

UAVE Ltd

Airspace Change

ACP-2022-025

UAS BVLOS

in Segregated Airspace

Targeted Aviation

Stakeholder Engagement

Version 1

Dated: 29th November 2022

Amendment record

Issue	Amendment	Date
V1.0	Initial Issue	29/11/2022

This document is controlled by the Change Sponsor (UAVE Ltd - UAS Operator). The initial release version and any subsequent revision will be subject to the approval of the UAS Operator. Amendments to this document will be recorded in the Amendment Record. For reference, a copy of this version and all superseded versions will be stored on a secure server.

If this document is updated following meetings with the Civil Aviation Authority (CAA) or for any other reason, the UAS Operator as Change Sponsor will publish a new version on the CAA Airspace Change online portal for all to see. This is to enable the CAA to refer to the correct version if it needs to publish a determination of whether an airspace change is a relevant option to investigate.

Referenced documents

Document	Version	Version & Date	Source
CAP 1616	Airspace Change – Guidance on the regulatory process for changing the notified airspace design and planning and planned and permanent redistribution of air traffic, and on providing airspace information	Version 4.0 March 2021	CAP 1616

Acronyms and abbreviations

ACP	Airspace Change Proposal
AMSL	Above Mean Sea Level
ATC	Air Traffic Control
BVLOS	Beyond Visual Line of Sight
CAA	Civil Aviation Authority
CAP	Civil Aviation Publication
DAAIS	Danger Area Activity Information Service
FL	Flight Level
FREQ	Frequency
HRS	Hours
NOTAM	Notice to Airman
Ltd	Limited
SFC	Surface
SUA	Small Unmanned Aircraft
TBD	To Be Determined
TDA	Temporary Danger Area
TEL	Telephone
UAS	Unmanned Aircraft System

1 Introduction

UAVE Ltd (the change sponsor) is seeking a temporary airspace change to support its 2 week-long fixed wing Unmanned Aircraft System (UAS) airborne geophysical survey in the Dolgellau area of Wales between 2 May 2023 and 30 July 2023.

The Airspace Change process, CAA CAP 1616, mandates that all airspace change – temporary or permanent – can only be requested and implemented once due consideration has been given to the possible positive and negative impacts of the change on other airspace users.

Following an Assessment Meeting with CAA Airspace Regulation to discuss UAVE Ltd's Statement of Need, it was agreed that to facilitate safe UAS Beyond Visual Line Of Sight (BVLOS) operations a Temporary Danger Area (TDA) would be required, the proposals for which would be subject to a targeted aviation stakeholder engagement exercise. For this BVLOS survey the UAS will be operated in the Specific category and be equipped with an ADS-B Out transponder providing Electronic Conspicuity for the benefit of third parties however this does not equate to a full detect and avoid capability.

The Statement of Need and the minutes of the Assessment Meeting can be downloaded from the CAA Airspace Change Portal, <https://airspacechange.caa.co.uk/>, by searching under Airspace Change ID:

ACP-2022-025.

The requested TDA complex has been split into two conjoined areas TDA ALPHA and TDA BRAVO. TDA ALPHA delimits the core survey area when combined with the existing danger area EGD217E. TDA BRAVO provides a transit corridor to Talybont Airfield. The remaining EGD217 complex provides a transit corridor to Llanbedr Airfield.

The proposed TDA complex (TDA ALPHA and TDA BRAVO) is within Class G airspace. UAVE expect the majority of current flights in this area to be recreational and be undertaken on evenings and at weekends. To mitigate the effect on other airspace users UAVE's proposal is to activate the TDA only between 8am and 6pm local time (or ATC or daylight hours if either are shorter) and only on weekdays (Monday to Friday) leaving the weekends free of any additional flight restrictions. Whilst the TDA complex duration is requested for 90 days, the UAS operations are only expected to take 2 weeks (10 working days) and the TDA will only be activated, by NOTAM, on active UAS flying days to minimize the impact of this temporary airspace change on other airspace users.

Safe vertical separation

The survey task is for the aircraft to fly at an altitude of between 150-500ft above the surface. Allowing for a minimum 500ft vertical separation between the UAS and any other air traffic gives a required segregated airspace height for the TDA Complex of 1000ft above surface level. Given that the maximum height of the surface within the proposed TDA ALPHA is Y Llethr Mountain at 2,479ft AMSL (756m) (Latitude 52°48'44.40"N, Longitude 3°59'18.14"W) the safe ceiling height for TDA ALPHA will be 3,500ft AMSL (FL035) Given that the maximum height of the surface within the proposed TDA BRAVO is Braich Ddu Mountain at 1791ft AMSL (546m) (Latitude 52°41'23.13"N, Longitude 4°0'15.18"W) the safe ceiling height for TDA BRAVO will be 2,800ft AMSL (FL028)

Safe lateral separation

UAS operations within the proposed TDA complex will remain wholly within the bounds on the TDA complex and come no closer than 500m to any outside edge to maintain safe lateral separation with any other air traffic.

2 UAVE Ltd's change proposals

2.1 Segregated airspace

UAVE Ltd requires a volume of segregated airspace within which to safely execute its operations and presents the following proposed airspace design to local airspace users:

Identification and Lateral Limits			Upper Limit Lower Limit	Remarks
1			2	3
TDA 1: TDA ALPHA Survey Area (Green Polygon)			Lower Limit: SFC Upper Limit: 3500 ft AMSL (FL035)	Activity: UAS Beyond Visual Line of Sight (BVLOS) Hours (LOCAL): 08.00-18.00 DAAIS: TBD FREQ: TBD TEL: UAVE Ltd Flight Crew Sponsor: UAVE Ltd
#	Latitude	Longitude		
1	52 38 23.90894 N	4 10 6.84312 W		
2	52 42 27.4807 N	3 59 51.37051 W		
3	52 50 30.38107 N	3 39 31.20043 W		
4	52 54 16.3856 N	3 39 6.84067 W		
5	52 50 52.78236 N	4 0 35.55943 W		
6	52 50 46.30772 N	4 0 28.7199 W		
7	52 50 28.9252 N	4 0 13.49476 W		
8	52 50 10.97471 N	4 0 0.18968 W		
9	52 49 52.53383 N	3 59 48.86151 W		
10	52 49 33.68221 N	3 59 39.55849 W		
11	52 49 14.50128 N	3 59 32.32005 W		
12	52 48 55.07384 N	3 59 27.17668 W		
13	52 48 35.48374 N	3 59 24.1498 W		
14	52 48 15.81549 N	3 59 23.25167 W		
15	52 47 56.1539 N	3 59 24.48537 W		
16	52 47 36.58374 N	3 59 27.84478 W		
17	52 47 17.18932 N	3 59 33.31462 W		
18	52 46 58.05421 N	3 59 40.87057 W		
19	52 46 39.26079 N	3 59 50.47933 W		
20	52 46 20.88995 N	4 0 2.09881 W		
21	52 46 3.02076 N	4 0 15.67832 W		
22	52 45 45.73007 N	4 0 31.15879 W		
23	52 45 29.09224 N	4 0 48.47304 W		
24	52 45 13.17878 N	4 1 7.54608 W		
25	52 44 58.05809 N	4 1 28.29542 W		
26	52 44 43.79512 N	4 1 50.63144 W		
27	52 44 30.45112 N	4 2 14.45782 W		
28	52 44 18.08341 N	4 2 39.67187 W		
29	52 44 6.74507 N	4 3 6.16505 W		
30	52 43 56.48476 N	4 3 33.82339 W		
31	52 43 47.34651 N	4 4 2.52801 W		
32	52 43 39.36952 N	4 4 32.15559 W		
33	52 43 32.59 N	4 5 2.58001 W		
1	52 38 23.90894 N	4 10 6.84312 W		

Identification and Lateral Limits			Upper Limit Lower Limit	Remarks
1			2	3
TDA 2: TDA BRAVO Talybont (Orange Polygon)			Lower Limit: SFC Upper Limit: 2800 ft AMSL (FLO28)	Activity: UAS Beyond Visual Line of Sight (BVLOS) Hours (LOCAL): 08.00-18.00 DAAIS: TBD FREQ: TBD TEL: UAVE Ltd Flight Crew Sponsor: UAVE Ltd
#	Latitude	Longitude		
1	52 42 27.4807 N	3 59 51.37051 W		
2	52 38 23.90894 N	4 10 6.84312 W		
3	52 35 22.38574 N	4 9 58.03486 W		
4	52 35 38.55655 N	3 59 33.12768 W		
1	52 42 27.48323 N	3 59 51.36933 W		

FIGURE 1 REGIONAL VIEW OF PROPOSED AIRSPACE DESIGN

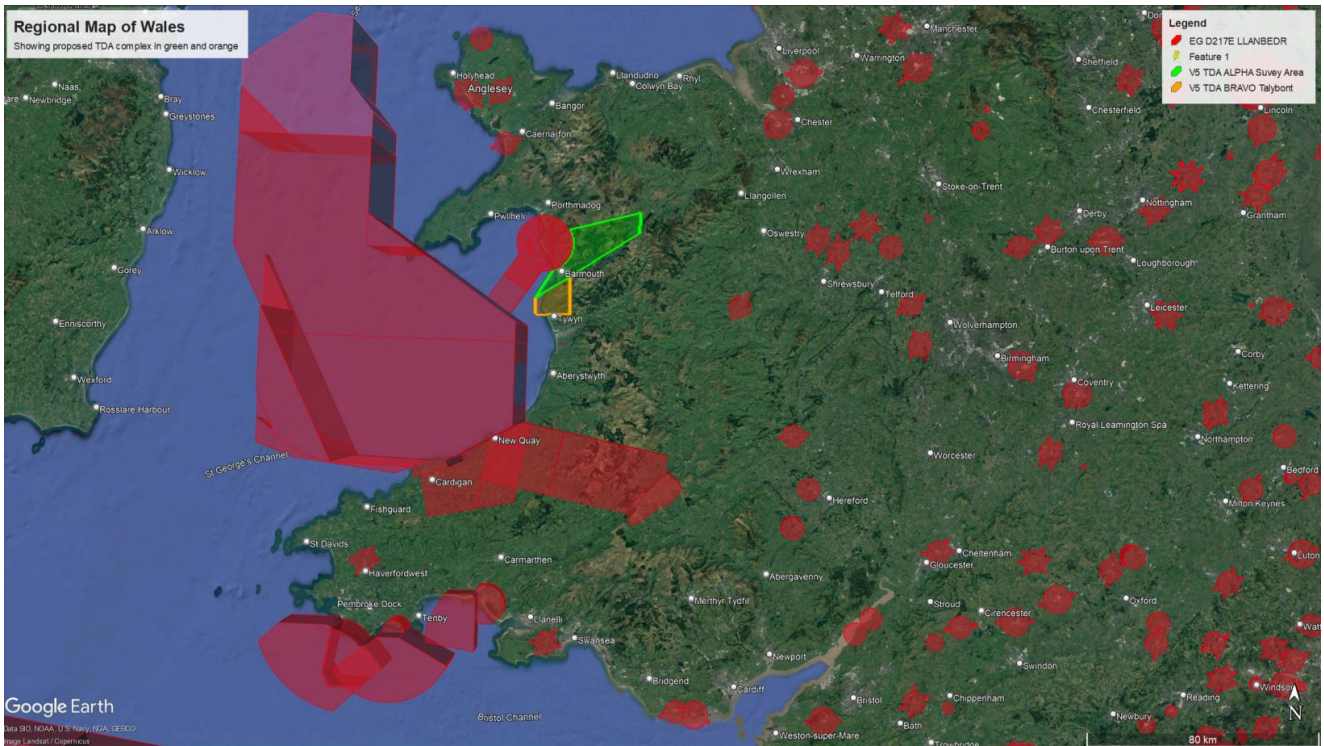


Figure 1: Requested TDA Complex, TDA ALPHA (green polygon), TDA BRAVO (orange polygon), Existing Danger Areas (red polygons)

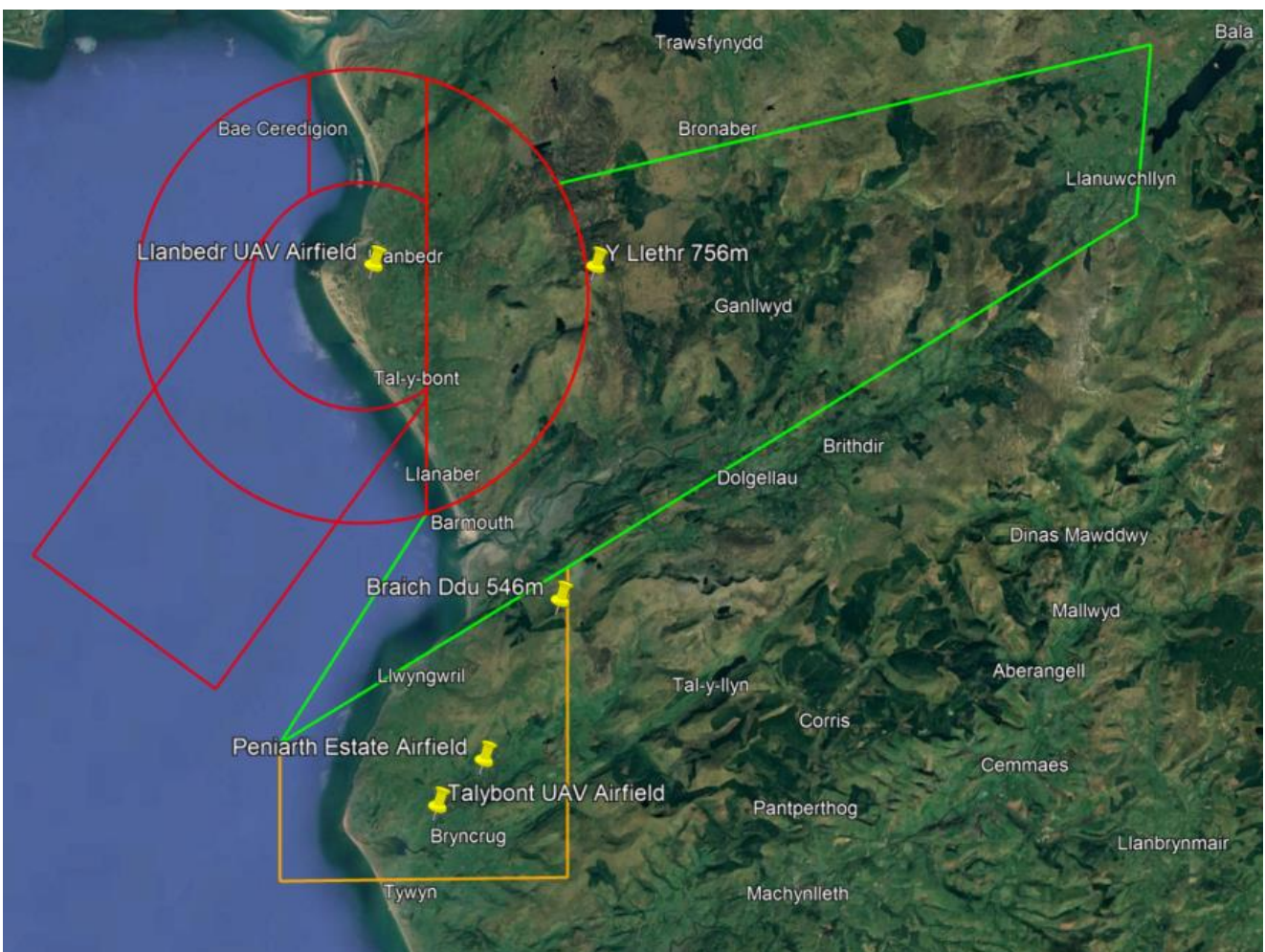


Figure 2: Zoom of Requested TDA Complex – TDA ALPHA (green polygon) and TDA BRAVO (orange polygon) along with Existing Danger Area EGD217 Complex (red polygons)

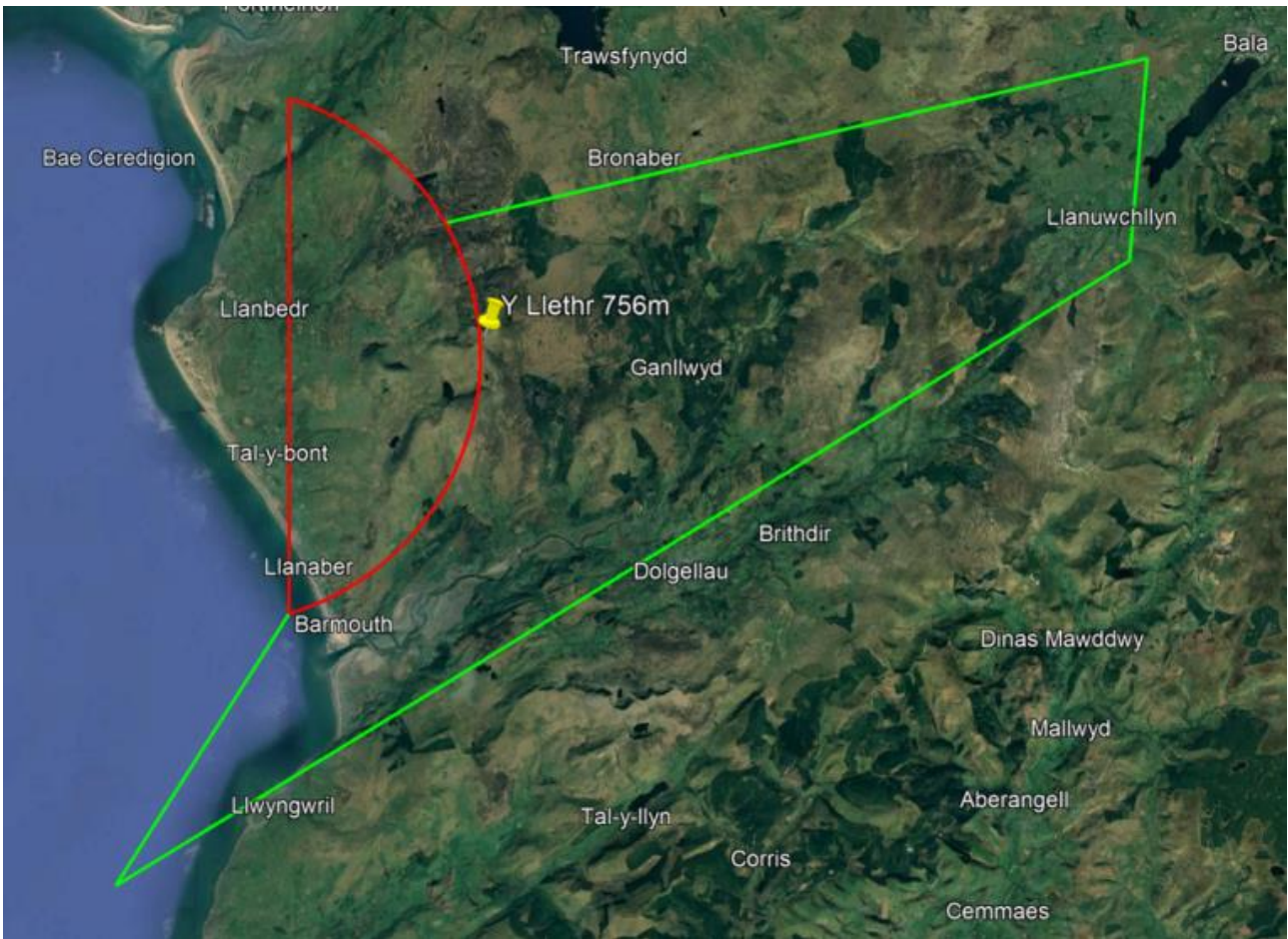


Figure 3: Requested TDA Complex covering survey areas – TDA ALPHA (green polygon) along with Existing Danger Area EGD217E (red polygon)

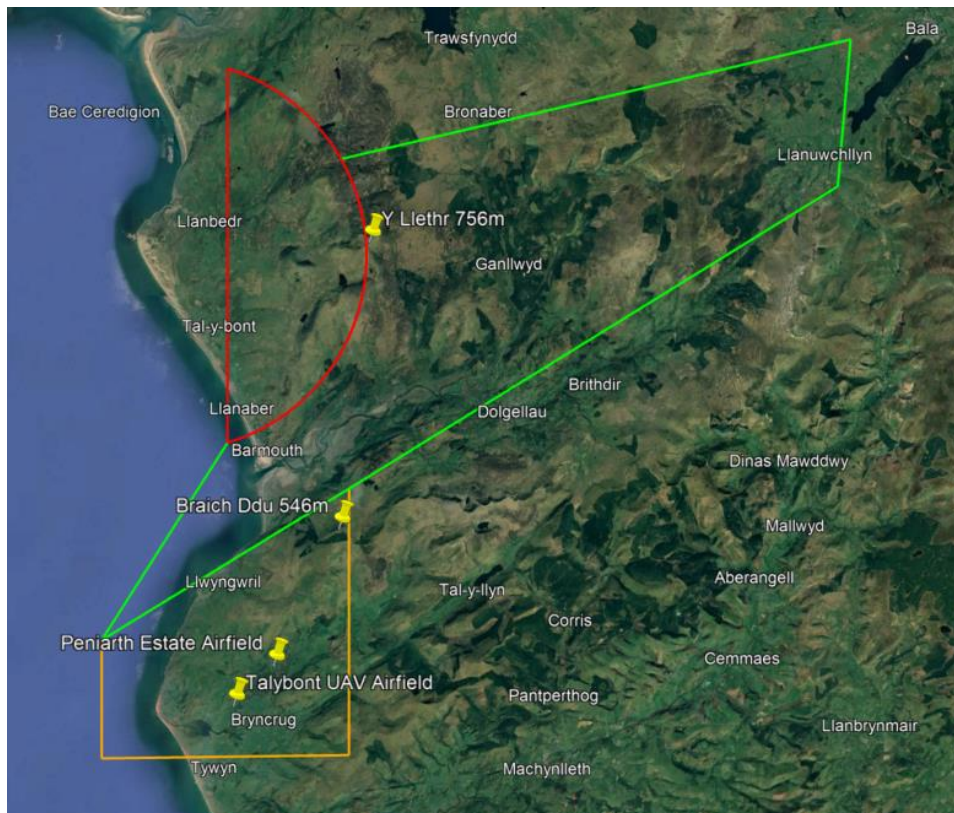


Figure 4: Requested TDA Complex for flight operations from Talybont – TDA ALPHA (green polygon) and TDA BRAVO (orange polygon) along with Existing Danger Area EGD217E (red polygon)

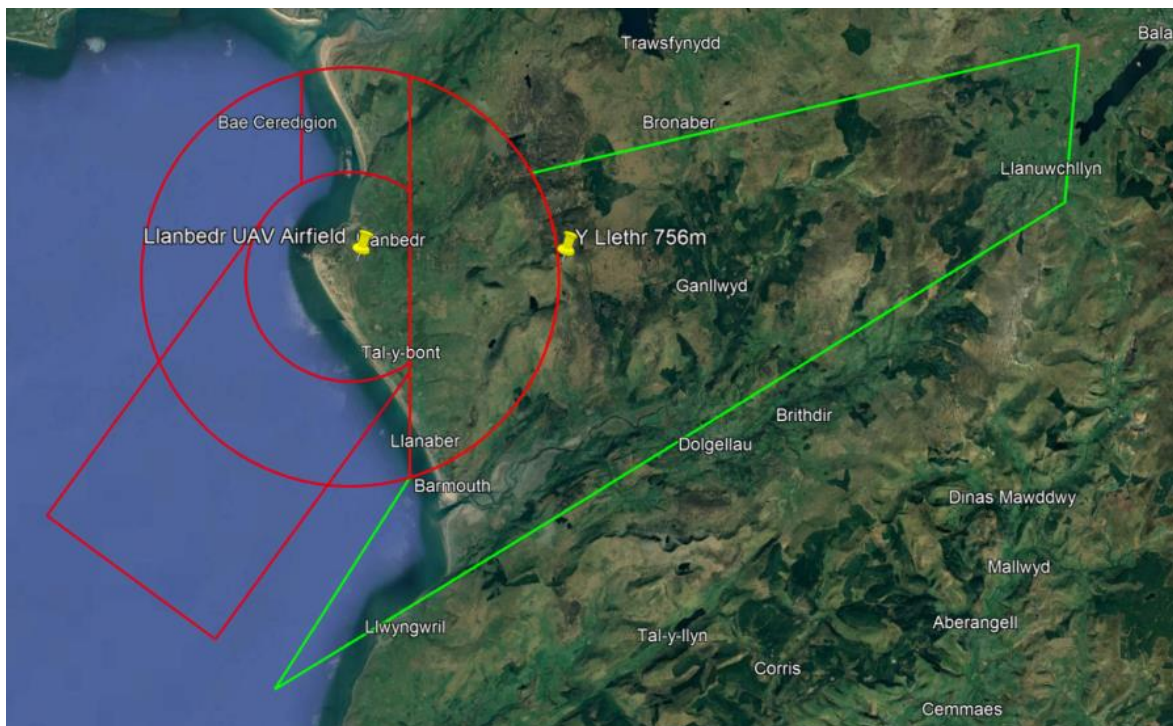


Figure 5: Requested TDA Complex for flight operations from Llanbedr – TDA ALPHA (green polygon) along with Existing Danger Area complex EGD217 (red polygons)

2.2 Notification

CAA Airspace Regulation will promulgate TDA activations by NOTAM for the period of planned use.

2.3 TDA activation

Date	Time
Monday to Friday only 2 May 2023 and 30 July 2023	Monday – Friday (inc. public holidays) 08.00-18.00 hrs Local Time (ATC hours) or daylight hours if shorter

UAS BVLOS operations are expected to take no more than 10 days (2 weeks Monday-Friday) during which time the TDA will be activated by NOTAM.

On days no activity is planned the TDA will not be activated.

The TDA is requested to be available for a 90 day period to enable efficient scheduling of the survey operations.