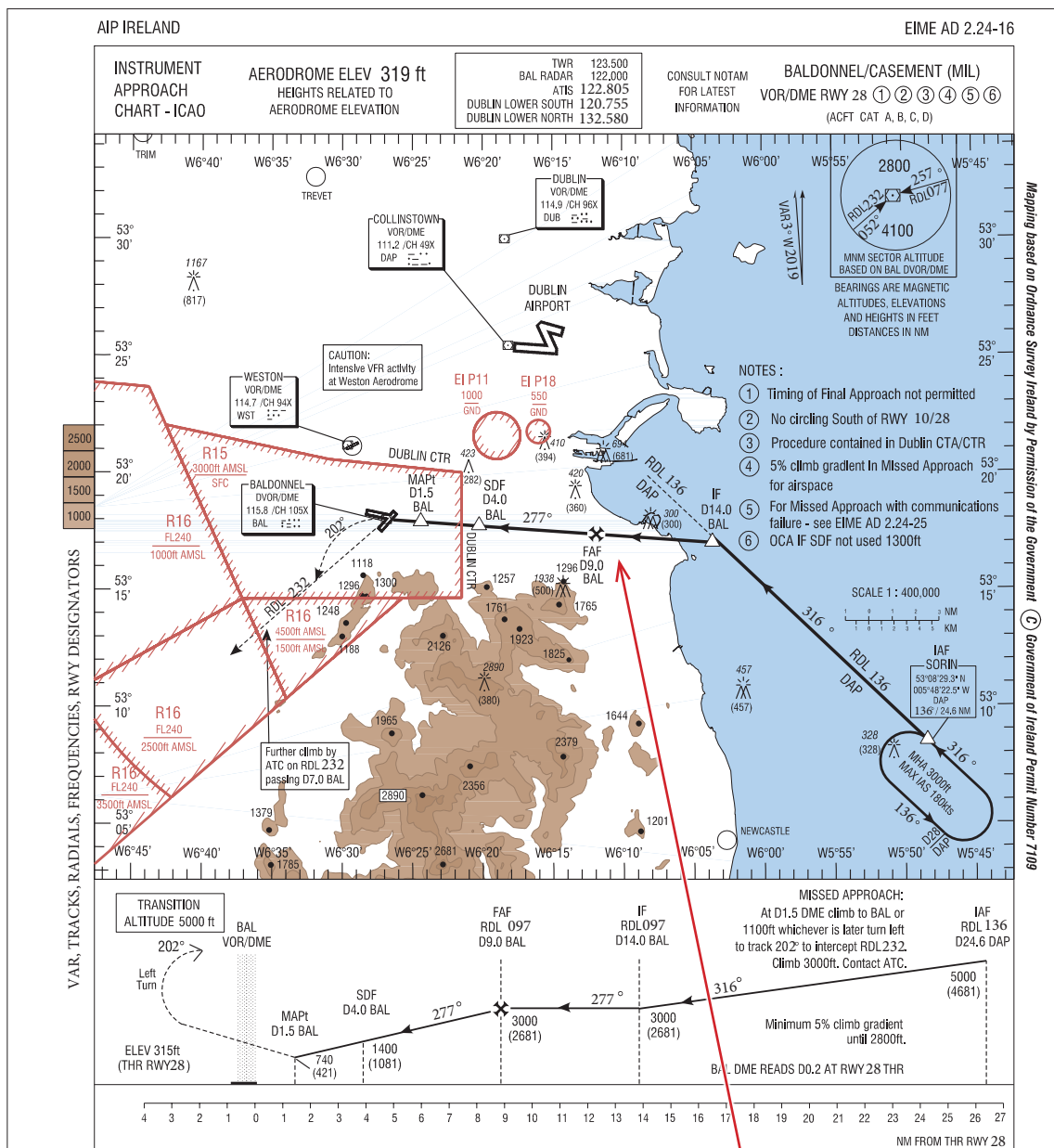
6.2 The location of the Barrington Tower site can be identified on this Chart beside “Leopardstown Racecourse” (to the north-west of the site) and by major roadways (M50 etc.). These items are included on this chart to provide visual flying references to pilots.

The nearest flight paths shown on this chart are the visual routes meeting at the VFR Reporting Point [▲] above the Killiney Beacon [KLY NDB] and the site is well clear of these routes (both laterally and vertically).

Other features marked on this chart not far from the site are the illuminated mast on the Three Rock Mountain extending to 1,935 ft AMSL [590m OD], and a visual holding pattern at 1,700 ft [518m OD] above Marley Park House.



6.3 Below is Casement Aerodrome’s Instrument Approach Chart to its main runway 28:



6.4 On this Chart, a Final Approach Fix [FAF] is shown (indicated by the Maltese Cross symbol), at 9 Nautical Miles [16.7km] from the Threshold of Casement’s Runway 28. This FAF is approx. 4km north-west of the Barrington Tower site (above the area between Mount Merrion and Sandyford), and in this location an aircraft approaching Casement Aerodrome will be at 3,000 ft above sea level [i.e. at 914m OD]. As the highest point of the Barrington Tower development is just below 100m OD, it (or any cranes used during its construction\*) will give rise to no possible interference with this flight path (which is the nearest flight path to the Barrington Tower site). [\* See paragraph 7.1 on the following page, regarding cranes during construction.]

## 7. Other Aviation Considerations

### 7.1 Cranes during Construction

The highest element of any development is usually the crane/s used during its construction, and S.I. 215 of 2005 – *Irish Aviation Authority (Obstacles to Aircraft in Flight) Order* requires that prior notification of the use of any crane/s be submitted, at least 30 days in advance, to the Irish Aviation Authority and to the relevant airport operator, in the event of any crane likely to be a temporary obstruction to aviation. At its highest, the proposed Barrington Tower development rises to ~30m above ground level (where ground level is at ~70m OD) i.e. it rises to just under 100m OD. We estimate that two overlapping tower cranes could require a further 30-40m in height above this (to topmost point of higher crane), so that overall highest elevation on the site could be at around 140m OD. With no aviation ‘obstacle limitation surface’ above the site, and with the nearest flight path above it at 3,000ft AMSL (i.e. 914m OD) – for an instrument approach to Runway 28 at Casement – we do not foresee that any crane notifications will be necessary. However an enquiry might be made to the IAA as to whether aviation warning lights should be provided on these cranes.

### 7.2 Navigational Equipment

The nearest aviation installation to the site is the Non-Directional Beacon on Killiney Hill [‘KLY NDB’] (as indicated opposite >, and as included on the charts on pages 5 & 7 above), and a ‘Building Restricted Area’ applies around this NDB. ICAO document EUR DOC 015 indicates that an assessment should be made for any new development within a radius of up to 1km of an NDB installation, as to possible interference with NDB radio waves. This NDB at Killiney is at more than 4km from the Barrington Tower site [↗], so that no such assessment will be required.



### 7.3 External Lighting

As the site is at a substantial distance from any aerodrome or flight path, no special external lighting considerations vis-à-vis aviation should arise.

### 7.4 Solar /PV Panels

It is proposed that solar/photovoltaic panels will be installed on the roofs of the various blocks. However, as the site is at a substantial distance from any aerodrome or flight path, it is considered that a Glint & Glare study (in regard to aviation) will not be necessary.

## 8. SUMMARY

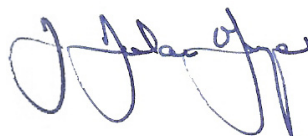
### 8.1 The Proposed Development in Relation to Aviation Considerations

The proposed Barrington Tower development at Brennanstown Road, Dublin 18 (which is located at 17.7km from Dublin Airport and 18.8km from Casement Aerodrome) —

- (i) lies outside the ‘obstacle limitation surfaces’ for these aerodromes, and for any airport or aerodrome; and
- (ii) lies substantially lower than the instrument approach path to Casement Aerodrome’s Runway 28 (the nearest flight path to the site), and is clear of all other flight paths; and
- (iii) is at 4km distance from the aviation Non-Directional Beacon on Killiney Hill, and therefore outside the distance requiring assessment as to potential NDB radio wave interference; and
- (iv) complies fully with all other potential aviation-related considerations.

### 8.2 Overall

We consider that the proposed residential and mixed use neighbourhood centre at Barrington Tower, Brennanstown Road, Dublin 18, complies fully with all aviation and aeronautical considerations and requirements affecting the site.



J. Declan O'DWYER B.ARCH MBA RIBA  
28<sup>th</sup> March 2022  
*O'Dwyer & Jones Design Partnership*  
*Aviation Planning Consultants, Dublin*

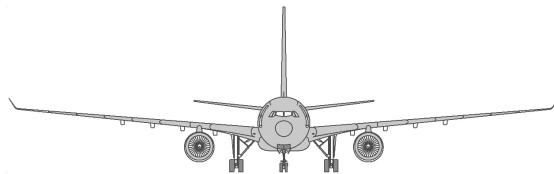
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