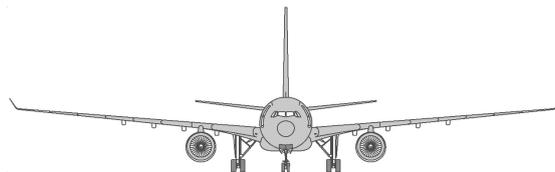


AERONAUTICAL ASSESSMENT REPORT

**FOR
SHD DEVELOPMENT AT
COOLAGAD, GREYSTONES
COUNTY WICKLOW**

**FOR
CAIRN HOMES PROPERTIES LTD.**

FEBRUARY 2022



**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.*

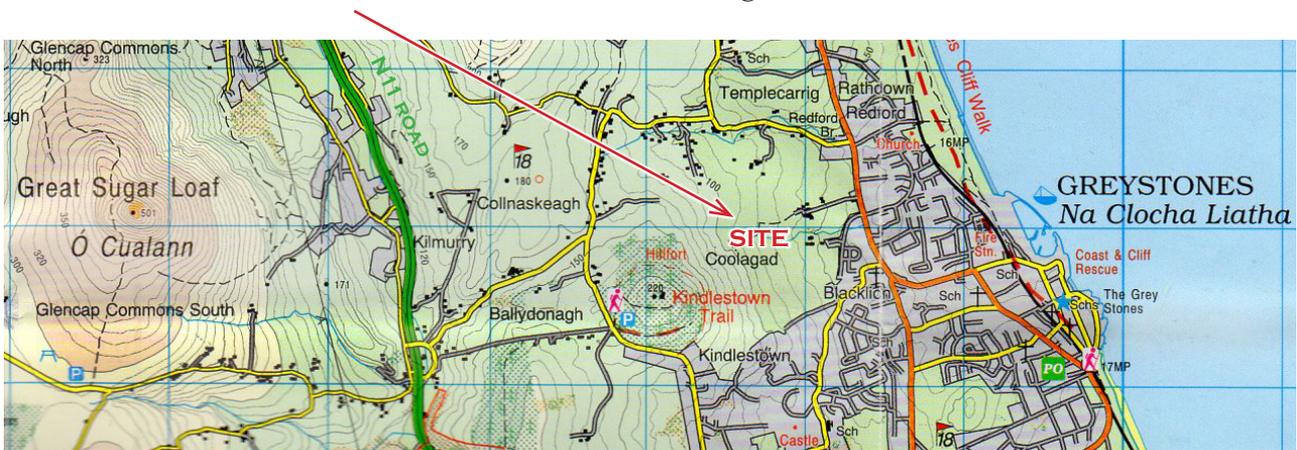
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1. Scope of Report and Location of the Site

1.1 This report assesses the aviation impact of a proposed development of 586 residential units on a site of 26.03 hectares approx. at Coolagad, Greystones, Co. Wicklow (at around 1km west of Greystones harbour and around 2km from Greystones railway station). The site is outlined in red on the aerial view below:



1.2 The site's location in relation to N11 road and Sugar Loaf mountain is indicated below:

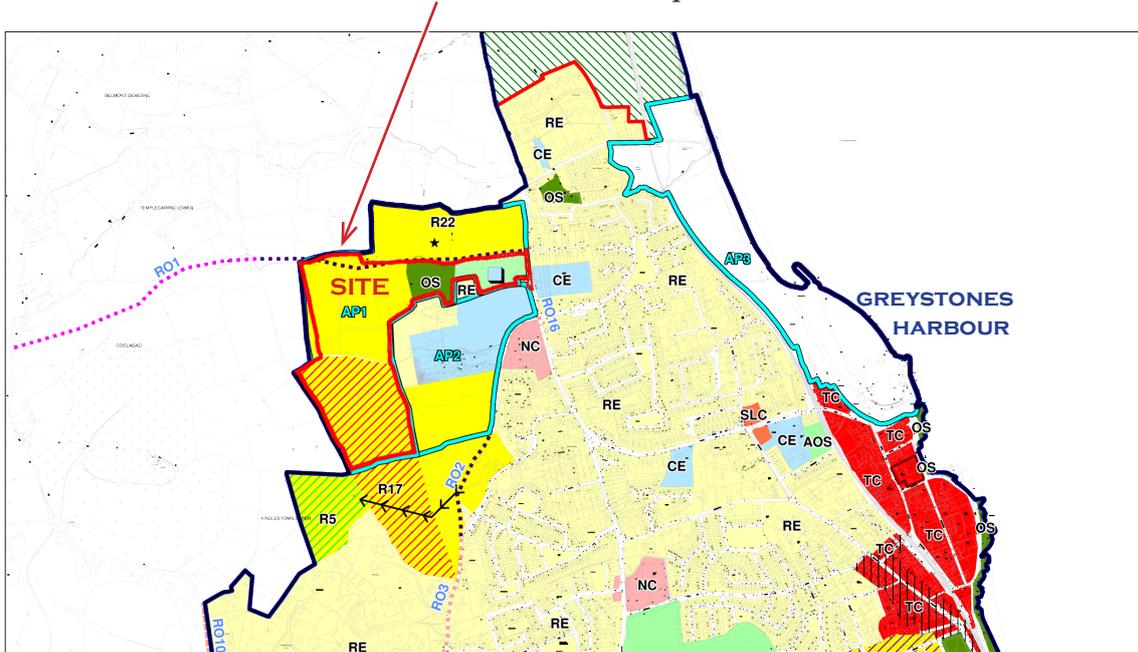


2. Relevant Parts of the Wicklow County Development Plan 2016-2022

2.1 Site Zoning in the Greystones-Delgany & Kilcoole LAP

Below is an extract from the Greystones-Delgany & Kilcoole LAP 2013-2019, in which the site, within the Greystones LAP & Settlement Boundary, is shown zoned Residential ('R' yellow), Open Space ('OS' dark green), Community and Education ('CE' light blue), and Active Open Space (light green).

[The site is shown outlined in red in the LAP map extract below.]



2.2 References to Aviation in the Wicklow CDP 2016-2022

Within Chapter 9 “Infrastructure” the Wicklow County Development Plan contains the following references to Aviation, including an Aviation Objective TR40:

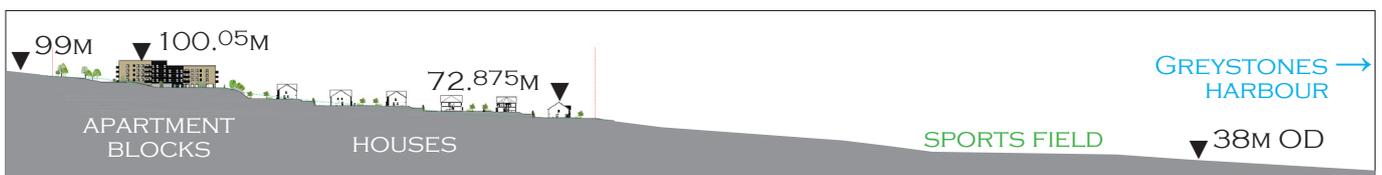
Wicklow County Development Plan 2016-2022	
Wicklow currently has a number of small aerodrome and air strips, whose function is principally recreation rather than transport. However, it is considered that there may be possibilities for the development of this sector, given the proximity of the County to the major population base of Dublin and the availability of coastal areas, which may be suitable for landing strips.	
Ports, Harbours, Marinas and Aviation Objectives	
TR38	To promote and facilitate through appropriate transport planning and land-use zoning the expansion of port activities at Wicklow and Arklow. In particular, to provide for a Port Access Road at Arklow.
TR39	To promote and facilitate through appropriate transport planning and land-use zoning the expansion or development of recreational facilities and marinas at Bray, Greystones, Wicklow and Arklow harbours.
TR40	To facilitate the development of the aviation sector, in particular aerodromes and air strips within the County, subject to clear demonstration of the need and viability of such developments and due regard to environmental and residential impacts of such development, particularly on the coastal area.

3. Layout and Elevations OD of the Proposed Development

3.1 Below to approx. scale 1:5,000 is a site layout plan of the proposed development which consists of 586 residential units (351 houses, 203 apartments, and 32 duplex units) on a site of c.26.03 ha. at Coolagad, Greystones. The development also includes provision of a community building, a crèche, a sport field, and a multi-use games area.



Ground levels rise by ~62m (from east to west) across the site: elevations-OD of the ground and of the tops of proposed elements are indicated above and below.

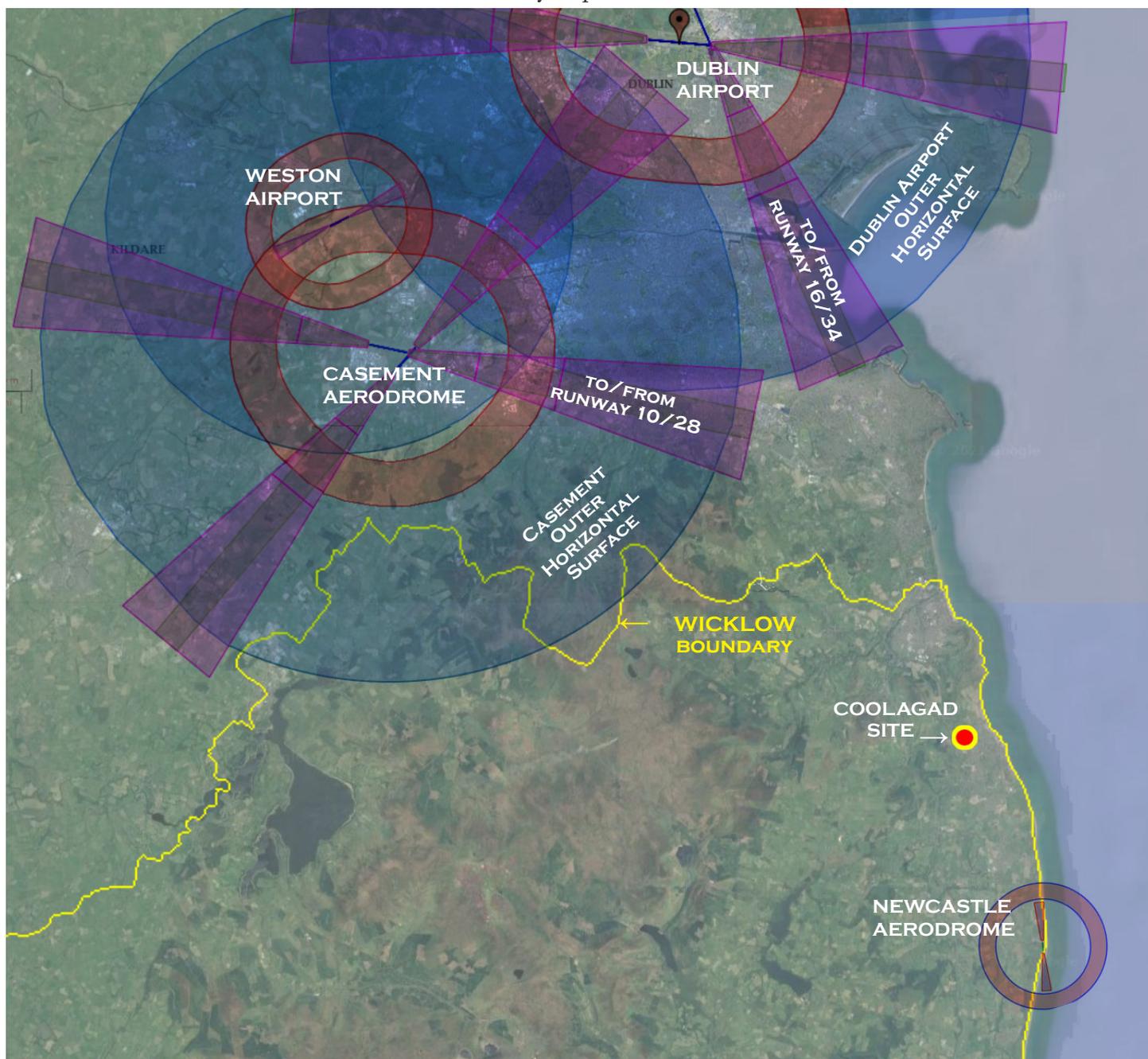


SITE PLAN & SECTION OF PROPOSED DEVELOPMENT
SCALE 1:5,000 APPROX.

4. Aerodromes & Airports in and around County Wicklow

4.1 Below is a diagram (based on IAA 'Asset' data) of the nearest 'Obstacle Limitation Surfaces' to the site. These are for: Weston Airport (at 34km from the site), Dublin Airport (at 31km), Casement Aerodrome (at 28km), and Newcastle Aerodrome – the nearest aerodrome (at 8.5km). [Powerscourt airfield, at 7km from the site, is disused since 2010 and not included]. *In this diagram the location of the Coolagad site is indicated by the red+yellow dot, and an outline of Wicklow is included in yellow.*

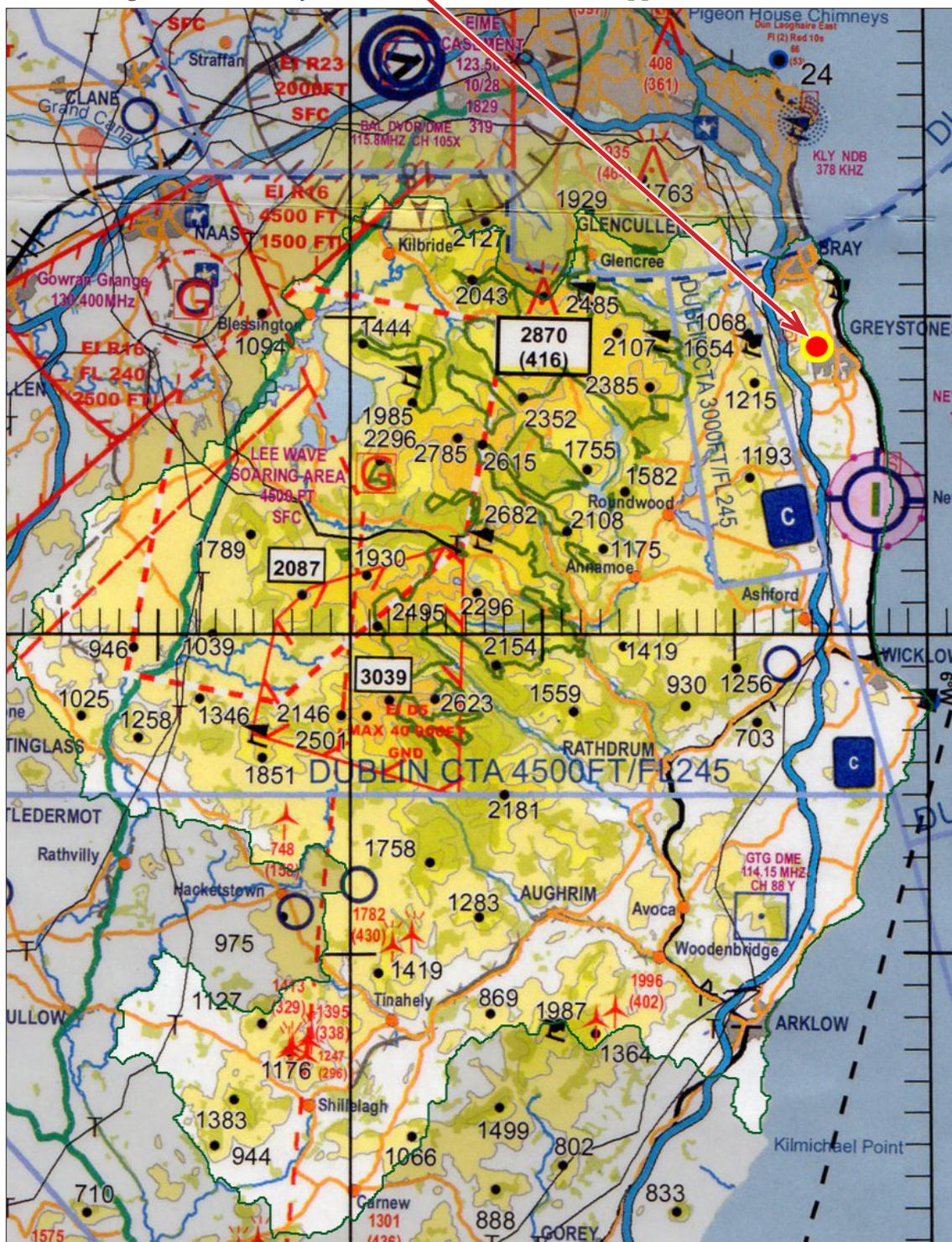
It can be seen that the Coolagad site is very well clear of all aerodromes, and of all 'obstacle limitation surfaces' for any airport/aerodrome within or outside Wicklow.



5. Aeronautical Chart of the Wicklow Area and Nearby Aerial Activities

5.1 Below is an extract from the ICAO 1:500,000 Aeronautical Chart of Ireland published in 2021 by the Irish Aviation Authority, showing all of the Wicklow area (with its surroundings tinted in added grey). This chart is intended for use by general air traffic operating under visual meteorological conditions.

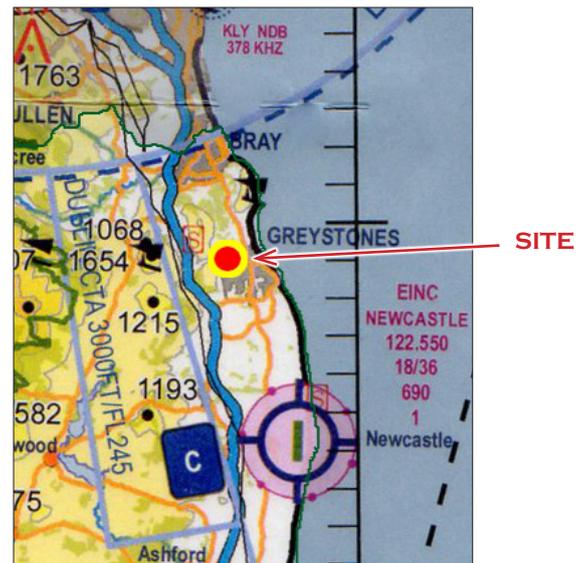
Coolagad is indicated by the red arrow. Aerodromes appear in the chart as circles.



5.2 In the chart on the previous page, it can be seen that there are three aerodromes within Wicklow: there is a licensed aerodrome at Newcastle, located 8.5km south of the site (which has a 690m grass runway, and its own air traffic control area – indicated in pink); and the chart (on previous page) shows two unlicensed private airfields much farther away – one south of Ashford, and one west of Aughrim.

None of these airfields is affected in any way by the proposed development.

5.3 The pale blue outlines in the chart on the previous page (and in this extract opposite >) show that the Dublin Airport Control Area extends (at a high level) above the Coolagad site. This control area reaches from 2500ft amsl (/760m OD) to 24,500ft amsl approx. (/7,500m OD approx.). Another higher part of the Dublin control area (the blue rectangle opposite >) lies above the Sugarloaf mountain and starts at 3000 ft amsl (/910m OD).



These aviation control areas, at high levels, (and marked: **C**) are wholly unaffected by the proposed development, whose highest element reaches just 100.05m OD.

5.4 The chart also indicates the locations of Aerial Sporting & Recreational Activities in and around Wicklow, of which the nearest to the site are two hang-gliding/para-gliding locations – one at 3.5km to the north (on Bray Head), and one at 3.83km to the west (on the Sugar Loaf mountain, to the other side of the N11 dual carriageway). These hang-gliding sites are marked on the IAA chart by the symbol:

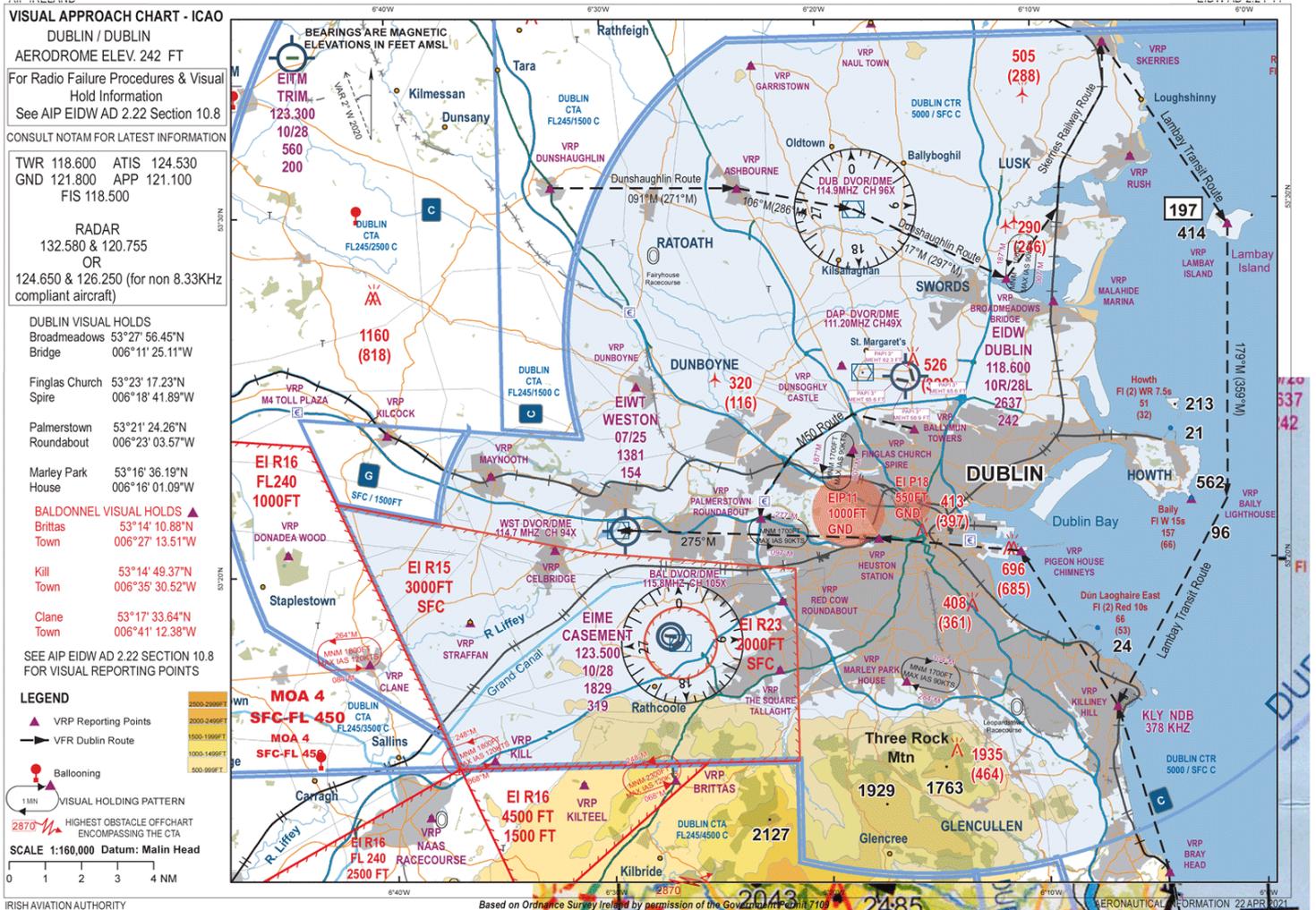
In the ‘AIP-Ireland’ the Irish Aviation Authority states that hang-gliding activity may occur within a radius of 1 nautical mile (1.85km) from Bray Head, and a radius of 2 nautical miles (3.7km) from coordinates on the Sugar Loaf mountain:

Hang Gliding Sites & Para Gliding			
Designation and Lateral Limits	Vertical Limits	Operator User No.	Remarks
Sugar Loaf 2NM radius centred on 530912.4N 0060904.6W	2500ft AMSL	URL: www.ihpa.ie Email: committee@ihpa.ie	County Wicklow

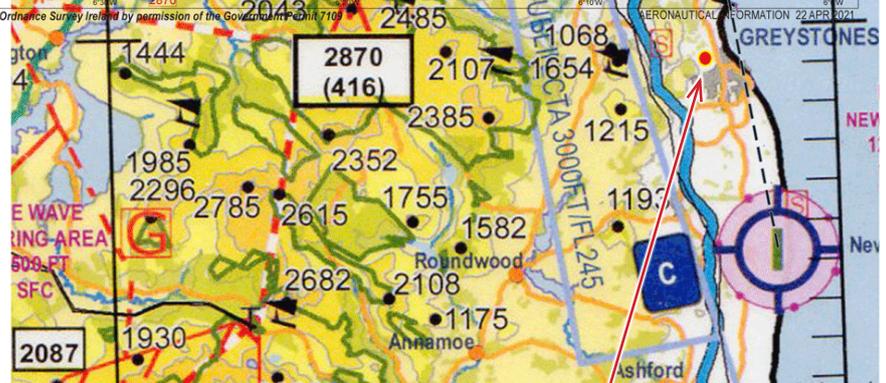
The Coolagad site (at 3.5km from Bray Head) lies well outside the 1.85m radius of potential hang-gliding/para-gliding activity from Bray Head. At 3.83km distance from the Sugar Loaf mountain coordinates, the Coolagad site lies 130m outside the area of potential hang-gliding/para-gliding activity from the Sugar Loaf mountain, and would not affect (or be affected by) these or any other aerial sporting/recreational activity published in the AIP by the Irish Aviation Authority.

6. The Site in Relation to Flight Paths and Other Aviation Considerations

6.1 The upper part of the image below is Dublin Airport's current Visual Approach Chart EIDW AD 2.24-44, to which an extract from the current IAA Aeronautical Chart of Ireland is added (to include the Coolagad site just outside the Dublin chart).



6.2 The location of the Coolagad site is indicated by an added red dot; and the VFR [visual flying] route between Newcastle Aerodrome and the 'reporting point' [▲] at Bray Head is marked as a dashed black line ---.

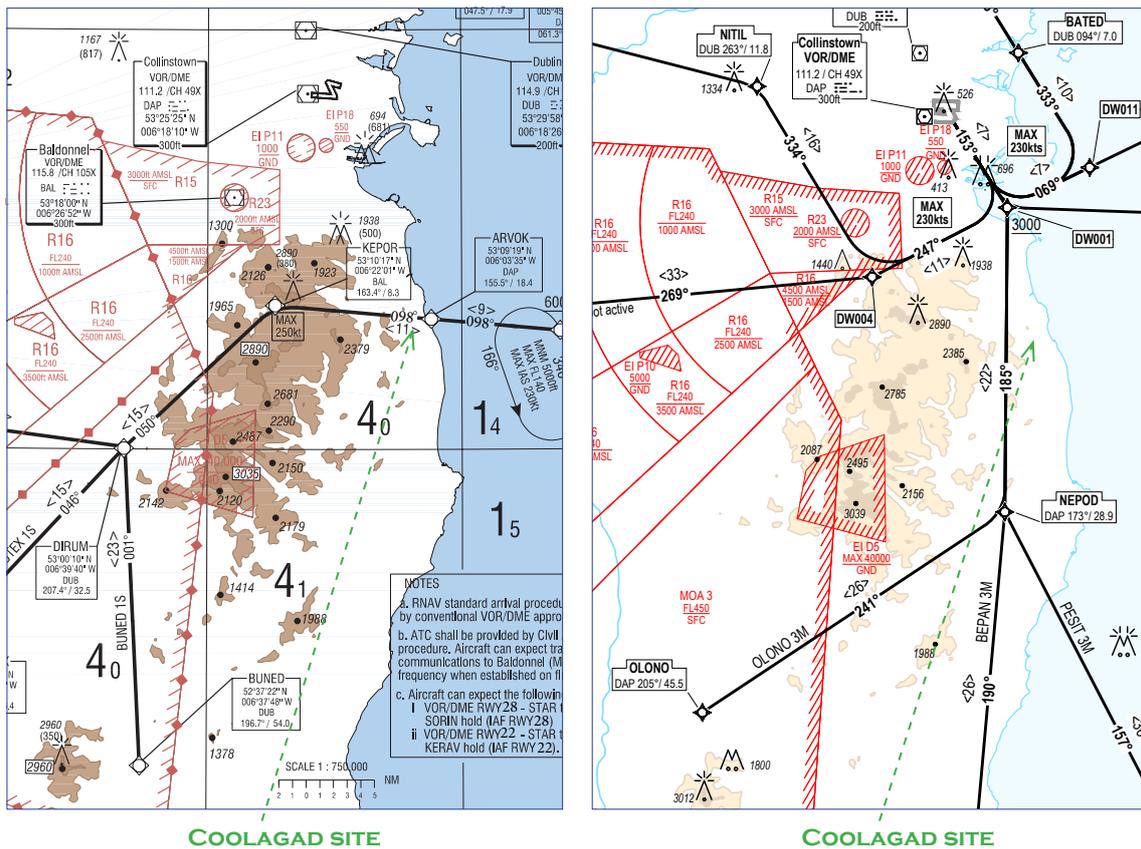


6.3 This visual flying route between Newcastle and Bray Head (at 1,000ft /300m minimum above ground level) is the nearest flight path to the Coolagad, and it is comfortably clear of the site (by more than 2km) and unaffected by the proposed development.

COOLAGAD SITE

6.4 High-level flight paths above the Greystones area appear on two ‘Instrument’ Charts: The extract below on the left is from Casement Aerodrome’s RNAV Standard Arrival Chart EIME_24-29 showing routes at minimum altitude 5000ft amsl/OD (in which the waypoint ‘ARVOK’ is above Greystones harbour).

The extract on the right is from Dublin Airport’s RNAV Standard Departure Chart EIDW_24-19.1 (in which a flight path rises from 3,000ft amsl/OD to 5,000 ft amsl/OD above the nearby Sugarloaf mountain).



6.5 The flight paths in the vicinity of the Coolagad site are at high altitudes (above 3,000 feet) because they pass over (and near) mountainous terrain with ground levels and obstacles rising to 2,870 ft above mean sea level [875m OD]. Consequently the proposed development (whose highest element – an apartment block roof – is at 100.05m OD) cannot affect these flight paths.

6.6 And because these flight paths in the vicinity are at high altitudes, any solar/PV panels on the apartment roofs, and any normal external lighting on the site, will have no adverse effects on aviation, and cranes on the site during construction will not extend to a height that could affect obstacle clearance altitudes.

6.7 There is no aviation navigational equipment in the vicinity of the Coolagad site. The nearest ‘Navaid’ is the ‘Non-Directional’ Beacon on Killiney Head [‘KLY NDB’], at 12.75km to the north (which appears in the charts on pages 6 & 8 above). This distance is considerably farther than the 1km distance within which assessment for potential interference with this beacon’s radio waves might arise.

7. SUMMARY

7.1 The Proposed Development in Relation to Aviation Considerations

The proposed development at Coolagad, Greystones (located at 31km from Dublin Airport, at 28km from Casement Aerodrome, and at 8.5km from Newcastle Aerodrome in County Wicklow) —

- (i) lies outside all ‘obstacle limitation surfaces’ for these aerodromes, and for any airport or aerodrome; and
- (ii) lies clear of all ‘visual’ or ‘instrument’ flight paths in its vicinity, which are at considerably greater altitudes; and
- (iii) is at 12.75km from the nearest aviation ‘Navaid’ – the Non-Directional Beacon on Killiney Hill – and is therefore well outside the distance requiring assessment for possible radio wave interference; and
- (iv) lies outside all areas in which aerial recreational activities might occur – the nearest being the hang-gliding/para-gliding location at the Sugar Loaf mountain; and
- (v) complies fully with all potential aviation-related considerations.

7.2 Overall

We consider that the proposed residential development at Coolagad, Greystones, County Wicklow, complies fully with all aviation and aeronautical considerations and requirements affecting the site.



J. Declan O'DWYER B.ARCH MBA RIBA
14th February 2022
O'Dwyer & Jones Design Partnership
Aviation Planning Consultants, Dublin

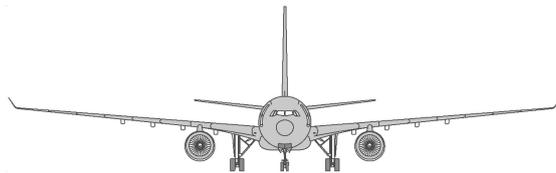
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WWW.AVIATIONPLANNING.IE

E.: ADMIN@AVIATIONPLANNING.IE / DESIGNPARTNERS@IOL.IE

J. D. O'DWYER B.ARCH MBA RIBA

S. JONES MA



O'DWYER & JONES DESIGN PARTNERSHIP
AVIATION PLANNING & ARCHITECTURE CONSULTANTS
28 LEESON PARK • DUBLIN 6 • TEL.: 353-1-498 1893 [FAX: 353-1-496 4410]

WWW.AVIATIONPLANNING.IE

E.: ADMIN@AVIATIONPLANNING.IE / DESIGNPARTNERS@IOL.IE

J. D. O'DWYER B.ARCH MBA RIBA

S. JONES MA