



ENGAGEMENT DOCUMENT

Stage 3 Engage

ADS-B for the LRMZ
CAP 1616 – Airspace Change Proposal
ACP-2023-006

Land's End Airport

Contents

i.	Glossary of Terms.....	2
1.	Introduction.....	3
2.	Overview.....	3
3.	Why do we need a change?.....	3
4.	Stakeholders.....	4
5.	Justification and Objectives.....	4
6.	Options for Engagement.....	5
7.	Current Airspace: The Do-Nothing Option.....	6
8.	Proposed Option – ADS-B TMZ for the LRMZ.....	6
9.	Qualitative Assessment of Impacts.....	7
10.	How to respond to this engagement.....	8
11.	Reversion Statement.....	9
12.	Compliance with the Airspace Change Process.....	9
13.	What happens Next?.....	10
	Appendix A.....	11
	Appendix B.....	12

i. Glossary of Terms

ACP	Airspace Change Proposal
ADS-B	Automatic Dependant Surveillance – Broadcast
AIAA	Area of Intense Aerial Activity
AMS	Airspace Modernisation Strategy
ATC	Air Traffic Control
ATCU	Air Traffic Control Unit
CAA	Civil Aviation Authority
EFB	Electronic Flight Bag
eVTOL	Electric Vertical Take-off and Landing
FID	Flight Information Display
GA	General Aviation
LRMZ	Land’s End Radio Mandatory Zone
MOD	Ministry of Defence
NOTAM	Notice To Airmen
IFR	Instrument Flight Rules
PinS	Point in Space
RMZ	Radio Mandatory Zone
RNAS	Royal Naval Air Station
RNAV	Area Navigation
SAR	Search and Rescue
SSR	Secondary Surveillance Radar
TCAS	Traffic Collision Avoidance System
TMZ	Transponder Mandatory Zone
UAV	Unmanned Aerial Vehicle

1. Introduction

- 1.1. This document forms part of the document set required in accordance with the requirements of CAP1616 airspace change process.
- 1.2. For previous stages of the airspace change process, including the statement of need and design options, please see the [CAA Airspace Change Portal](#) detailing the progress of this proposal.
- 1.3. Although many of our stakeholders are well versed in aviation matters there are also many that are not and so we intend to issue engagement documents in plain English.

2. Overview

- 2.1. This airspace change proposal (ACP) is sponsored by Land's End Airport Ltd, the author of this document, and supported by St. Mary's Airport and Penzance Heliport who are both situated within the Land's End Radio Mandatory Zone (LRMZ). Whenever the term Sponsor is used in this document it is referring to Land's End Airport Ltd.
- 2.2. The sponsor intends to introduce a change to the LRMZ to improve safety standards.
- 2.3. The proposal is related to improving the safety of the airspace and not about stimulating new traffic or altering any existing routes.
- 2.4. The purpose of this document is to provide information to stakeholders and allow them to respond effectively.
- 2.5. The sponsor is seeking feedback from stakeholders who may be affected by the proposal. This is likely to primarily be users of the airspace and other aviation stakeholders. However, feedback is welcomed from any interested parties.
- 2.6. You have the opportunity to provide relevant feedback, which may conflict with that of other stakeholders. After the engagement has ended, we will consider all your feedback and produce the final design proposal, which may differ from those described in this document.
- 2.7. You have a crucial role in providing significant and timely feedback to us in the form of your views and opinions on the impact the proposal might have on your operation, as well as any mitigations you might suggest, supported by evidence where possible.
- 2.8. We intend to conduct this engagement over an 8-week period, starting on Wednesday 26th June 2024. We consider this an adequate period considering the mainly technical nature of the proposal and the lack of environmental impact.

3. Why do we need a change?

- 3.1. Land's End Airport recorded nearly 13000 air traffic movements in 2023 with an average of nearly 1600 a month between May and September.
- 3.2. The LRMZ is a narrow section of airspace that is used year-round by a many different types of users with a wide variety of aircraft. These include commercial air transport operations by Skybus based at Land's End Airport and Penzance Helicopters also based within the LRMZ; Military aircraft primarily from nearby RNAS Culdrose; SAR (Search and Rescue) & Helimed; Trinity House; air charters; GA (general aviation) that includes locally, domestically, and internationally based and a range of experience levels.
- 3.3. The LRMZ requires aircraft to be in two-way radio contact before entering the airspace. The known location of aircraft within the airspace is dependent on the accuracy of reporting by the individual users. The accuracy of pilots reporting can be affected by many factors including

weather conditions, experience levels, pilot workload and familiarity with local area and airspace.

- 3.4. The mandated use of ADS-B transponders would increase the confidence of reported locations as well as potentially helping to reduce the workload of both airspace users and ATC.
- 3.5. Those airspace users using ADS-B in capable systems such as TCAS would have a more complete air traffic picture.
- 3.6. The CAA have published an [Airspace Modernisation Strategy](#) in which they detail the ways in which airspace within the United Kingdom may be improved and modernised in line with government expectations and requirements. Within this document there is a section regarding uncontrolled airspace and the initiative for introducing more aircraft utilising electronic conspicuity. Aircraft carrying and utilising transponders features in this initiative and so introducing a TMZ to the existing RMZ would increase safety levels and align with this CAA strategy. The CAA has recently updated policies to allow the introduction of TMZ's based on ADS-B rather than more established Secondary Surveillance Radar (SSR) equipment with Mode S.
- 3.7. The reduced cost of ADS-B transponders compared to SSR Mode S along with the availability of self-contained & self-powered units such as SkyEcho 2, means that electronic conspicuity is much more accessible to all users and aircraft types.
- 3.8. In a CAA survey, 89% of 1,600 pilots thought Electronic Conspicuity, such as ADS-B, would benefit safety ([CAA Clued-Up, Autumn 202, Page 4](#)).
- 3.9. With many pilots often stating that "My Lookout is Pretty Good", detailed research was conducted in the USA. The research found that when pilots used an Electronic Conspicuity device, they were 8x more likely to spot a conflicting aircraft ([CAA Clued-Up, Autumn 202, Page 6](#)).

4. Stakeholders

- 4.1. Stakeholders are third party organisations or individuals that have an interest in the airspace change proposal.
- 4.2. Land's End has identified a number of different organisations and individuals as stakeholders. Some of these would not ordinarily have contact with an airport but have been included to ensure that they have an opportunity to have their voices heard regarding the proposed change. Given the high-profile nature of the lifeline link between Land's End Airport and the Isle of Scilly we felt it was important for as many potentially interested parties to be identified and included in the engagement process.
- 4.3. Although there is no change to the environmental impact of aviation from the proposed change environmental organisations have also been included as stakeholders.
- 4.4. A list of identified stakeholders can be found in Appendix A of this document.

5. Justification and Objectives

- 5.1. The justification for this airspace change is that it has been identified that the safety of the airspace could be enhanced for all users by making this change to the current LRMZ.
- 5.2. There is a mix of commercial, general, military, charter, business, public service (Helimed, air ambulance, SAR) and recreational.
- 5.3. One of the greatest challenges operating within the LRMZ is that sometimes the reported location of aircraft is not accurate, this is known because of reports by other aircraft or visually by ATC.

This can be a significant safety issue particularly when visibility is reduced due to weather conditions.

5.4. The objective of this proposal is to enhance the safety of the airspace for all users by use of electronic conspicuity devices to provide an accurate representation of the traffic environment within the LRMZ. This will allow us to provide the safest environment possible for all present and future users of the LRMZ.

6. Options for Engagement

6.1. The following two options have been identified for engagement for this airspace change process.

- Do Nothing – We do not prefer this option because it would not address reliance on the accuracy of reported of locations and the risks that it poses.
- Establish ADS-B TMZ for the LRMZ – This is our preferred option as it will provide accurate location information of airspace users to ATC and other users, enhancing the safety of the airspace for all users by removing the risks posed by inaccurate reporting.

7. Current Airspace: The Do-Nothing Option

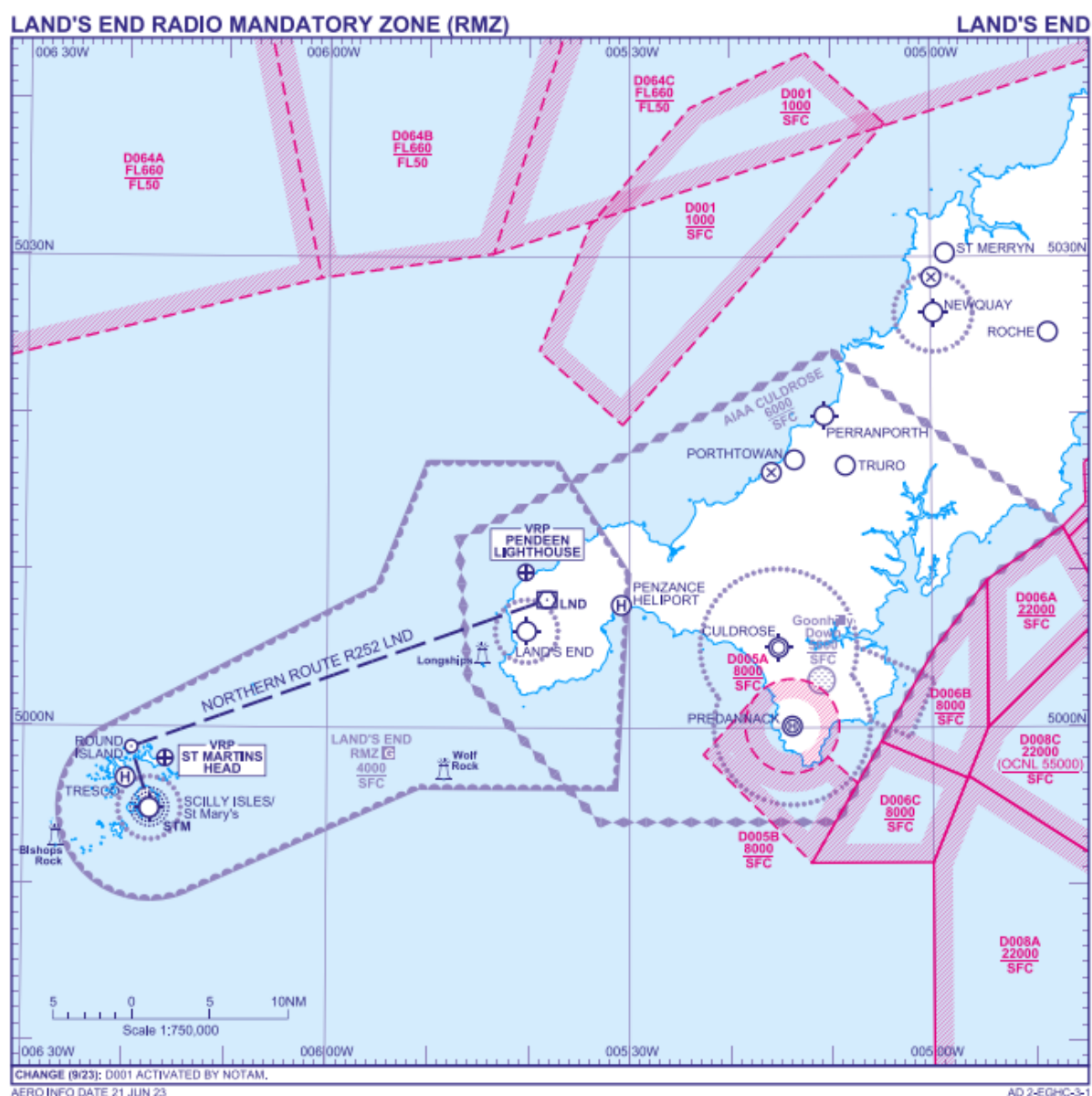


Figure 1 Current LRMZ Airspace

- 7.1. This is the current LRMZ and represents the do-nothing option.
- 7.2. This is the baseline option and does nothing to address the safety risks identified.

8. Proposed Option – ADS-B TMZ for the LRMZ

- 8.1. The establishment of an ADS-B TMZ would mean that the airspace would remain Class G but would mean that any aircraft with ADS-B In capable equipment would receive information from other aircraft to help avoid mid-air collision.
- 8.2. It is increasing more accessible to all users to have access to traffic information via affordable ADS-B In capable devices in conjunction with Electronic Flight Bag (EFB) software capable of running on Mobile devices such as Tablets.

- 8.3. This proposal option would mean that any aircraft wishing to operate within the LRMZ would have to have adequate 2-way radio equipment and an ADS-B transponder equipped in the aircraft.
- 8.4. Land's End Airports and St. Mary's Airports ATCU's have begun the process of setting up ADS-B ground stations to provide local real time information for use with Flight Information Displays (FID). They will be following the process to have this equipment approved for operational use.
- 8.5. There are a number of airspace users that will likely increase in numbers affecting all airspaces in the future as technologies evolve such as UAV's and eVTOL. The introduction of new users can present challenges integrating with existing users, it is expected that these emerging users will likely rely on ADS-B technology for safe integration into existing airspaces and be a major part of detect and avoid systems utilised by them. The establishment of an ADS-B TMZ would allow all users to operate with confidence in the safety of the airspace.
- 8.6. The TMZ may not need to be active 24/7 and could be promulgated to coincide with the commercial operations of the airports/heliport within the LRMZ.
- 8.7. This proposal will not make any change to the size of the LRMZ.

9. Qualitative Assessment of Impacts

9.1. Option 1: Do Nothing

Subject	Scale of impact/Benefit	Evidence
Noise	None	No change to flight paths in the LRMZ
Air Quality	None	No change to flight paths in the LRMZ
CO2 Emissions	None	No change to the number of flights in the LRMZ
Capacity	None	No change to the ATC workload
Access	None	No change to the requirements for entering the LRMZ
Safety	None	No change to the safety of the LRMZ

9.2. Option 2: ADS-B TMZ for the LRMZ

Subject	Scale of impact/Benefit	Evidence
Noise	None	No change to flight paths in the LRMZ
Air Quality	None	No change to flight paths in the LRMZ
CO2 Emissions	None	No change to the number of flights in the LRMZ
Capacity	None	No expected change to
Access	Minimal	There may be a small number of aircraft that are not ADS-B out equipped. It is the intention of Land's End Airport to introduce procedures for non-transponder aircraft in 2-way radio communication before entering the LRMZ so as not to prohibit access to the airspace.

Safety	Enhanced	All aircraft would be in 2-way radio communication with ATC before entering the LRMZ and be operating an ADS-B transponder in accordance with promulgated procedures. All aircraft would be visible to ATC via FID's and also to other aircraft equipped with ADS-B In capable systems such as TCAS.
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10. How to respond to this engagement

10.1. This engagement begins on Wednesday 26th June 2024 and ends on Wednesday 21st August 2024, a period of 8 weeks.

10.2. All our targeted stakeholders will be emailed a link to the engagement area of the CAA website.

<https://consultations.airspacechange.co.uk/lands-end-airport/ads-b-tmz-for-the-lrmz/>

We expect this online survey to be the primary method of engagement and response gathering.

10.3. The engagement is not limited to aviation stakeholders, all interested parties may respond.

10.4. If you need a paper copy of the engagement, please write to us at the address below including a stamped self-addressed envelope.

10.5. If you wish to respond on paper, please send your letter recorded delivery to the address below as we do not commit to acknowledging receipt. If you require a reply, please also include a stamped self-addressed envelope.

10.6. Postal Address:

Airport Manager
 ACP-2023-006
 Land's End Airport
 Kelynack
 St Just
 Penzance
 Cornwall
 TR19 7RL

10.7. When submitting feedback please provide the following information:

- Your name and role if you are responding on the behalf of an organisation.
- Your contact details (email and/or postal address)
- Your opinion on the statement: There should be an ADS-B TMZ introduced to the LRMZ.
 - Strongly Disagree
 - Disagree
 - Slightly Disagree
 - Neither Agree nor Disagree
 - Slightly Agree
 - Agree
 - Strongly Agree
- Your reasons for your responses above, your feedback on any impacts that options may have on your operation, how often those impact may occur, any suggested mitigations.

- Your opinion on the statement: There should be no change to the LRMZ.
 - Strongly Disagree
 - Disagree
 - Slightly Disagree
 - Neither Agree nor Disagree
 - Slightly Agree
 - Agree
 - Strongly Agree
 - Your reasons for your responses above, your feedback on any impacts that options may have on your operation, how often those impact may occur, any suggested mitigations.
 - Your feedback on the engagement itself.
- 10.8. We have provided a feedback form suitable for handwritten postal responses – see Appendix B. This asks the exact same questions as the online survey. Online responses will have the option of uploading a supporting document – if you wish to send more information by post then please attach it to a copy of the form in Appendix B and send them to the above address in 10.6.
- 10.9. All responses will be analysed, with any common themes extracted and summarised. We will monitor the engagement portal and will formally respond back to any queries, uploading FAQs if necessary.
- 10.10. All online responses go directly to the CAA who will moderate submissions. Responses will be publicly visible by being published on the CAA website. You will have the option to be anonymise your online response so that your identity is not publicly visible, but you cannot be anonymous to us or the CAA – we will need to see your name and contact details.
- 10.11. Postal response will be scanned, redacted, and uploaded to the CAA website.
- 10.12. All responses will be visible to us and the CAA.
- 10.13. If this proposal does not affect your operation, please respond so. That information itself is useful for us and the CAA for this process.

11. Reversion Statement

- 11.1. After the full engagement process has taken place, should the proposal be approved and implemented, it would be possible to revert to the pre-implementation state, however this may affect the ATC operations of all of the air traffic service providers within the LRMZ.
- 11.2. In the unlikely event that there are unexpected issues caused by the implementation of this proposal then short notice changes could be made via NOTAM.
- 11.3. All the air traffic service providers affected would then, in engagement with the CAA, carefully consider the next steps and future of the LRMZ.

12. Compliance with the Airspace Change Process

- 12.1. This Proposal has been confirmed by the CAA as Level 3.
- 12.2. If you have any questions or comments regarding the conduct of the airspace change process (Such as adherence to the CAP1616 process), please contact the CAA. A link to the relevant CAA webpage is [here](#).

13. What happens Next?

- 13.1. After the engagement period closes, we will analyse the feedback and publish a report summarising the findings and how each item might affect the airspace design.
- 13.2. We will consider those findings and determine if the airspace design requires change in light of the feedback received. We will then publish a second report detailing the amended design, if warranted.
- 13.3. Lastly, we will submit an Airspace Change Proposal to the CAA based on this engagement process and the feedback received.
- 13.4. The CAA will then consider the proposal to decide if it has merit and will publish a decision on its website.
- 13.5. If the CAA approves the Proposal, we will then implement the changes.

Appendix A

List of Targeted Stakeholders

STAKEHOLDERS
St Mary's Airport
Skybus
Penzance Helicopters
Starspeed
Tresco Estate (Tresco Heliport)
PDG Helicopters (Trinity House)
Isles of Scilly Council
St Just Council
Natural England
Environment Agency
Ministry of Defence
Newquay Airport ATCU
RNAS Culdrose
Perranporth Flying Club
Flynqy Pilot Training
Cornwall Flying Club (Bodmin)
Air Cornwall
NATMAC members
Cornwall Council
National Trust
Duchy of Cornwall
Island Partnership
Derek Thomas MP
Jetfly / Raven Air
Open Skies Cornwall
Police Air Services
SAR, Newquay
Cornwall Air Ambulance
Castle Air

Appendix B

Feedback for postal responses

Your Name:	
Your Address:	
Postcode:	
Your Email Address:	
Please complete one of the following boxes as applicable.	
I am responding as an individual	I am responding on behalf of an organisation. My organisation is: My position in that organisation is:
All response will be published online. You may ask for your name to be published or removed. Delete as appropriate.	
Publish my name along with my response.	Remove my name before publishing my response.
Which option best describes your opinion on the statement: There should be an ADS-B TMZ introduced to the LRMZ.	
<input type="checkbox"/> Strongly Disagree <input type="checkbox"/> Disagree <input type="checkbox"/> Slightly Disagree <input type="checkbox"/> Neither Agree nor Disagree <input type="checkbox"/> Slightly Agree <input type="checkbox"/> Agree <input type="checkbox"/> Strongly Agree	
Please explain your reasons for choosing the category above choice. Please consider: <ul style="list-style-type: none">• Your feedback on any impacts that options may have on your operation• How often those impact might occur• Any suggested mitigations Please provide evidence. If you wish to supply more documentary evidence than would fit on these pages, enclose it with this form.	

Which option best describes your opinion on the statement:
There should be no change to the LRMZ.

- Strongly Disagree
- Disagree
- Slightly Disagree
- Neither Agree nor Disagree
- Slightly Agree
- Agree
- Strongly Agree

Please explain your reasons for choosing the category above choice.
Please consider:

- Your feedback on any impacts that options may have on your operation
- How often those impact might occur
- Any suggested mitigations

Please provide evidence.
If you wish to supply more documentary evidence than would fit on these pages, enclose it with this form.

What would be your preferred option for the future of the LRMZ?

(ADS-B TMZ or Do Nothing)

What are your reasons for your preferred option?

Please consider:

- Your feedback on any impacts that either option may have on your operation.
- How often those impacts might occur.
- Any suggested mitigations.

Please provide any evidence.

Do you have any comments on the engagement itself?