

CAELUS2

AYRSHIRE & ARRAN

ACP-2022-103

REVISED PROPOSAL

30 June 2023



CAELUS



PROJECTCAELUS.CO.UK



Introduction

Dear Stakeholder,

You are receiving this pack because your organisation was previously engaged regarding Beyond Visual Line of Sight drone flights and associated with temporary Airspace Change Proposal [ACP-2022-103](#) planned as part of CAELUS2 Future Flight Challenge project. The flight route this pack refers to has two legs, which connect a) University Hospital Crosshouse with the Arran War Memorial Hospital b) University Hospital Crosshouse with University Hospital Ayr.

We have revised our [original proposal](#) based on feedback received over the past weeks. Changes mostly relate to location of the Ayr-Crosshouse route, TDA segmentation, AMSL ceiling of the TDA segments and implementing weather restrictions to increase the airspace available to support the safe transit of all airspace users above the TDA.

We would really appreciate if you could review the revised key aspects of the proposed operations described in this pack and get back to us by Wednesday July 5th 2023 with any final thoughts and comments on the proposal. All information will be also regularly updated on the UK CAA [portal](#).

Kindly note, that further engagement activities will be undertaken to formalise the procedures, so that airspace users that might require access to the TDA will be able to get it quickly and efficiently. Most such procedures, however, will be covered by a letter of agreement between CAELUS2 and Prestwick Airport.

Kind regards,

Alex

On behalf of CAELUS2 FFC Project

UAV AIRCRAFT



SWOOP KITE

TYPE: EVTOL

MTOW: 25 KG

PAYLOAD: 4 KG

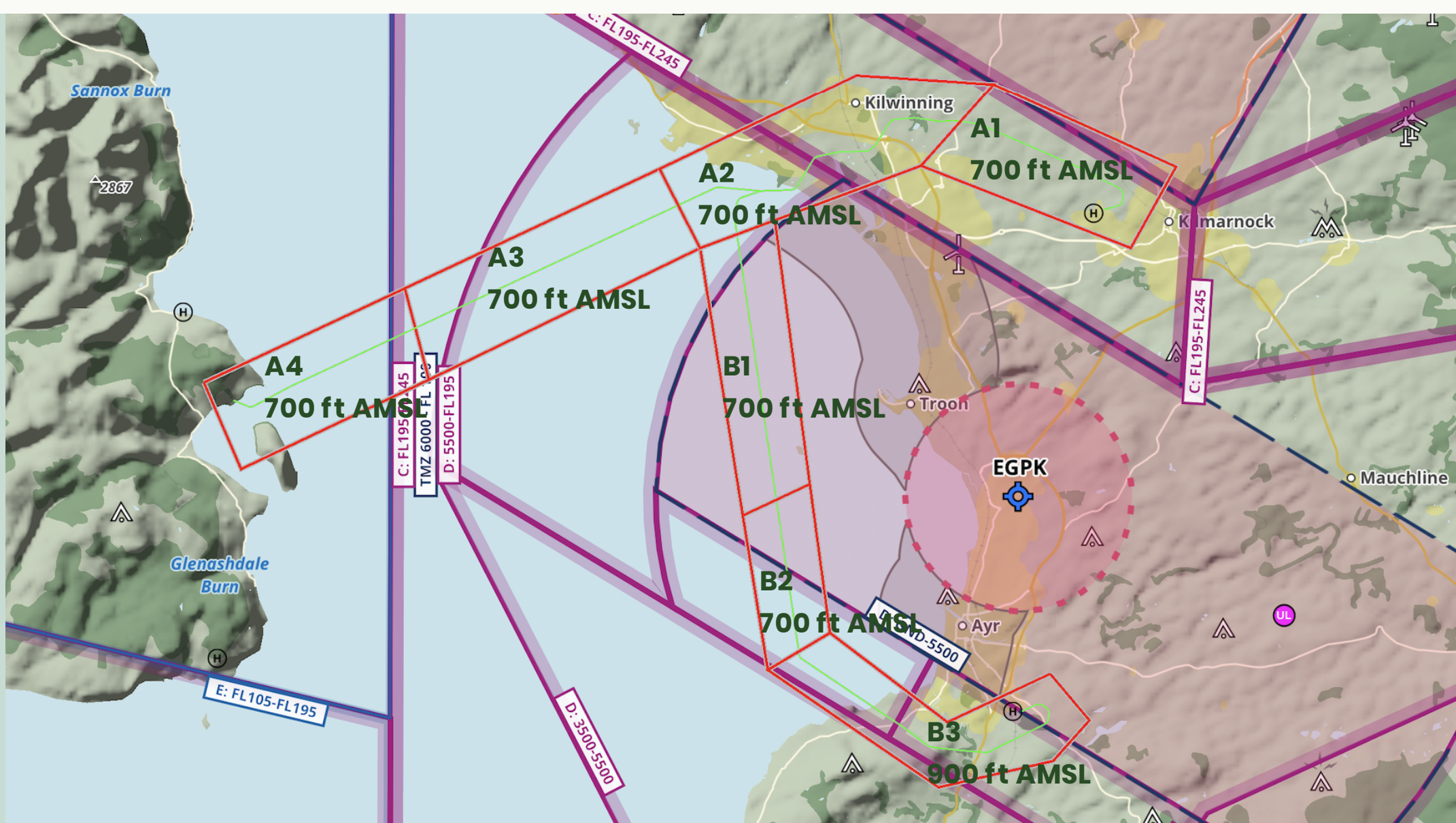
CRUISE: 66 KTS IAS

TYPICAL ALT: 400 FT AGL

RANGE: 225 KM

N2 (Ayrshire & Arran) ROUTE

<p>- DEP/ARR: UNIVERSITY HOSPITAL CROSSHOUSE</p>	<p>- ARR/DEP: ARRAN WAR MEMORIAL HOSPITAL - ARR/DEP: UNIVERSITY HOSPITAL Ayr</p>
<p>REQUIRED AIRSPACE AND DIMENSIONS</p>	<p>TSA + TDA: 2-4 km wide along the route from surface to ceiling of 700 ft AMSL for all segments except the TDA segment in the vicinity of University Hospital Ayr, which has 900 ft AMSL ceiling due to terrain.</p>
<p>REQUIRED WINDOW OF OPPORTUNITY</p>	<p>Operations to be conducted over 4 consecutive weeks once started. It is proposed that the 4 weeks will commence on the 22nd September 2023. However, for feedback purposes please consider any impact this proposal may have on your operations up to 22 December (still only 4 consecutive weeks). This will allow for any delay in the CAA approval process or mitigation for any significant operations identified during the engagement process. Final dates will be promulgated in the AIC.</p>
<p>ACTIVATIONS</p>	<p>Activation by NOTAM for short periods up to twice a day. See detailed proposed schedule on following slides.</p>



N2: Proposed Route + TDA on Airspace Map
KML could be downloaded using [Dropbox Link](#)

PROPOSED PERIODS OF ACTIVATIONS

	AM Activation		PM Activation	COMMENTS
WEEK 1	07:00-10:00 L	OR	13:00-16:00 L	<ul style="list-style-type: none"> - Only one period of flying with morning activation preferred (dependent on weather). Only one appropriate NOTAM with min 24 hours notice will be activated. - 3-6 one-way flights are expected to be completed (1-2 flights per hour). - Only one TDA route (A1-A2-A3-A4 or A1-A2-B1-B2-B3) will be activated.
WEEK 2	07:00-10:00 L	AND	13:00-16:00 L	<ul style="list-style-type: none"> - Afternoon activation will be planned in addition to the morning one - We will be aiming for 2 flights per hour by that point. - Only one TDA route (A1-A2-A3-A4 or A1-A2-B1-B2-B3) will be activated.
WEEK 3	07:00-11:00 L	AND	13:00-16:00 L	<ul style="list-style-type: none"> - Morning activation is increased from 3 to 4 hours. - Both TDA routes (A1-A2-A3-A4 and A1-A2-B1-B2-B3) could be active between 07:00-09:00, but only one route during other times.
WEEK 4	07:00-11:00 L	AND	13:00-17:00 L	<ul style="list-style-type: none"> - Both morning an evening activations are increased to 4h. - Both TDA routes (A1-A2-A3-A4 and A1-A2-B1-B2-B3) could be active for the whole duration of the morning OR afternoon activation (but only one route during the other activation period).
NOTE 1:	- Activation periods described above are maximum durations and could be reduced on particular days if not operationally required. As standard process for deactivating a NOTAM is not immediate - it will be possible to check status directly with the UAV operator via phone number or through ANSP mentioned on the NOTAM.			
NOTE 2:	- Contact details for information as to the activation status of the TDAs will be promulgated via the AIC. We are liaising with Prestwick as the ANSP in the local area and the most appropriate to provide a DACS. If a DACS cannot be provided, and this may occur for a number of reasons, then a DAIS from London Information would be provided.			
NOTE 3:	- Skyports will promulgate the TDA activation times and contact details of the Flight Operations Team by NOTAM at least 24 hours before the planned use.			

SUMMARY OF CHANGES

CHANGE/IMPORTANT UPDATES	DESCRIPTION
DACS	<p>We are engaging with ATC agencies regarding provision of Danger Area Crossing Service. This approach was particularly favoured by emergency services, and we continue to make best efforts. If a DACS cannot be provided, then a DAAIS would still be available. We will ensure that Scottish Information, or Prestwick are updated with the activity, particularly the cessation of any activity, to enable the area to be utilised by other airspace users.</p>
TDA SEGMENTATION	<p>We increased the number of segments for each route in order to allow for effective crossing of the TDA by means of Danger Area Crossing Service. So, aircraft are able to transit through "cold" segments of the TDA at any altitude, which is essential for emergency services, but could also be beneficial for other General Aviation.</p>
TDA CEILING	<p>Due to segmentation we were able to lower the ceiling of most TDA segments to 700 ft AMSL and only one segment in the vicinity of AYR (B3) will have ceiling for 900 ft AMSL due to terrain. Such change would particularly be helpful for GA pilots wishing to transit through class G corridor between Glasgow and Prestwick CTR.</p>
WEATHER LIMITATIONS	<p>We are committed to operate only in the conditions when Prestwick METAR reports OVC, BKN or SCT cloud base of at least 1500 ft and visibility of at least 1500m. That would ensure that traffic requiring transit above the TDA would be able to do so VFR and remain clear of cloud.</p>
AYR – CROSSHOUSE ROUTE	<p>What previously has been described as TDA C between Crosshouse and Ayr, now routes further away from Prestwick ATZ and initially coincides with A1-A2 segments. This way we were able to achieve lowering of the TDA ceilings as described above and reduce overall lateral size of the segregated airspace.</p>

How to Respond

ACP-2022-103

We would really appreciate if in your response to the original email thread with CAELUS2AIRSPACE@TRAXINTERNATIONAL.CO.UK you could confirm if:

- You have no objections to the proposal and any previously raised concerns are now resolved.
- Any issues arise from the revised proposal that were not a problem in the original proposal.
- Your organisation requires a detailed letter of agreement.

If you intend to respond - we kindly ask you to do so by COP Wednesday 5th of July 2023.



CAELUS

PRIMARY CONTACT



`CAELUS2AIRSPACE@traxinternational.co.uk`

Abbreviations

AGL	Above Ground Level
ATZ	Aerodrome Traffic Zone
BVLOS	Beyond Visual Line of Sight
CAT	Commercial Air Traffic
CTR	Control Zone
EVTOL	Electric Vertical Take off and Landing
FFC	Future Flight Challenge
FRZ	Flight Restriction Zone
GA	General Aviation
NATS	National Air Traffic Services
MTOW	Maximum Take Off Weight
RPAS	Remotely Piloted Aircraft System
UA	Unscrewed Aircraft
UAV	Unscrewed Aerial Vehicle
UKRI	UK Research and Innovation
SAS	Scottish Ambulance Service
TDA	Temporary Danger Area
TOLP	Take off and Landing Point
TSA	Temporary Segregated Area

TDA A1

Identification and lateral limits						
	Area bounded by straight lines joining:					
WP	Lat (N)	Lon (S)	Lat (N)	Lon (E)	Upper & lower limit	Remarks
1	55.6310748	-4.65705459	55° 37' 51.86" N	004° 39' 25.39" W	Lower: SFC Upper: 700ft AGL	Activity: UAS Beyond Visual Line of Sight (BVLOS) Hours: When notified Sponsor: AGS Airports
2	55.60074699	-4.52128887	55° 36' 02.68" N	004° 31' 16.63" W		
3	55.63041414	-4.49166531	55° 37' 49.49" N	004° 29' 29.99" W		
4	55.66093296	-4.60981854	55° 39' 39.35" N	004° 36' 35.34" W		

TDA A2

Identification and lateral limits						
	Area bounded by straight lines joining:					
WP	Lat (N)	Lon (S)	Lat (N)	Lon (E)	Upper & lower limit	Remarks
1	55.6299746	-4.82657487	55° 37' 47.90" N	004° 49' 35.66" W	Lower: SFC Upper: 700ft AGL	Activity: UAS Beyond Visual Line of Sight (BVLOS) Hours: When notified Sponsor: AGS Airports
2	55.60098615	-4.80030749	55° 36' 03.55" N	004° 48' 01.10" W		
3	55.6310748	-4.65705459	55° 37' 51.86" N	004° 39' 25.39" W		
4	55.66093296	-4.60981854	55° 39' 39.35" N	004° 36' 35.34" W		
5	55.66438857	-4.69884842	55° 39' 51.79" N	004° 41' 55.85" W		

TDA A3

Identification and lateral limits						
	Area bounded by straight lines joining:					
WP	Lat (N)	Lon (S)	Lat (N)	Lon (E)	Upper & lower limit	Remarks
1	55.6299746	-4.82657487	55° 37' 47.90" N	004° 49' 35.66" W	Lower: SFC Upper: 700ft AGL	Activity: UAS Beyond Visual Line of Sight (BVLOS) Hours: When notified Sponsor: AGS Airports
2	55.60098615	-4.80030749	55° 36' 03.55" N	004° 48' 01.10" W		
3	55.55271595	-4.97569105	55° 33' 09.77" N	004° 58' 32.48" W		
4	55.58612799	-4.99147945	55° 35' 10.06" N	004° 59' 29.32" W		

TDA A4

Identification and lateral limits						
	Area bounded by straight lines joining:					
WP	Lat (N)	Lon (S)	Lat (N)	Lon (E)	Upper & lower limit	Remarks
1	55.55144012	-5.12139548	55° 33' 05.18" N	005° 07' 17.02" W	Lower: SFC Upper: 700ft AGL	Activity: UAS Beyond Visual Line of Sight (BVLOS) Hours: When notified Sponsor: AGS Airports
2	55.58612799	-4.99147945	55° 35' 10.06" N	004° 59' 29.32" W		
3	55.55271595	-4.97569105	55° 33' 09.77" N	004° 58' 32.48" W		
4	55.51978624	-5.09703623	55° 31' 11.23" N	005° 05' 49.33" W		

TDA B1

Identification and lateral limits						
	Area bounded by straight lines joining:					
WP	Lat (N)	Lon (S)	Lat (N)	Lon (E)	Upper & lower limit	Remarks
1	55.60099038	-4.80030227	55° 36' 03.56" N	004° 48' 01.08" W	Lower: SFC Upper: 700ft AGL	Activity: UAS Beyond Visual Line of Sight (BVLOS) Hours: When notified Sponsor: AGS Airports
2	55.61116922	-4.75184792	55° 36' 40.20" N	004° 45' 06.65" W		
3	55.51462565	-4.72940149	55° 30' 52.65" N	004° 43' 45.84" W		
4	55.50314447	-4.77273389	55° 30' 11.32" N	004° 46' 21.84" W		

TDA B2

Identification and lateral limits						
	Area bounded by straight lines joining:					
WP	Lat (N)	Lon (S)	Lat (N)	Lon (E)	Upper & lower limit	Remarks
1	55.50314135	-4.77272736	55° 30' 11.30" N	004° 46' 21.81" W	Lower: SFC Upper: 700 ft AGL	Activity: UAS Beyond Visual Line of Sight (BVLOS) Hours: When notified Sponsor: AGS Airports
2	55.44664664	-4.7566317	55° 26' 47.92" N	004° 45' 23.87" W		
3	55.46016861	-4.71648003	55° 27' 36.60" N	004° 42' 59.32" W		
4	55.51462786	-4.72940362	55° 30' 52.66" N	004° 43' 45.85" W		

TDA B3

Area bounded by straight lines joining:						
WP	Lat (N)	Lon (S)	Lat (N)	Lon (W)	Upper & lower limit	Remarks
1	55.44502273	-4.5744285	55° 26' 42.08" N	004° 34' 27.94" W	Lower: SFC Upper: 900 ft AGL	Activity: UAS Beyond Visual Line of Sight (BVLOS) Hours: When notified Sponsor: AGS Airports
2	55.4279494	-4.54920203	55° 25' 40.61" N	004° 32' 57.12" W		
3	55.41312979	-4.57265822	55° 24' 47.26" N	004° 34' 21.56" W		
4	55.40358202	-4.64656734	55° 24' 12.89" N	004° 38' 47.64" W		
5	55.44664663	-4.75663331	55° 26' 47.92" N	004° 45' 23.87" W		
6	55.46017242	-4.71648127	55° 27' 36.62" N	004° 42' 59.33" W		