Stakeholder Engagement Plan

ACP-2021-034

July 2021

CONFIDENTIAL

1. INTRODUCTION

Flylogix are an Unmanned Aircraft (UA) service provider, focused on the offshore energy sector. Flylogix have been contracted for up to seven UAS flights to conduct methane surveys on assets in the Central North Sea and to perform a practice oil spill response flight, in August and September of 2021.

The operations will be conducted in a Temporary Danger Area. Flylogix have begun an airspace change request (ACP-2021-034) to establish this TDA. The TDA is currently being designed but it should be noted firstly that it will have a maximum ceiling of 1,300ft AMSL so will directly impact only aircraft flying under this altitude, secondly that it will mainly be over sea and thirdly that the UAS will operate from Weybourne Airstrip.

2. OJECTIVES OF THIS DOCUMENT

The objective of the process is to engage with aviation stakeholders (airspace users, air navigation service providers and aerodromes) on the safety and operational viability of the proposed change and to ensure minimum possible impact on other air users.

This strategy document aims to identify the relevant aviation stakeholders and anyone else who may be impacted by the proposed changes and lay out how their views will be gathered and considered.

3. PREVIOUS ENGAGEMENT

Flylogix has completed BVLOS UAS flights, within a TDA, across the UK from Shetland, Aberdeen, Lands' End and the South East. As a result, there has been previous engagement with relevant stakeholders prior to this ACP process in addition to further engagement during the planning for this operation. Specifically:

- NATS (Anglia Radar) have agreed to provide a Danger Area Crossing Service (DACS) for the operations and procedures have been developed between NATS and Flylogix to enable this.
- Through other similar flights, Flylogix have developed procedures with Aeronautical Rescue Coordination Centre (ARCC) to cover a Search and Rescue (SAR) aircraft needing to enter the TDA
- Flylogix has previously engaged with a number of major helicopter operators including Bristow, Babcock, CHC and NHV

4. AUDIENCE

4.1 Other air users

- **Oil and Gas helicopter operators.** There are four helicopter companies that fly from Norwich servicing the Southern North Sea Oil and Gas industry (Bristow, Babcock, CHC and NHV). They all operate from Norwich Airport flying out to the rigs typically at an altitude of 3,000ft or lower.

- **Fishery protection and environmental monitoring.** Airtask operate a Fishery Protection aircraft and environmental monitoring aircraft that on occasion need to operate at low altitudes over the North Sea.

- **General aviation.** Once offshore there is relatively little GA, particularly at low altitude. The section of the proposed TDA over land is relatively small (extends 3 miles inshore) and from surface to 750ft. Langham Airfield and Cromer Airfield are 3.5 & 4.7 miles respectively from the TDA edge and so will be engaged for feedback. The General Aviation Alliance, Airspace 4 All and the Aircraft Owners and Pilots Association shall also be contacted to cover the majority of GA traffic in the area.

- **SAR** – In the event of a shout an SAR helicopter will need to access the airspace quickly. The helicopters are tasked by the Aeronautical Rescue Coordination Centre (ARCC). Bristow SAR shall also be contacted.

- **MOD** aircraft may be operating in the area. There are military Danger Areas established to the NW of and above the operating area and RAF Marham approximately 25nm to the SW of Weybourne Airfield. DAATM shall be contacted.

- **Other operators -** Babcock Mission Critical Services Onshore are operators of air ambulance and police aviation units, 2Excel Aviation who are an aviation services provider in the area, East Anglian Air Ambulance who operate out of Norwich Airport, and SaxonAir who charter aircraft and helicopters and are also based out of Norwich Airport. Finally, Uni-Fly who is a helicopter operator specializing in offshore windfarm hoist operations

4.2 Aerodromes

- **Langham** is a former WW2 airfield which is now private including an on-site military museum.

- **Cromer** is a private PPR airfield with a reasonable amount of GA air traffic. The airfield is also home to a model flying club.

- **Norwich airport** is 17 miles to the South East of Weybourne Airstrip, Norwich Airport Limited operate the tower.

4.3 ANSP

- **NATS (Anglia Radar)** are the ANSP for the airspace the operations will be conducted within. They provide a service for all oil and gas helicopters in the area and have procedures in place to work with military aircraft operating nearby.

5. APPROACH AND MATERIALS

There are a relatively small group of stakeholders, most of whom are companies and organisations, who may be impacted by the proposed TDA. The approach therefore is to engage directly with individuals at the organisations – mainly by email and telephone. Three different approaches will be taken for different groups of stakeholders.

Materials sent to stakeholders have been included in

5.1 Stakeholders where procedures will be agreed

There are a group of stakeholders who Flylogix will communicate with while the TDA is in place and the operation is ongoing. Procedures will need to be agreed in advance for this communication and the input of these stakeholders on the procedures and TDA design is vital for a safe operation. These stakeholders are:

- NATS Aberdeen (Anglia Radar) who will be providing the Danger Area Crossing Service
- ARCC who may need to task a SAR helicopter into the TDA at short notice

The contacts in each organisation will be:

NATS Aberdeen	ARCC
[redacted] Manager ATC	Duty controller [redacted]

These individuals will be emailed a proposal for the TDA, along with draft procedures, based on the procedures used in previous operations, and asked for feedback. In the case where there are existing procedures, instead of sending draft procedures, these stakeholders will be asked if they recommend any changes are made.

We will offer to collect feedback via telephone or email.

5.2 Stakeholders where direct feedback is important

There are a group of stakeholders who may utilise the airspace in the TDA or have their operations impacted by the TDA. They are:

- All helicopter operators in the region (CHC, NHV, Bristow, Babcock)

- Airtask when operating their fishery protection and environmental monitoring services
- MOD (DAATM)
- GA (General Aviation Alliance, Airspace 4 All, Langham Airfield, Cromer Airfield)
- SAR (Bristow SAR)
- Other operators (Babcock Mission Critical Services Onshore, East Anglian Air Ambulance, SaxonAir)

The contacts in these organisations will be:

Babcock	**NHV**	**Bristow**	**CHC**	**Airtask**
[redacted] Head of Flight Operations [redacted]	[redacted] UK Flight Operations Manager [redacted]	[redacted] Offshore Flight Operations Manager [redacted]	[redacted] Manager Flight Operations [redacted]	[redacted] Flight Operations Manager [redacted]
Babcock Mission Critical Services Onshore	**SaxonAir**	**Bristow SAR**	**DAATM**	**Weybourne Airfield**
[redacted] Chief Pilot [redacted]	Operations Department [redacted]	[redacted] Flight Operations Manager [redacted]	[redacted]	[redacted] Airfield Owner/Operator [redacted]
Cromer Airfield	**Langham Airfield**	**Norwich Airport**	**General Aviation Alliance**	**Airspace 4 all**
[redacted] Airfield Owner/Operator [redacted]	[redacted] Airfield Owner	[redacted] Head of Airfield Operations [redacted]	[redacted] Programme Manager [redacted]	Director [redacted]

2Excel Aviation	East Anglian Air Ambulance	AOPA	Uni-Fly
[redacted] Chief Pilot [redacted]	[redacted] Head of Operations [redacted]	[redacted] CEO [redacted][1]	[redacted] Line Training Captain [redacted][2]

We will send an email to these contacts explaining the operation, and the proposed TDA and asking for their feedback. We will then collect feedback over email or telephone as the stakeholder prefers.

5.3 Stakeholders who will be informed of the operation but not engaged on airspace design

Local Residents will not be engaged as part of the airspace change request. This is because:

- The airspace design does not impact the fact that the unmanned aircraft will operate from a site inland and the airfield is located directly on the coast minimising the flight path over land.
- The area in the immediate surroundings of the airfield is remote farmland and the aircraft will only be flying over this area for a limited time at the very beginning and end of planned flights.
- The unmanned aircraft will be at 800ft when operating over land. At this altitude it creates little noise and adds only ~8dBA to background noise (based on Flylogix testing). This is below the 10dBA considered a nuisance in noise regulation.

6. LENGTH

To meet client requirements for the operation to begin at the end of August, Flylogix began Pre-assessment meeting engagement on the 8th of June 2021 with all Stakeholders listed in Section 5 with the exception of Uni-Fly and AOPA. These stakeholders were given a 6 week period (until July 20th) to provide feedback.

[1] This stakeholder was identified after engagement had begun on the 8th of June 2021 and were first contacted on the 7th of July 2021

[2] This stakeholder was identified after engagement had begun on the 8th of June 2021 and were first contacted on the 7th of July 2021

Following this, the assessment meeting for this ACP was held on the 7th of July where two additional stakeholders were identified by the CAA (Uni-Fly and AOPA). As a result, it was agreed that the feedback period be extended until 29th of July 2021 to give the newly identified Stakeholders, as well as the existing Stakeholders, a 3 week period for formal engagement.

All stakeholders have been notified of the newly agreed formal engagement period.

The rationale for a 3 week formal engagement period is as follows:

- The methane sensing work is part of critical infrastructure work supported by BEIS. Due to customer requirements, including shutdowns the operation has been planned to start in August.
- The majority of stakeholders were contacted prior to the assessment meeting on the 7th of July and by that time already given approximately 4 weeks to consider Flylogix's TDA proposal.
- Of the two Stakeholders identified later on in the process:
    - Uni-fly is a sub contractor of CHC who were already contacted as part of the pre-assessment meeting engagement.
    - Flylogix will contact AOPA's CEO directly via email, telephone and through LinkedIn to expedite the process of collecting feedback

Flylogix will submit the Engagement Summary, Supporting Material and Final submission on Monday 2nd August.

7. POST ENGAGEMENT

Following the stakeholder engagement process detailed above, Flylogix will gather the feedback from different stakeholders and consider whether any modifications to the proposal are required prior to formally submitting a Proposed Change Request to the CAA for approval.

Once the details of the TDA are published in an AIC (or similar) Flylogix shall share the details with all stakeholders.

8. FEEDBACK WHILE TDA IS ACTIVE

It shall be the responsibility of [redacted], as Flylogix Operations Director, to gather all feedback received when the TDA is in place. All stakeholders in this document shall be notified of the contact details and there will be contact details for Flylogix in the AIC notifying the TDA and on the NOTAM.

APPENDIX 1 **STAKEHOLDER DETAILS SHEET**

Stakeholder engagement for TDA North of Norwich

ACP-2021-034

June 2021

1. INTRODUCTION

Flylogix are an Unmanned Aircraft (UA) service provider, focused on the offshore energy sector. Flylogix have been contracted for seven UAS flights in the Southern North Sea in August and September of 2021.

The UA will operate from Weybourne Airstrip and the operations will be conducted in a Temporary Danger Area (TDA). Flylogix have begun an airspace change request (ACP-2021-034) to establish this TDA.

2. OBJECTIVES OF ENGAGEMENT AND THIS DOCUMENT

In line with the CAP1616 Flylogix are engaging with aviation stakeholders to get feedback on the safety and operational impact of the proposed TDA. This engagement will occur between 8th June 2021 and 20th July 2021 and all feedback will be shared with the CAA as part of the final TDA submission.

This document has been sent to the following stakeholders for feedback. More stakeholders may be contacted as Flylogix becomes aware of them:

- Oil and Gas helicopter operators – CHC, NHV, Bristow, Babcock
- Commercial operators working in North Sea – Airtask, 2Excel Aviation
- General Aviation – Airspace4All, General Aviation Alliance
- SAR – ARCC
- MOD – DAATM
- Aerodromes – Norwich Airport, Langham Airfield, Cromer Airfield
- Other Operators – Babcock Mission Critical Services Onshore, East Anglian Air Ambulance, SaxonAir
- ANSP – NATS (Anglia Radar)

3. TYPE OF OPERATION

The operations are unmanned BVLOS flights conducted within a TDA. The purpose of the flights is either:

- Methane surveys of offshore assets

- Practice oil spill survey (mock search pattern)

The UA will transit at an altitude of 500ft or 800ft AMSL (see Sections 5.3.2 & 5.3.3 for more details). While conducting methane surveys around an asset, the UA will operate between 150ft and 800ft AMSL.

4. UNMANNED AIRCRAFT CHARACTERISTICS

Figure 1 - The FX2 type UAS

The UA is a single propeller, fixed wing aircraft with a tail dragger undercarriage configuration and single rudder. The characteristics of the UA are summarised below:

Characteristic	Value
Type	[redacted]
Wingspan	[redacted]
Length	[redacted]
MTOM	[redacted]

Flylogix is in the process of securing exemptions from the CAA for these operations. As part of the Operational Safety Case (OSC) submitted to the CAA, the following operating limitations will apply:

Flylogix Operating Conditions
[redacted]
[redacted]
[redacted]
[redacted]
[redacted]
[redacted]

[redacted]

It should also be noted that the UA will be fitted with ADS-B in and out and a Mode-S transponder. If the transponder is non-functioning, the mission will be cancelled/aborted.

5. TDA

5.1 Design Principals

To limit the impact of the TDA on other air users, Flylogix applies the following design principals:

- Minimise the volume of airspace, including both footprint and altitude
- Segment the TDA so that only the sections required for a specific flight are activated and to simplify the Danger Area Crossing Service
- Where possible avoid areas where other aircraft operate below 1,500ft – for example airfields and HTZs

5.2 Proposed Design

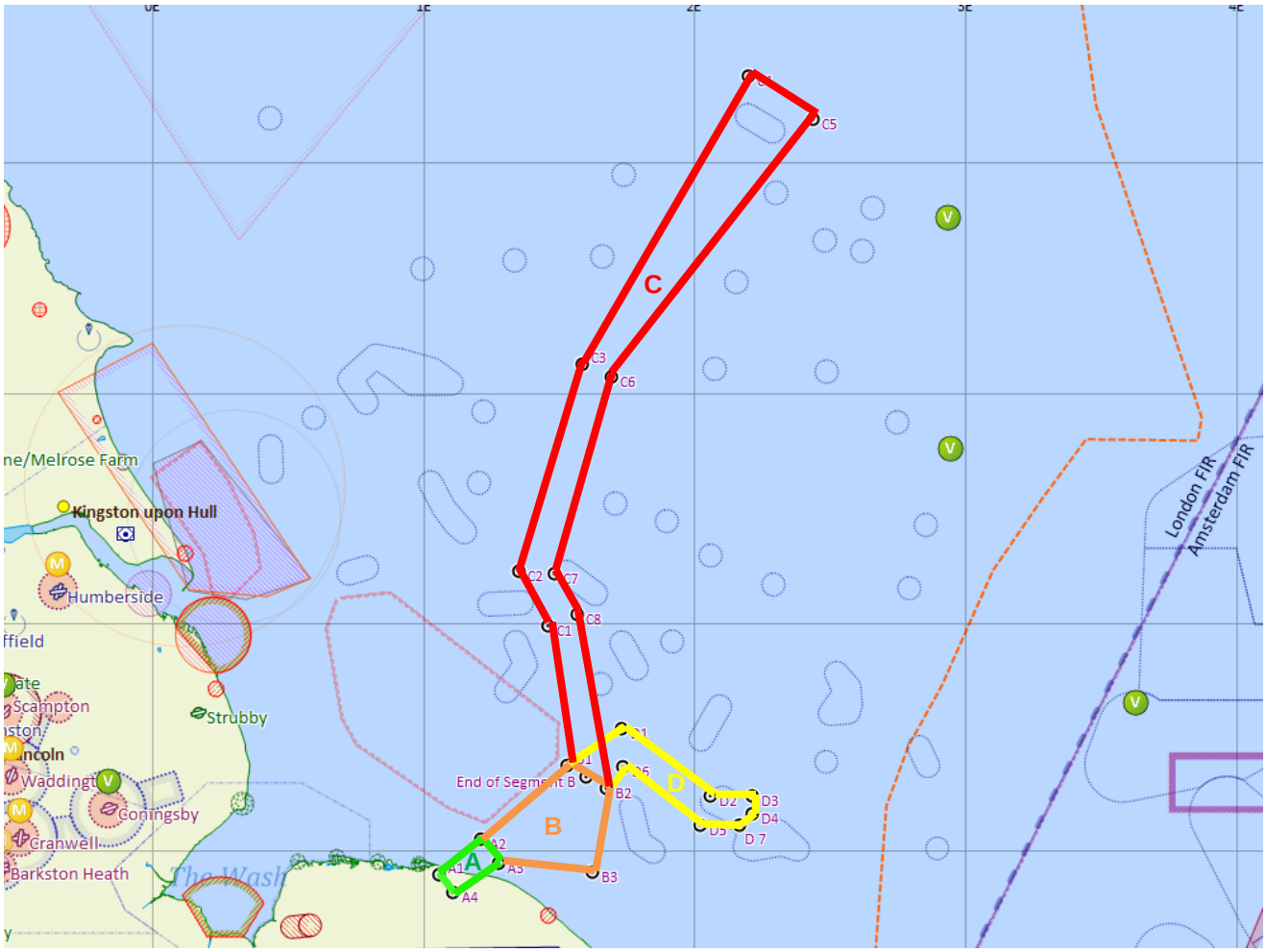

Figure 1 –Map of TDA Proposal (segments bounded by separate colours)

The proposed TDA is broken into four segments. Segment A covers Weybourne Airfield and up to 5 miles offshore. Segments, B, C and D are all offshore.

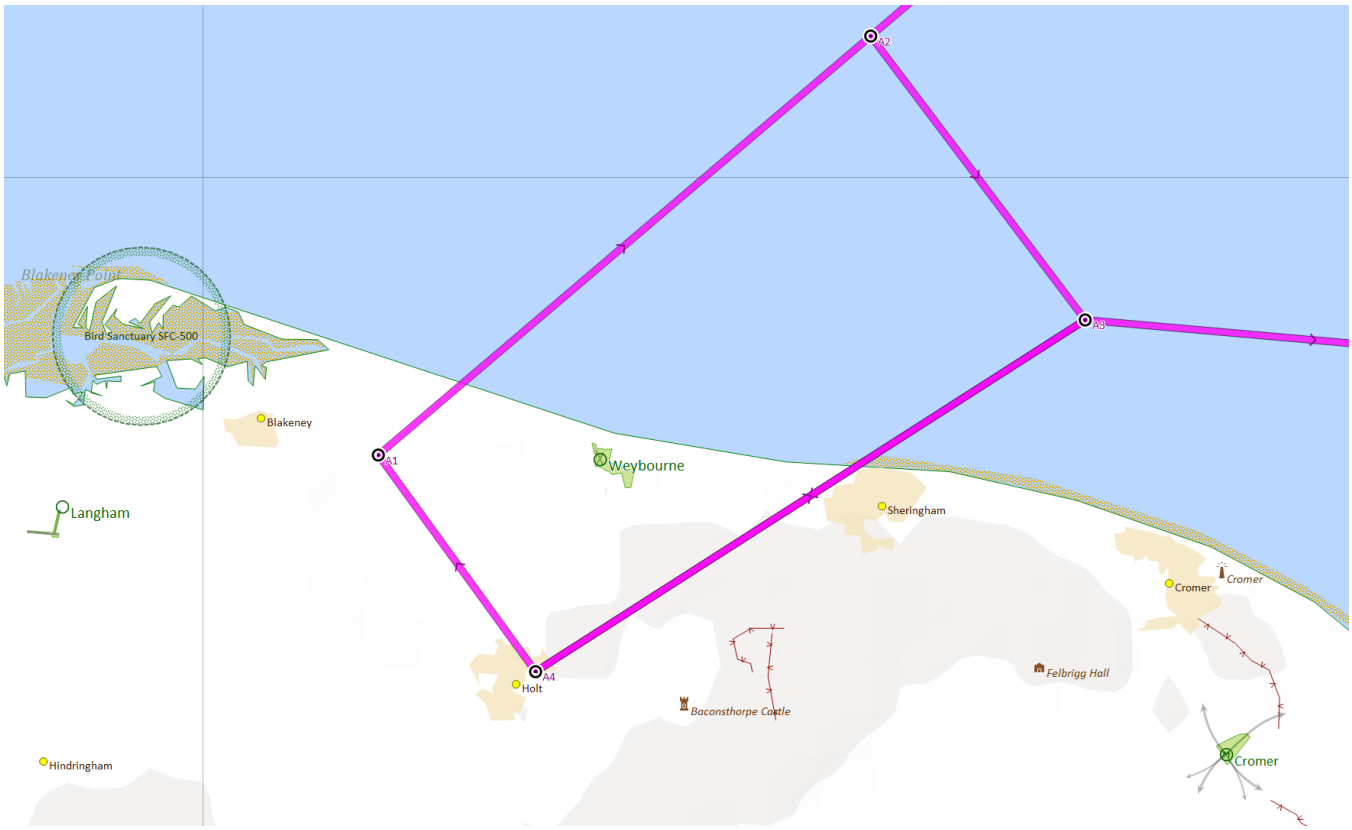

Figure 2 - Map of inshore TDA, Segment A (TDA boundary shown in purple)

- Full coordinates for the proposed TDA are in the Appendix
- Segment A is from SFC – 750ft AMSL
- Segments B, C & D, are from SFC – 1300ft AMSL.
- The TDA will be in place from 26th August until 1st November (notification will be given if this changes in the final submission) and will be cancelled before this date if all operations are completed.
- Flylogix is in discussion with Anglia Radar (NATS) to provide a Danger Area Crossing Service during the periods the TDA is active. The frequency for the service will be published on the NOTAM and in the AIC – along with Flylogix contact details.
- Flylogix will be available for direct contact by telephone before and during operations if additional information is required

5.3 TDA Design Rationale

We want to minimise the impact the TDA has on other air users. The following is a summary of the considerations made when designing the proposed TDA and rationale for its features.

5.3.1 Airfield

Weybourne was selected due to the following characteristics:

- Weybourne is clear of nearby existing Danger Areas, Transponder Mandatory Zones and other notified airspace such as noise sensitive areas and bird sanctuaries
- Weybourne situated on the coast, minimising the travel of the UA over land and therefore minimising risk to those on the ground
- Weybourne is a private airfield with relatively little traffic
- Weybourne is free of significant ground-based obstacles such as power lines
- Weybourne is TBC miles from other airfields

5.3.2 Segment A

Segment A has been designed to ensure it does not cover any other airfields and make it as easy as possible for other aircraft, for example when coast following, to fly over the TDA. The rationale for its features is as follows:

- Segment A is established from SFC – 750ft AMSL. The UA will fly at 500ft AMSL in this segment to maintain 250ft separation from the TDA ceiling.

  N.B. - This reduced transit altitude for the UA (normally 800ft AMSL) is enabled by the coastal location and lack of significant ground-based obstacles in the area bounded.

- The inshore section of the TDA is narrower, this is to reduce the size of the TDA over land and lessen impact on nearby airfields and airstrips. In order to comply with the operating conditions agreed by the CAA a 1-mile buffer zone between the edge of the TDA and the area where the UA will operate has been included. This applies to all segments.

5.3.3 Segment B

Segment B will be used for the practice oil spill survey and for transit to the offshore oil assets. The rationale for its features is as follows:

- Segment B is established from SFC – 1300ft AMSL. The UA will operate at up to 800ft in this segment and a 1300ft ceiling allows for 500ft separation.
- The size and shape have been designed to enable the practice oil spill survey to be performed and enclose maritime buoys which can be used as reference objects for this purpose.

5.3.4 Segment C & D

Segment C & D are airspace corridors that enclose the Cygnus offshore platforms and the Leman A offshore platform respectively, allowing methane surveys of these assets to be conducted. The rationale for their features is as follows:

- Segment C & D's altitude and rationale same as Segment B

- The nominal width of these segments are 4 nautical miles. This has been selected to minimise the volume of the TDA whilst providing a 2-mile-wide corridor for manoeuvring and the buffer zone mentioned in Section 5.3.2

- The shape of these segments avoids all 3rd party offshore structures/assets and their HTZs to minimise impact on helicopter operations and oil and gas operators in the Southern North Sea.

6. PLANNING AND NOTIFICATION

Flights will be between 1.5 hours and 5 hours long. The TDA will be activated 15 minutes before take-off and end up to 4 hours after the last scheduled landing time. This contingency will be determined by weather forecast and in the case of flights to oil and gas facilities by the uncertainty in helicopter flights and other operations at these facilities. If the UA lands before the end of the TDA activation, Flylogix will inform ATC and request of the CAA that the NOTAM is cancelled.

Of the 7 planned flights, it is expected that the 4 flights with shorter duration will take place mid-week with the longer flights planned for weekends. Flylogix may conduct multiple flights in a single day.

To activate the TDA, a NOTAM will be published at least 24 hours in advance of planned flights detailing activations times. If UA activity is cancelled for whatever reason, we will request the NOTAM is cancelled (N.B - AROps at the CAA is only manned during weekday working hours. Therefore, it may not be possible to cancel NOTAMs for weekend activity).

If direct notification is required in addition to the NOTAM publication, please make note of this in your feedback.

7. YOUR FEEDBACK

The CAA require evidence of engagement with other air users as part of the airspace change request process. We would therefore value your feedback by Thursday the 29th of July so that we can include this in our submission to the CAA. This feedback can be submitted in the following ways:

1. An email to [redacted] detailing any recommended changes to the TDA to improve safety or reduce impact on you.

2. An email to [redacted] saying that you understand and agree with the proposed approach.

3. Setting up a call with us to give your feedback. We will take minutes of the call and get your approval of these minutes before submitting them to the CAA. Email [redacted] or call [redacted] to do this.

Where possible, if feedback could be sent before the end of the engagement period this would be greatly appreciated. This affords Flylogix more time to work with you on any recommended changes to the TDA and collate your responses into a summary report for the CAA. Flylogix will send periodic reminders during engagement if no response has been received.

8. TDA COORDINATES

Identification and Lateral Limits	Upper Limit/Lower Limit
TDA XXXA Straight lines joining successively the following points: 525653N 0010316E 530134N 0011229E 525823N 0011626E 525427N 0010612E 525653N 0010316E	Lower Limit: SFC Upper Limit: 750ft AMSL
TDA XXXB Straight lines joining successively the following points: 530134N 0011229E 531120N 0013134E 530824N 0014016E 525718N 0013712E 525823N 0011626E 530134N 0011229E	Lower Limit: SFC Upper Limit: 1300ft AMSL
TDA XXXC Straight lines joining successively the following points: 531120N 0013134E 532954N 0012719E 533700N 0012050E 540358N 0013460E 544111N 0021148E 543536N 0022607E	Lower Limit: SFC Upper Limit: 1300ft AMSL

540219N 0014119E 533637N 0012840E 533116N 0013345E 530824N 0014016E 531120N 0013134E	
TDA XXXD Straight lines joining successively the following points: 531120N 0013134E 531616N 0014344E 530726N 0020323E 530724N 0021237E 530502N 0021236E 530325N 0020947E 530325N 0020110E 531111N 0014400E 530824N 0014016E 531120N 0013134E	Lower Limit: SFC Upper Limit: 1300ft AMSL