Exeter Airport Airspace Change Proposal

Design Options – Comprehensive List

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Glossary

Acronym	Meaning
agl	above ground level
ACP	Airspace Change Proposal
AMS	Airspace Modernisation Strategy
ANSP	Air Navigation Service Provider
ATC	Air Traffic Control
ATM	Air Transport Movement
ATZ	Aerodrome Traffic Zone
CAA	Civil Aviation Authority
CAP	Civil Aviation Publication
CAS	Controlled Airspace
CAT	Commercial Air Transport
CTA	Control Area
CTR	Control Zone
EDAL	Exeter & Devon Airport Ltd
FAS	Future Airspace Strategy
FASI S	Future Airspace Strategy Implementation - South
ft	feet
GA	General Aviation
GNSS	Global Navigation Satellite System
IFR	Instrument Flight Rules
MOD	Ministry of Defence
NATS	formerly National Air Traffic Services

Acronym	Meaning
NERL	NATS (En Route) plc
PBN	Performance Based Navigation
RMZ	Radio Mandatory Zone
TMZ	Transponder Mandatory Zone
VFR	Visual Flight Rules

1 Design Options Development

Exeter Airport are seeking your views on the airspace and flight procedure design options that we have developed for our Airspace Change Proposal which is currently at CAP1616 Stage 2A DEVELOP & ASSESS. We are grateful for your assistance in defining the Design Principles during Stage 1 DEFINE.

It is important to us that you are satisfied that our design options are aligned with the Design Principles and that we properly understand and account for your input in designing options. Section 5 of this document tells you how to send us your comments. We are holding Focus Groups at the airport on Wednesday 8th December 2021 and we welcome all stakeholders to come along and discuss the options in person.

1.1 Introduction

The purpose of this document is to seek the input of key stakeholders in the development of the design options that address the requirements of the Exeter Airport Airspace Change Proposal (ACP). The Exeter Airport Airspace Change Proposal (ACP) concerns adapting the existing airspace structure surrounding Exeter Airport to assist Air Traffic Control (ATC) in providing enhanced levels of safety and information to aircraft operating in and out of Exeter Airport and to aircraft operating in the local area.[1]

1.2 Exeter Airport Operations

The principal area of concern regarding current operations at Exeter is one of limited protection currently afforded to commercial aircraft, including passenger-carrying airliners, operating near the airport. In order to maintain levels of safety and enhance airspace efficiency, whilst causing minimal disruption to all aviation stakeholders, Exeter propose to establish new airspace around the existing Exeter Airport Aerodrome Traffic Zone (ATZ) that will:

- Safeguard routinely utilised flights operating under Instrument Flight Rules (IFR) at Exeter Airport.
- Ensure safe separation between the IFR traffic and promote proactive coordination of traffic operating under Visual Flight Rules (VFR) near the Airport.
- Protect aircraft operating within the Visual Circuit at Exeter Airport that routinely need to extend beyond the boundary of the ATZ.
- Enhance efficiency by providing airspace that will reduce the instances of avoiding action.
- Reduce traffic delays on the ground and in the air.

1.3 CAP 1616 Airspace Design Guidance

This project represents a submission of an ACP to the Civil Aviation Authority (CAA) to adapt the existing airspace structure at Exeter Airport under CAP 1616. CAP 1616 is a seven-stage

[1] See the Statement of Need, published on the CAA Portal

process published by the CAA that provides guidance on the process to follow when seeking to change the way airspace is used. The seven stages of the process are as follows:

- Stage 1 – Define
- Stage 2 – Develop and Assess (current stage)
- Stage 3 – Consultation
- Stage 4 – Update and Submit
- Stage 5 – Decide
- Stage 6 - Implement
- Stage 7 – Post-Implementation Review

Exeter Airport is currently at Stage 2 which requires the development of options that seek to meet the original Statement of Need. The options are required to align, where practicable, with the Design Principles generated in Stage 1. These options are then assessed to understand the positive/negative impacts before progressing to the Stage 2 Gateway. There is a formal public consultation in Stage 3, but this document is your opportunity as a key stakeholder involved in the development of the Design Principles to contribute early and help influence the design options taken forward to Stage 3. Outside the formal consultation windows, when we are asking for you to contribute, we will still listen to what you have to say about the proposal or generally about our operations.

1.4 Progress So Far

In June 2018, Exeter Airport submitted a Statement of Need to the CAA. This is the formal explanation as to why the Airport wishes to make changes within the airspace surrounding the Airport. The CAA indicated that an airspace change was an appropriate mechanism to achieve the objectives in the Statement of Need. A copy of the Statement of Need and other associated documentation can be viewed at

https://airspacechange.caa.co.uk/PublicProposalArea?pID=62.

In November 2019, the first stage in the change process was successfully completed when the Airport's submission passed through the CAA's Stage 1 DEFINE Gateway.

The work undertaken during Stage 1 helped to establish a prioritised shortlist of Design Principles to act as a framework against which Design Options will be drawn up. The prioritised list of Design Principles is shown in Table 1 below.

Priority	Design Principle
1	SAFETY – Airspace design must at least maintain, and ideally enhance, aviation safety for all airspace users in the local area
2	HARMONISATION – Airspace design must accord with the CAA's published Airspace Modernisation Strategy and any future plans associated with it
3	PROTECTION – New airspace should create a known traffic environment to protect the final approach and climb-out paths at Exeter Airport

Priority	Design Principle
4	ACCESS – Any new airspace should facilitate fair access to all airspace users
5	MINIMISE IMPACT – Airspace designs should, where possible, minimise the impact on non-Exeter Airport aviation in the local area
6	DIMENSIONS – The size and categorisation of any new controlled airspace should be proportionate to the requirement
7	CONNECTIVITY – Airspace should connect to the airways structure to ensure Commercial Air Transport remain inside Controlled Airspace when arriving or departing from Exeter Airport
8	ENVIRONMENT – Airspace should be designed to minimise the adverse impact of aircraft noise and emissions, including any consequential impacts caused by the displacement of other air traffic outside of the Controlled Airspace

Table 1 – Prioritised Design Principles

During the development of our Design Principles in Stage 1, Exeter Airport was not part of the FASI S programme but now will be, as suggested by stakeholders, to ensure that coordination takes place with neighbouring ACPs. Exeter is now part of the FASI West Deployment Programme specifically aimed at coordinating the programme and designs of the three ACPs in the West Deployment of the Airspace Change Masterplan – Exeter, Bristol, and Cardiff Airports.

1.5 Step 2A – Options Development

Stage 2, Step 2A in the process is about the development of a potential long list of design options that seek to meet the original the Statement of Need and are aligned with the Design Principles shown above. Exeter Airport has developed a comprehensive list of design options which, with your input, will be refined to produce one or more options that address the Statement of Need and align with the defined Design Principles. Exeter Airport would like to ensure that stakeholder concerns have been properly understood and accounted for in designing these options. It is important to us that you are satisfied that the design options are aligned with the Design Principles and that we have properly understood and accounted for your concerns in designing options.

In addition, Exeter Airport will be hosting workshops to further engage with stakeholders to make sure that your views have been captured and demonstrate how this feedback has influenced the design options.

Once stakeholder feedback has been received, Exeter Airport will produce a Design Principle Evaluation that sets out how its design options have responded to the Design Principles.

1.6 Step 2B – Options Appraisal

The second part of Stage 2 (Step 2B) involves an assessment of the options in order to develop the short list of options that will be taken forward to Stage 3 (Consultation). Your input will assist us in developing the shortlist. Any options that are unviable and cannot be taken forward, or any restrictions on the design options developed, will be clearly explained to the stakeholders, with the appropriate evidence to support the reasons. At the end of this Step 2B, Exeter Airport will submit details of the options developed to the CAA to pass through the Stage 2 DEVELOP AND ASSESS Gateway, currently programmed for 25th March 2022.

1.7 Next Steps

It must be stressed that this engagement is **in addition to, and does not replace,** the full consultation scheduled to take place in the future. This engagement is focussed on those representative bodies and individuals that were involved in developing the Design Principles in Stage 1, who can offer early views on behalf of their local communities, including elected community representatives, national organisations interested in conservation and environmental protection, commercial aviation operators, including airlines, airports and Air Navigation Service Providers (ANSP), representatives of local General Aviation organisations or clubs and members of the National Air Traffic Management Advisory Committee (NATMAC). Formal public consultation will take place once the Stage 2 DEVELOP AND ASSESS Gateway has been passed. The exact date of the full consultation cannot be confirmed until iteration two of the airspace masterplan, including the associated programme plan, has been assessed and accepted by the CAA and Department for Transport as co-sponsors of airspace modernisation. Details of the formal consultation will be promulgated in due course, at which point Exeter Airport will welcome all relevant views about its ACP.

2 Standard Instrument Departures

We are including new departure routes in our design options for you to review. Known as Standard Instrument Departures, these routes are designed to describe a safe, predictable and efficient navigation route for aircraft taking off and ascending to join the en-route airway structure. The route begins at take-off and ends at a predetermined point where the aircraft enters an airway, or typically where Air Traffic Control (ATC) hand over the aircraft to en-route air traffic controllers for the next part of their journey.

2.1 Introduction

A Standard Instrument Departure (SID) describes the route that an aircraft must fly on departure from an airport in order to connect safely with the en-route airspace structure. Aircraft will follow a designated route profile, including any altitude constraints, to a designated waypoint that forms part of the national airspace structure.

2.2 Design Constraints

It is entirely possible to draw infinite lines on a map to represent departure routes, however there a large number of constraints that we have to take into account. The most important constraints are related to the internationally agreed criteria for flight procedure design – more about this below. Secondly, we have to consider the performance of the aircraft that will fly the new routes. At the start of our design process we carried out a Fleet Equipage Survey with our based operators and other airlines and businesses that use the airport. This enabled us to understand the onboard navigation systems used by the aircraft and any constraints (e.g., rate of turn, climb rates) relating to the flyability of our routes.

The new procedures must be designed so that they comply with the internationally agreed criteria set down in the International Civil Aviation Organisation (ICAO) document PANS-OPS 8168 Volume 2 – Construction of Visual and Instrument Flight Procedures (PANS-OPS), which means that there will be a number of constraints on the design procedure, which will be explained below, where appropriate.

Regardless of aircraft performance, design of the SID has to start at the Departure End of the Runway (DER) and assumes that aircraft reach a height of 16 ft at that point. The DER is not always the physical end of the runway concrete, but may assume a distance beyond the end of the runway that allows the aircraft to safely climb after take-off. In the case of Exeter Airport, DER for Runway 26 is approximately 1,900 ft beyond the end of the runway, and for Runway 08 is approximately 700 ft beyond the end of the runway.

From this point, a climb gradient of 8% (4.6°) has been used as this is a suitable profile for all commercial aircraft that operate from Exeter Airport. In reality, the majority of aircraft will be higher than 16 ft by the end of the runway and, will be able to climb at a greater gradient than the procedure is designed at. This will mean that although the aircraft will follow the ground track of the procedure design, they should, in most cases, be higher than the shown altitudes (or reach 7,000 ft earlier than the shown track).

The end points of the SIDs are typically constrained by the height and position of the airway structure or the activities of neighbouring airports, or other constraints relating to the handover of the aircraft to en-route ANSP.

2.3 Mapping Our Options

In the following paragraphs we have included maps of the options for our SIDs. We have drawn the routes on both an OS roadmap for the benefit of communities and non-aviation stakeholders, and on the VFR aeronautical chart for the benefit of aviation stakeholders. It should be noted that the lines shown on the map are indicative only and only show the approximate direction of travel. Further detailed route designs will be completed at later stages of the process.

2.4 Do Nothing

The Do Nothing option represents the current situation where aircraft on departure route direct to an approved reporting point to join the en-route airways network. Aircraft follow less predictable routes and are often vectored to maintain separation from other aircraft that are not operating from Exeter Airport.

2.5 Runway 08 Departures

Figure 1 and Figure 2 below show the set of departure options for Runway 08. There are two options for departure to the north, one option for departures to the north west, two for departures to the south west (right hand or left hand turn after departure), two to the south and one option to the east.

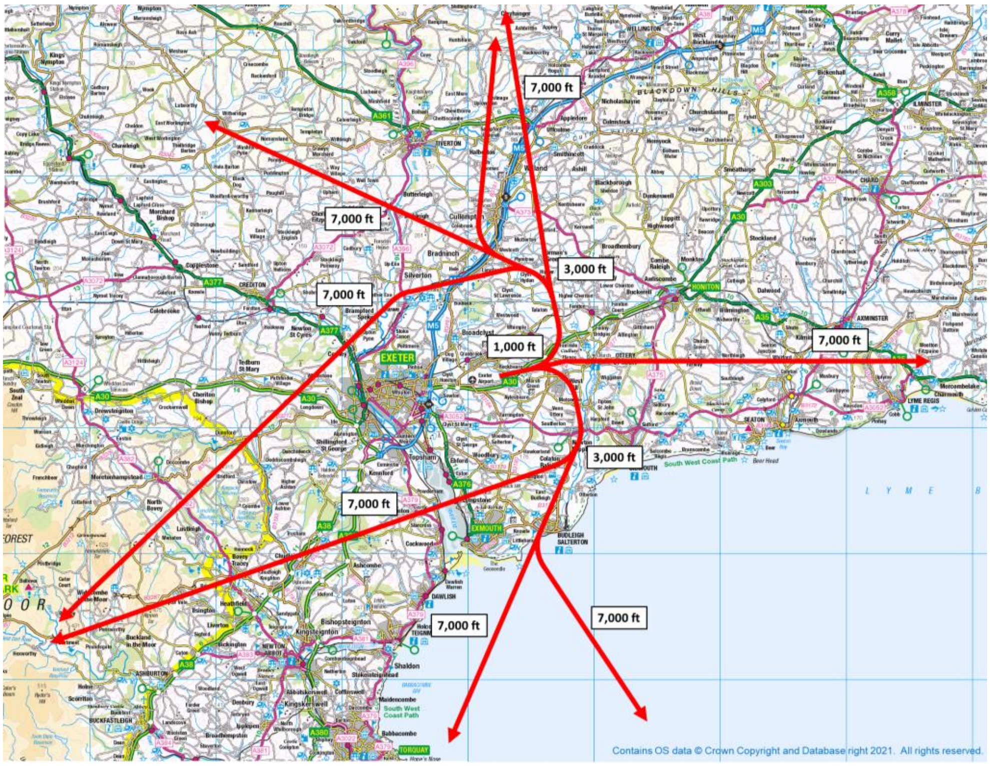

Figure 1 – Runway 08 Standard Instrument Departures (OS Mapping)

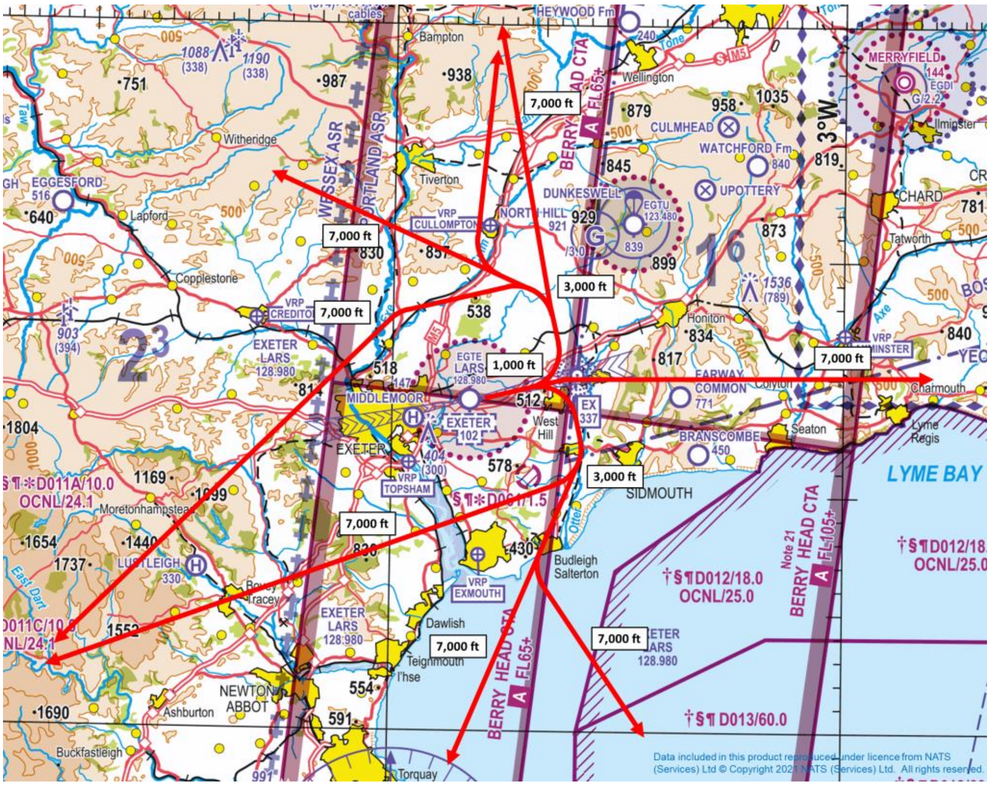

Figure 2 – Runway 08 Standard Instrument Departures (VFR Aeronautical Chart)

2.6 Runway 26 Departures

Figure 3 and Figure 4 below show the set of departure options for Runway 26. There is one option each to the north west and north, two to the east (right hand and left hand), two options for southerly departures and one to the south west.

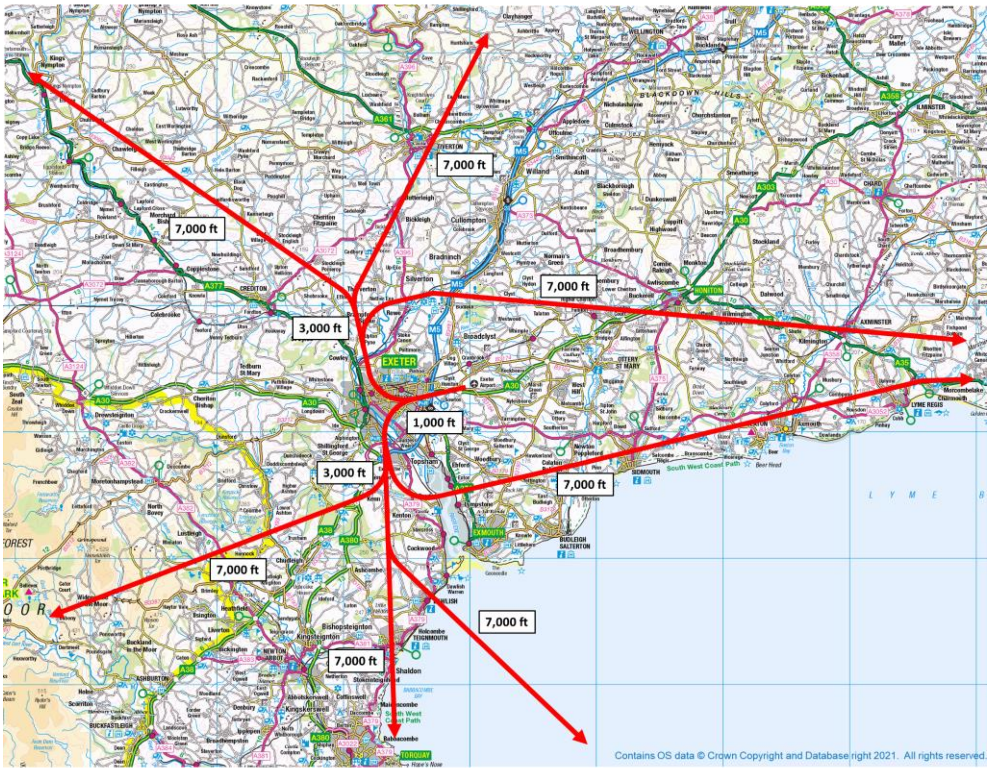

Figure 3 – Runway 26 Standard Instrument Departures (OS Mapping)

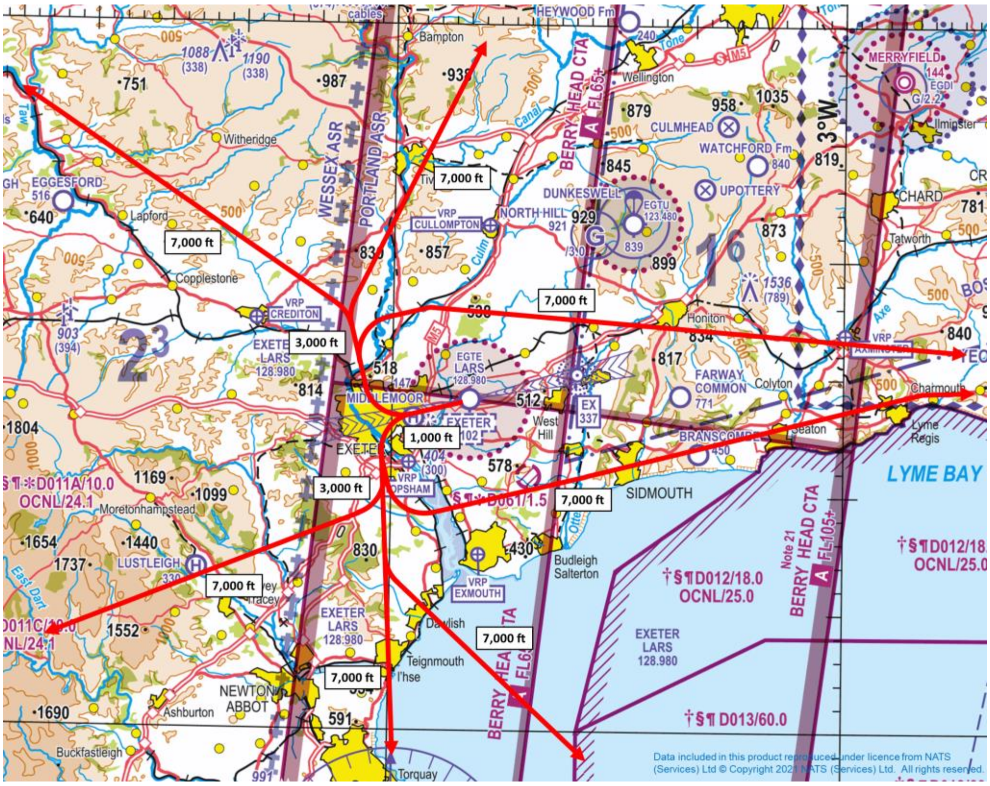

Figure 4 – Runway 26 Standard Instrument Departures (VFR Aeronautical Chart)

Figure 5 and Figure 6 below show an alternate set of departure options for Runway 26 where aircraft do not commence their initial turn until clear of the City of Exeter.

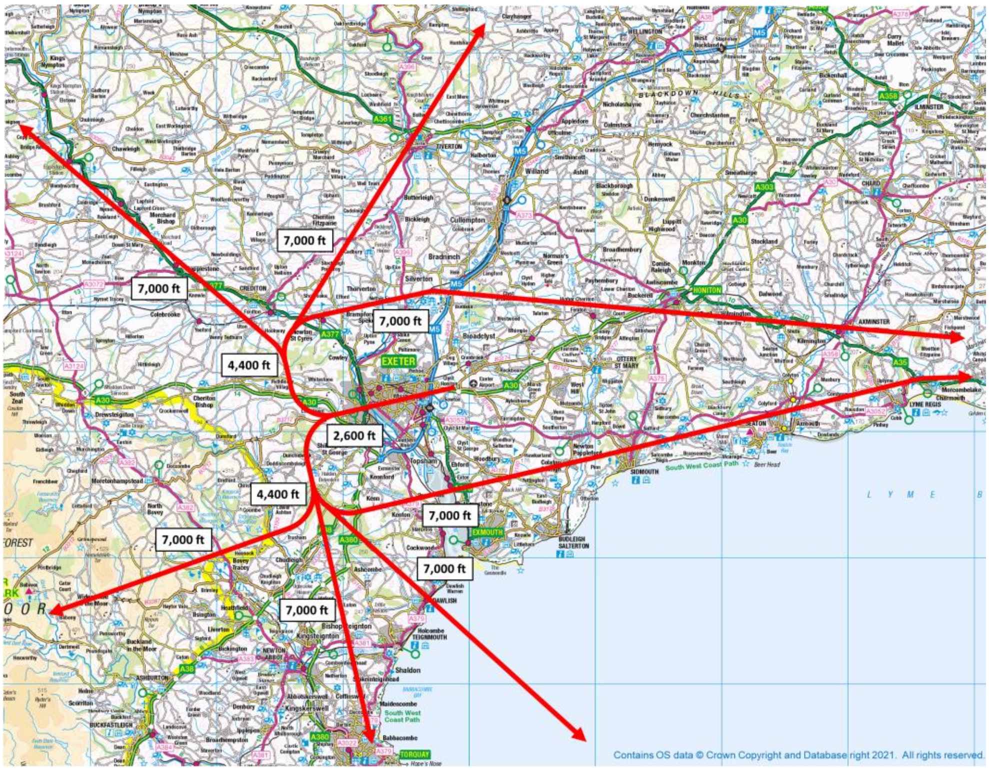

Figure 5 – Runway 26 Extended Standard Instrument Departures (OS Mapping)

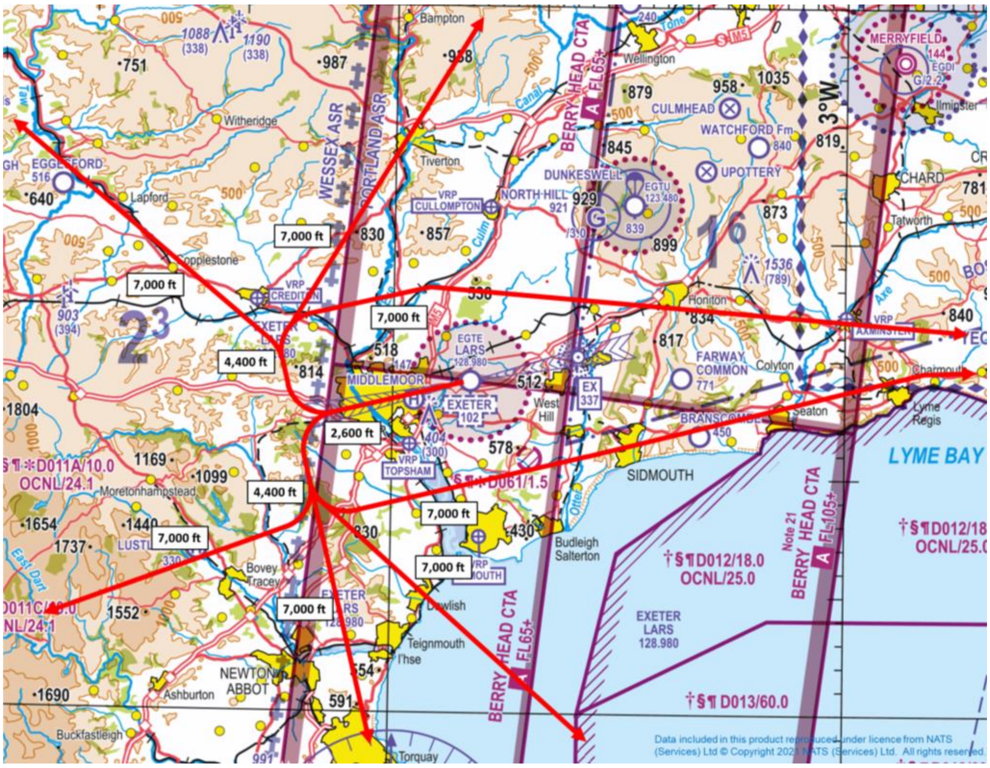

Figure 6 – Runway 26 Extended Standard Instrument Departures (VFR Aeronautical Chart)

Exeter Airport have also considered Radius-to-Fix departure procedures, where aircraft fly a constant radius circular path around a defined centre point. This may allow an earlier turn after take-off, thereby avoiding the City of Exeter, although detailed design work will need to be completed to see if this is possible. However, not all aircraft are equipped to fly these procedures. Exeter Airport have instigated a Fleet Equippage Survey of our operators which will determine whether these procedures can be explored further.

3 Transition Procedures

Exeter Airport already has compliant Final Approach procedures in place at the airport. This is the final stage of flight for aircraft descending to land at Exeter and typically begin around 9nm from the runway. Currently, the pilot is given live instructions from our ATC as to how he should navigate to join the Final Approach; the routes taken by aircraft can be unpredictable due to the need to avoid other aircraft that are passing through the airspace around Exeter Airport.

*We are intending to create a navigation route that connects the airways structure to our Final Approach routes to give aircraft a predictable and efficient approach to the airport. These connections are known as **Transitions**, and we have a number of options depending on which direction the aircraft are coming from.*

3.1 Introduction

The Transition describes the route that the aircraft will take when arriving at an airport from the en-route network or termination of a Standard Arrival procedure (STAR[2]) to the Initial Approach Fix for an Instrument Approach Procedure. The Transition options being developed will be designed to connect to the existing Global Navigation Satellite System (GNSS) Instrument Approach Procedures, which are not going to be changed as a result of this ACP.

3.2 Mapping Our Options

In the following paragraphs we have included maps of the options for our Transition procedures. We have drawn the routes on both an OS roadmap for the benefit of communities and non-aviation stakeholders, and on the VFR aeronautical chart for the benefit of aviation stakeholders. It should be noted that the lines shown on the map are indicative only and only show the approximate direction of travel. Further detailed route designs will be completed at later stages of the process.

3.3 Do Nothing

The Do Nothing option represents the current situation where aircraft receive vectors from ATC to intercept the approach procedure. The exact routes followed will depend on both the direction from which the aircraft are arriving and the runway in use at Exeter Airport.

[2] The STAR describes an en-route navigation route that takes place typically above 7000ft and takes place away from Exeter Airport where Air Traffic Services are provided by NATS.

3.4 Runway 08 Transitions

Figure 7 and Figure 8 below show the set of transition options for Runway 08 (with the Approach Procedure shown in red).

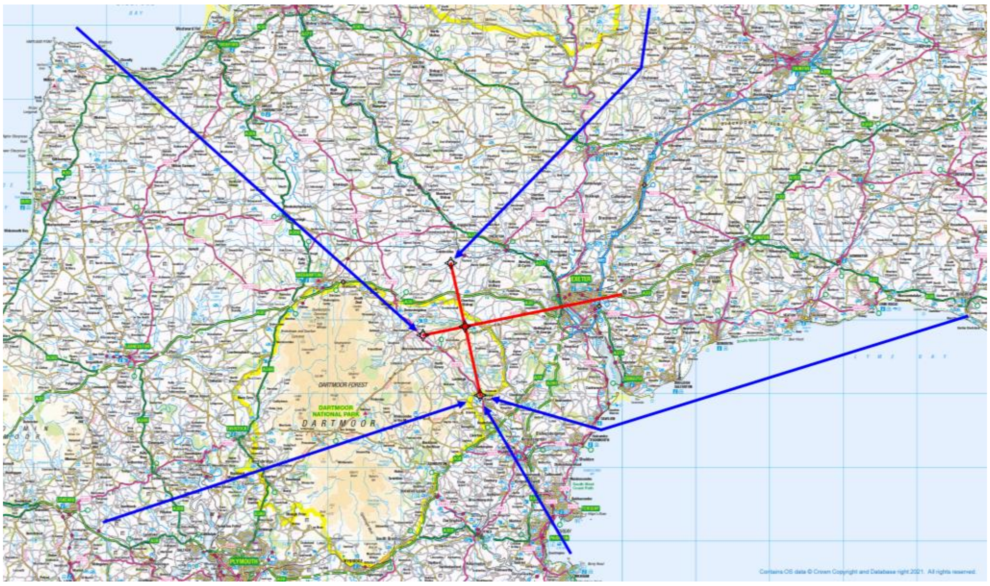

Figure 7 – Runway 08 Transitions (OS Mapping)

Figure 8 – Runway 08 Transitions (VFR Aeronautical Chart)

3.5 Runway 26 Transitions

Figure 9 and Figure 10 below show the set of transition options for Runway 26 (with the Approach Procedure shown in red).

Figure 9 – Runway 26 Transitions (OS Mapping)

Figure 10 – Runway 26 Transitions (VFR Aeronautical Chart)

4 Airspace Options

To complement our new departure and arrival routes (Transitions) we have defined comprehensive list of options for restructuring the airspace around the Airport. Here we present our options for redefining the size, height, and classification of three-dimensional volumes of airspace around the airport aimed at addressing the safety risks to all users of this airspace – the key objective of our ACP.

The classification of the airspace defines the rules for who can enter that airspace and under what constraints, for example, in some cases they must carry a Radio, or they must carry a Transponder, or they must gain clearance from ATC at Exeter Airport.

4.1 Design Option Combinations

The Design Options presented in the following paragraphs show examples of the lateral extent of each airspace option. However, in many cases the classification of the airspace and the vertical extent of the airspace have a number of options. In each paragraph we describe the lateral extent of each piece of airspace, and then we present the different options for classification and the vertical extent for each piece of airspace.

For example, option 10 has a zone around the airfield, stubs either side of this zone extending along the extended runway centreline, and a piece of upper airspace above these areas, as shown below.

The zone around the airfield is initially assumed to be a Class D Control Zone (CTR), from the surface to 3,000 ft above mean sea level (amsl). The stubs either side could also be Class D airspace, from 1,500 to 3,000 ft amsl. However, this airspace could also be a different classification (Class E+, Class E, RMZ or TMZ) to the same altitude, giving 5 different combinations for these two pieces of airspace alone.

The upper airspace shown could also be any one of the 5 airspace classifications shown, which means for this option alone, there are a total of 25 possible combinations of airspace.

4.2 Do Nothing

4.2.1 Option 0

The Do Nothing option represents the current situation where the only form of airspace established to give protection to aerodrome traffic around the airport is an Air Traffic Zone (ATZ). The Exeter Airport ATZ is the airspace extending from the surface to a height of 2,000 ft above the level of the aerodrome within the area bounded by a circle centred on the mid-point of the runway and having a radius of 2.5 nm. Outside of this circle, the airspace is Class G airspace which means anyone can fly there without talking to Exeter Airport ATC. This means that when an airliner is coming in to land, another aircraft could (and indeed there are recorded instances) cut straight across the Final Approach requiring the ATC to intervene to ensure safety margins are maintained.

Figure 11 – Do Nothing

This option is considered unviable as it does not assist ATC in providing enhanced levels of information to aircraft operating in and out of the Airport and to aircraft operating in the local area, which is the main driver for this ACP. It does not address the operational safety risks associated with the lack of protection currently afforded to aircraft flying final approach and initial departure routes outside the ATZ.

4.3 Circular Zone Options

4.3.1 Option 1

Circle radius 5 nm.

a.	TMZ	(i)	Surface - 3,000 ft
b.	RMZ	(ii)	Surface - FL65
c.	Class E		
d.	Class E +		
e.	Class D CTR		

Figure 12 – 5 nm Circle

This option is considered unviable as it does not assist ATC in providing enhanced levels of information to aircraft operating in and out of the Airport and to aircraft operating in the local area, which is the main driver for this ACP. It does not address the operational safety risks associated with the lack of protection currently afforded to aircraft flying final approach and initial departure routes outside the ATZ. The Final Approach track is not contained within this airspace option, nor are the departure routes.

4.3.2 Option 2

Circle radius 7 nm.

a.	TMZ	(i)	Surface - 3,000 ft
b.	RMZ	(ii)	Surface - FL65
c.	Class E		
d.	Class E +		
e.	Class D CTR		

Figure 13 – 7 nm Circle

This option is considered unviable as it does not assist ATC in providing enhanced levels of information to aircraft operating in and out of the Airport and to aircraft operating in the local area, which is the main driver for this ACP. It does not address the operational safety risks associated with the lack of protection currently afforded to aircraft flying final approach and initial departure routes outside the ATZ. Exeter Airport considers that the minimum requirement for aircraft on the final approach would be for protection of aircraft from the Intermediate Fix (IF), where they are lined up in the direction of the runway, prior to commencing the descent.

4.4 Circular Zone with Stubs

4.4.1 Option 3

Circle radius 5 nm with 4 nm-wide stubs extending 5nm beyond the circular zone.

a.	TMZ	(i)	Surface - 3,000 ft	(1)	Stub – 1,500 ft - 3,000 ft
b.	RMZ	(ii)	Surface - FL65	(2)	Stub – 1,500 ft – FL65
c.	Class E				
d.	Class E +				
e.	Class D CTR/CTA				

Figure 14 – 5 nm Circle with 4 nm Wide Stubs

This option is considered unviable as it does not assist ATC in providing enhanced levels of information to aircraft operating in and out of the Airport and to aircraft operating in the local area, which is the main driver for this ACP. It does not address the operational safety risks associated with the lack of protection currently afforded to aircraft flying final approach and initial departure routes outside the ATZ. Exeter Airport considers that the minimum requirement for aircraft on the final approach would be for protection of aircraft from the Intermediate Fix (IF), where they are lined up in the direction of the runway, prior to commencing the descent.

4.4.2 Option 4

Circle radius 5 nm with 5 nm-wide stubs extending 5nm beyond the circular zone.

a.	TMZ	(i)	Surface - 3,000 ft	(1)	Stub – 1,500 ft - 3,000 ft
b.	RMZ	(ii)	Surface - FL65	(2)	Stub – 1,500 ft – FL65
c.	Class E				
d.	Class E +				
e.	Class D CTR/CTA				

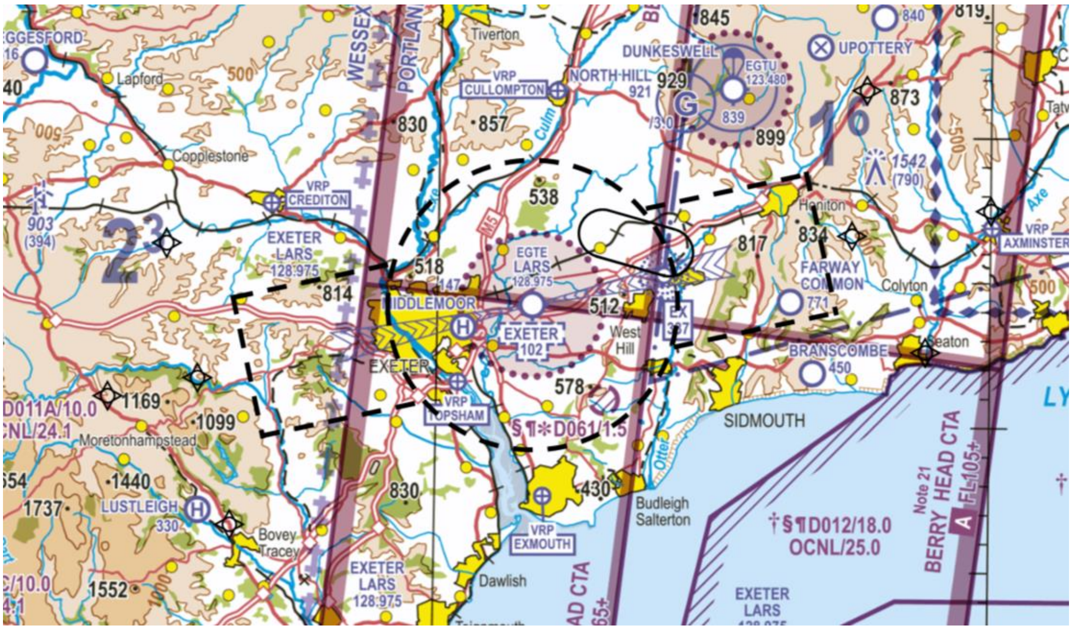

Figure 15 – 5 nm Circle with 5 nm Wide Stubs

This option is considered unviable as it does not assist ATC in providing enhanced levels of information to aircraft operating in and out of the Airport and to aircraft operating in the local area, which is the main driver for this ACP. It does not address the operational safety risks associated with the lack of protection currently afforded to aircraft flying final approach and initial departure routes outside the ATZ. Exeter Airport considers that the minimum requirement for aircraft on the final approach would be for protection of aircraft from the Intermediate Fix (IF), where they are lined up in the direction of the runway, prior to commencing the descent.

4.5 Lozenge Zone

All options from this point present the zone immediately around the airfield as a Class D CTR, although other airspace classifications have been considered and reasons for rejecting them are given in the option descriptions below.

4.5.1 Option 5

Lozenge shaped zone, circular portion 6 nm radius, truncated 5 nm laterally parallel to the runway centreline. Stubs 5 nm wide extended to include protection of the IFPs.

Zone:

a.	Class D CTR	(i)	Surface - 3,000 ft
		(ii)	Surface - FL65

Stubs:

a.	TMZ	(i)	Stub – 1,500 ft - 3,000 ft
b.	RMZ	(ii)	Stub – 1,500 ft – FL65
c.	Class E		
d.	Class E +		
e.	Class D CTA		

Figure 16 – 6x5 Lozenge and IF-Protected Stubs

Options that include the use of a TMZ are considered unviable as they do not address the issue of creating a known traffic environment and therefore do not afford protection to aircraft on the final approach and climb out paths at the airport. Aircraft flying under Visual Flight Rules (VFR) routinely transit the approach lanes for the airport whilst transponding a low level conspicuity code. ATC tactical intervention is repeatedly required for CAT aircraft on final approach or initial departure routes in order to maintain separation from local and transitory aircraft, often resulting in further approaches needing to be flown. All other combinations of this option are considered viable.

4.5.2 Option 6

Lozenge shaped zone, circular portion 6 nm radius, truncated 5 nm laterally parallel to the runway centreline. Stubs extended to 10 nm wide to the lateral extent of the zone and including protection of the IFs.

Zone:

a.	Class D CTR	(i)	Surface - 3,000 ft
		(ii)	Surface - FL65

Stubs:

a.	TMZ	(i)	Stub – 1,500 ft - 3,000 ft
b.	RMZ	(ii)	Stub – 1,500 ft – FL65
c.	Class E		
d.	Class E +		
e.	Class D CTA		

Figure 17 – 6x5 Lozenge and IF-Protected Expanded Zone

This option is considered unviable due to the adverse impact on other local airfields, in particular Dunkeswell and North Hill.

4.5.3 Option 7

Lozenge shaped zone, circular portion 6 nm radius, truncated 5 nm laterally parallel to the runway centreline. Stubs extended to 10 nm wide to the lateral extent of the zone to the west. Southern boundary to the east in line with the southern boundary of the zone. Northern boundary moved south to avoid Dunkeswell and North Hill airfields.

Zone:

a.	Class D CTR	(i)	Surface - 3,000 ft
		(ii)	Surface - FL65

Stubs:

a.	TMZ	(i)	Stub – 1,500 ft - 3,000 ft
b.	RMZ	(ii)	Stub – 1,500 ft – FL65
c.	Class E		
d.	Class E +		
e.	Class D CTA		

Figure 18 – 6x5 Lozenge and IF-Protected Expanded Zone Avoiding Dunkeswell

Options that include the use of a TMZ are considered unviable as they do not address the issue of creating a known traffic environment and therefore do not afford protection to aircraft on the final approach and climb out paths at the airport. All other combinations of this option are considered viable.

4.5.4 Option 8

Lozenge shaped zone, circular portion 6 nm radius, truncated 5 nm laterally parallel to the runway centreline. Outer area expanded to lozenge shape that includes protection of the IAFs.

Zone:

a.	Class D CTR	(i)	Surface - 3,000 ft
		(ii)	Surface - FL65

Stubs:

a.	TMZ	(i)	Outer Zone – 1,500 ft - 4,000 ft
b.	RMZ	(ii)	Outer Zone – 1,500 ft – FL65
c.	Class E		
d.	Class E +		
e.	Class D CTA		

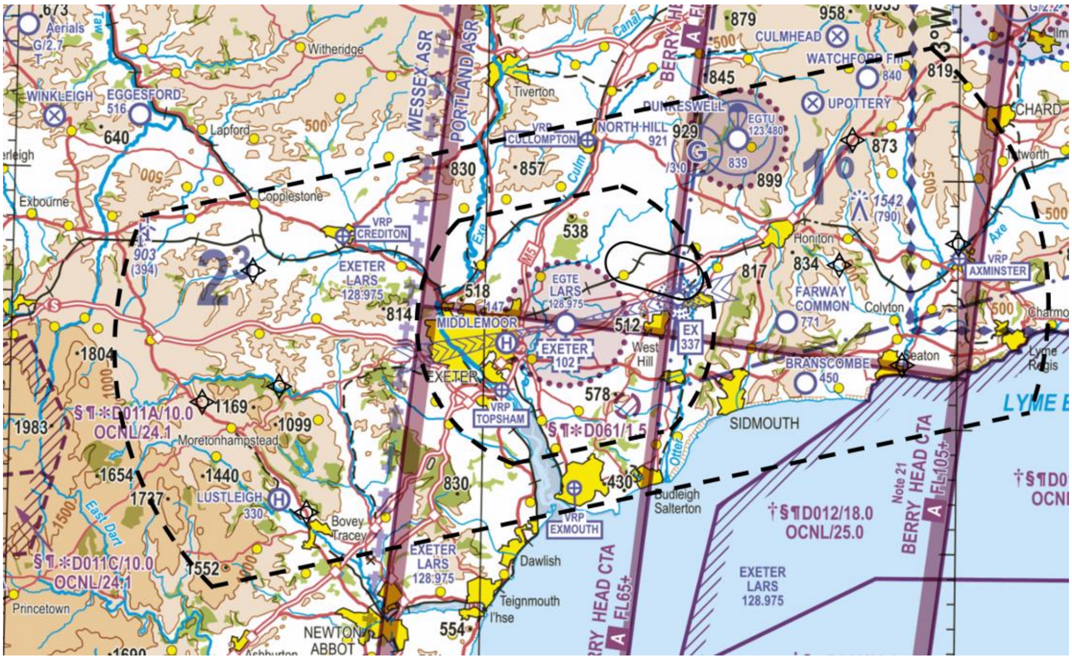

Figure 19 – 6x5 Lozenge and IAF-Protected Expanded Zone

This option is considered unviable due to the adverse impact on other local airfields.

4.5.5 Option 9

Lozenge shaped zone, circular portion 6 nm radius, truncated 5 nm laterally parallel to the runway centreline. Outer area expanded to lozenge shape that includes protection of the IAFs, but adjusted to the north to avoid Dunkeswell and North Hill airfields.

Zone:

a.	Class D CTR	(i)	Surface - 3,000 ft
		(ii)	Surface - FL65

Stubs:

a.	TMZ	(i)	Outer Zone – 1,500 ft - 4,000 ft
b.	RMZ	(ii)	Outer Zone – 1,500 ft – FL65
c.	Class E		
d.	Class E +		
e.	Class D CTA		

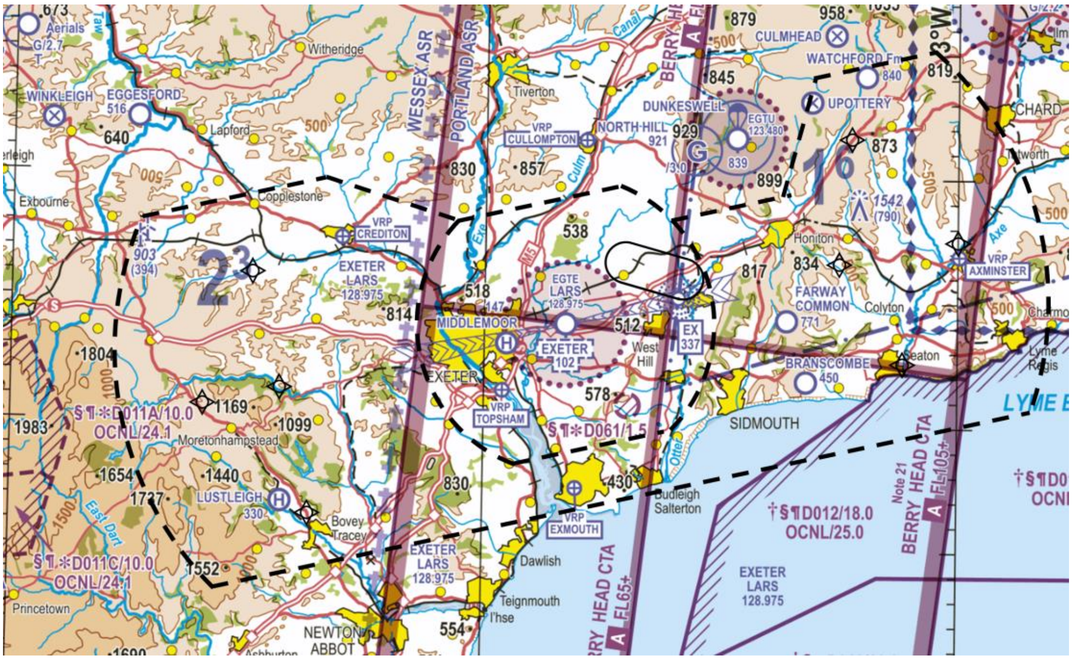

Figure 20 – 6x5 Lozenge and IAF-Protected Expanded Zone Avoiding Dunkeswell

Options that include the use of a TMZ are considered unviable as they do not address the issue of creating a known traffic environment and therefore do not afford protection to aircraft on the final approach and climb out paths at the airport. All other combinations of this option are considered viable.

4.6 Layered Zones

4.6.1 Option 10

Layered airspace, lower airspace option the same as option 5 above (lozenge zone and 5 nm-wide stubs to protect IFs only) but with upper altitude of 3,000 ft. upper airspace northern boundary in line with northern edge of stubs. Southern boundary extended to contain aircraft leaving airway structure via nominal letterboxes to southern IAFs for approach procedures.

Zone:

a. Class D CTR (i) Surface - 3,000 ft

Stubs:

a. TMZ (i) 1,500 ft - 3,000 ft

b. RMZ

c. Class E

d. Class E +

e. Class D CTA

Upper Zone

a. TMZ (i) 3,000 ft – FL65

b. RMZ

c. Class E

d. Class E +

e. Class D CTA

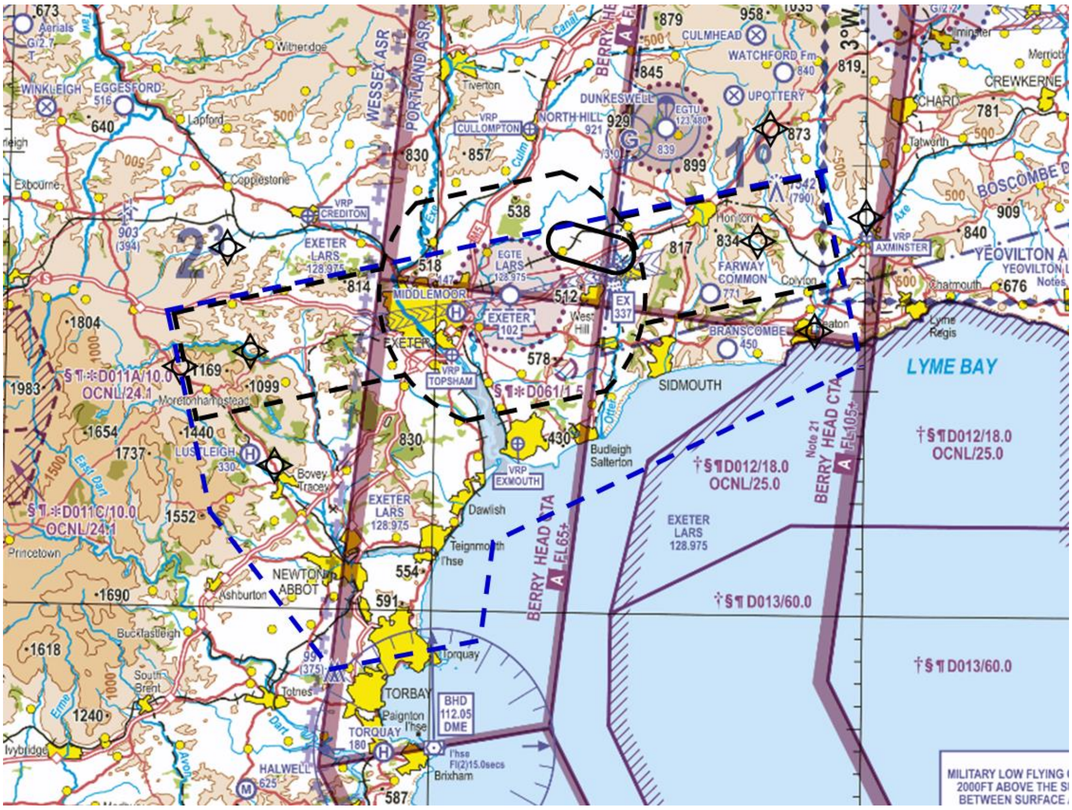

Figure 21 – 6x5 Lozenge and IF-Protected Stubs plus Upper Zone to the South

Options that include the use of a TMZ for the lower portion of the airspace are considered unviable as they do not address the issue of creating a known traffic environment and therefore do not afford protection to aircraft on the final approach and climb out paths at the airport. All other combinations of this option are considered viable.

4.6.2 Option 11

Layered airspace, lower airspace option the same as option 6 above (lozenge zone and 10 nm-wide stubs to protect IFs only) but with upper altitude of 3,000 ft. upper airspace northern boundary in line with northern edge of stubs. Southern boundary extended to contain aircraft leaving airway structure via nominal letterboxes to southern IAFs for approach procedures.

Zone:

a. Class D CTR (i) Surface - 3,000 ft

Outer Area:

a. TMZ (i) 1,500 ft - 3,000 ft

b. RMZ

c. Class E

d. Class E +

e. Class D CTA

Upper Zone

a. TMZ (i) 3,000 ft – FL65

b. RMZ

c. Class E

d. Class E +

e. Class D CTA

Figure 22 – 6x5 Lozenge and IF-Protected Expanded Zone plus Upper Zone to the South

This option is considered unviable due to the adverse impact on other local airfields.

4.6.3 Option 12

Layered airspace, lower airspace option the same as option 7 above (lozenge zone and 10 nm-wide stubs to protect IFs only but avoiding Dunkeswell and North Hill airfields) but with upper altitude of 3,000 ft. Upper airspace northern boundary in line with the northern edge of western stub . Southern boundary extended to contain aircraft leaving airway structure via nominal letterboxes to southern IAFs for approach procedures.

Zone:

a. Class D CTR (i) Surface - 3,000 ft

Outer Area:

a. TMZ (i) 1,500 ft - 3,000 ft

b. RMZ

c. Class E

d. Class E +

e. Class D CTA

Upper Zone

a. TMZ (i) 3,000 ft – FL65

b. RMZ

c. Class E

d. Class E +

e. Class D CTA

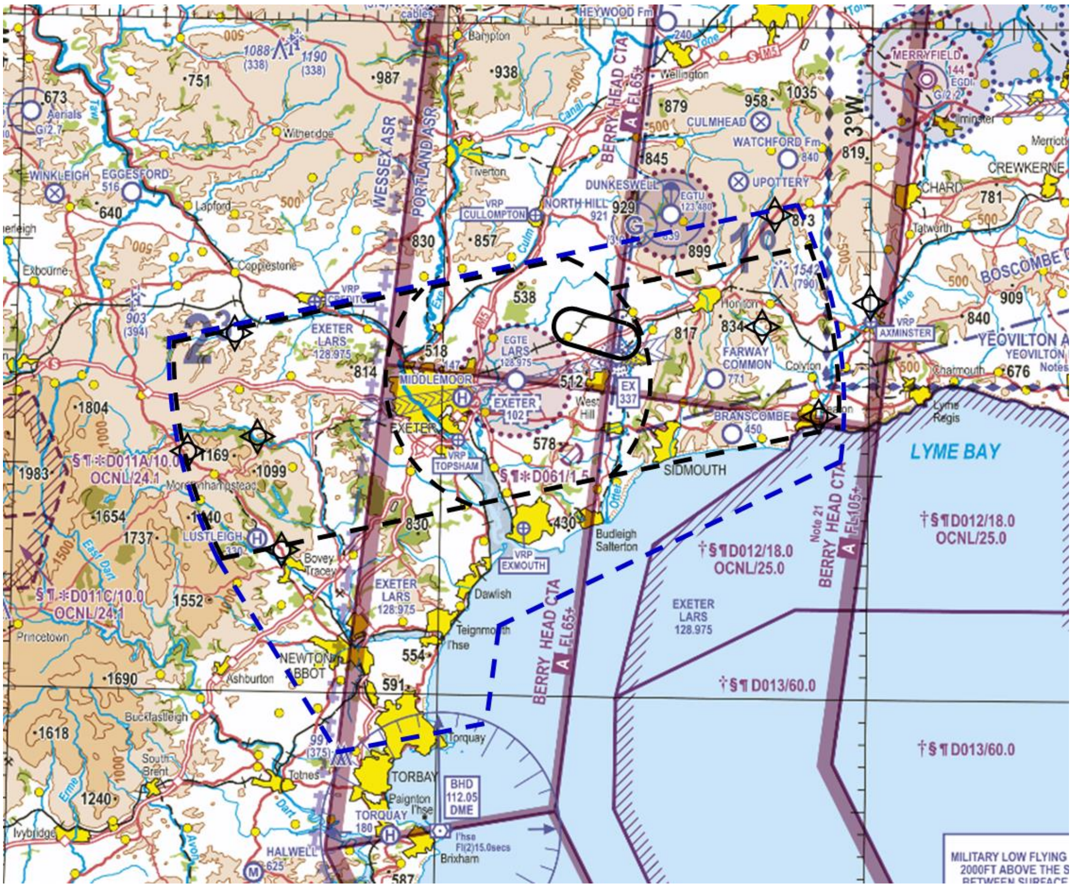

Figure 23 – 6x5 Lozenge and IF-Protected Expanded Zone plus Upper Zone to the South

Options that include the use of a TMZ for the lower portion of the airspace are considered unviable as they do not address the issue of creating a known traffic environment and therefore do not afford protection to aircraft on the final approach and climb out paths at the airport. All other combinations of this option are considered viable.

4.6.4 Option 13

Layered airspace, lower airspace option the same as option 12 above (lozenge zone and 10 nm-wide stubs to protect IFs only but avoiding Dunkeswell and North Hill airfields) but with upper altitude of 3,000 ft. Upper airspace northern boundary in line with the northern edge of the lower airspace, also avoiding Dunkeswell and North Hill airfields. Southern boundary extended to contain aircraft leaving airway structure via nominal letterboxes to southern IAFs for approach procedures.

Zone:

a. Class D CTR (i) Surface - 3,000 ft

Outer Area:

a. TMZ (i) 1,500 ft - 3,000 ft

b. RMZ

c. Class E

d. Class E +

e. Class D CTA

Upper Zone

a. TMZ (i) 3,000 ft – FL65

b. RMZ

c. Class E

d. Class E +

e. Class D CTA

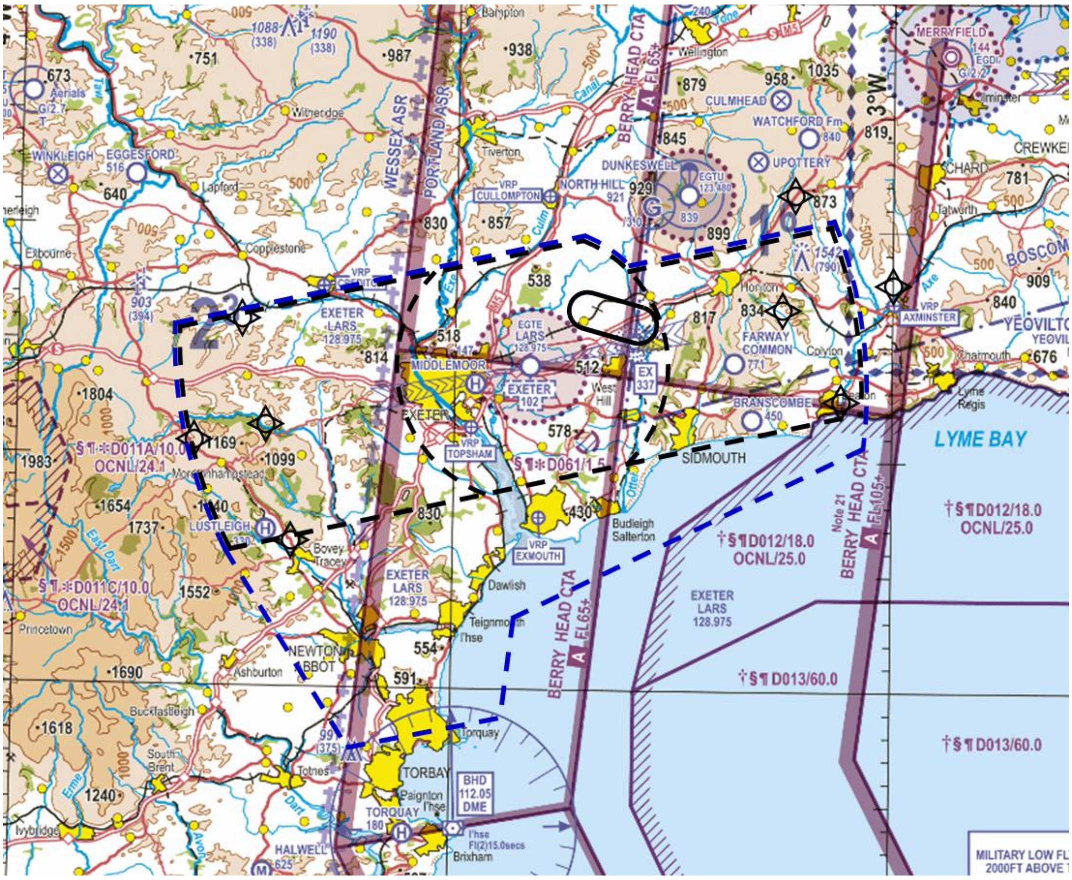

Figure 24 – 6x5 Lozenge and IF-Protected Expanded Zone plus Upper Zone to the South Avoiding Dunkeswell

Options that include the use of a TMZ for the lower portion of the airspace are considered unviable as they do not address the issue of creating a known traffic environment and therefore do not afford protection to aircraft on the final approach and climb out paths at the airport. All other combinations of this option are considered viable.

4.6.5 Option 14

Layered airspace, lower airspace option the same as option 8 above (lozenge zone and lozenge outer zone protecting IAFs) but with upper altitude of 3,000 ft. Upper airspace northern boundary in line with the northern edge of the lower airspace. Southern boundary extended to contain aircraft leaving airway structure via nominal letterboxes to southern IAFs for approach procedures.

Zone:

a. Class D CTR (i) Surface - 3,000 ft

Outer Area:

a. TMZ (i) 1,500 ft - 3,000 ft

b. RMZ

c. Class E

d. Class E +

e. Class D CTA

Upper Zone

a. TMZ (i) 3,000 ft – FL65

b. RMZ

c. Class E

d. Class E +

e. Class D CTA

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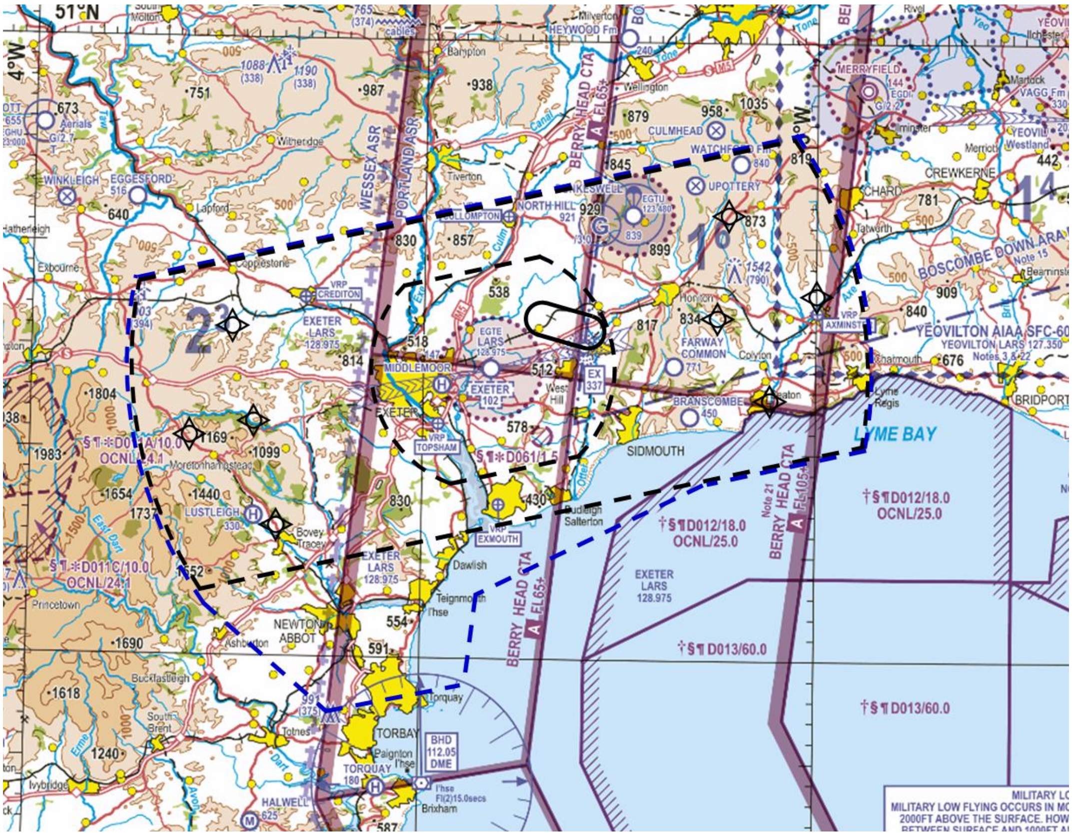

Figure 25 – 6x5 Lozenge and IAF-Protected Expanded Zone plus Upper Zone to the South

This option is considered unviable due to the adverse impact on other local airfields.

4.6.6 Option 15

Layered airspace, lower airspace option the same as option 9 above (lozenge zone and lozenge outer zone protecting IAFs and avoiding Dunkeswell and North Hill airfields) but with upper altitude of 3,000 ft. Upper airspace northern boundary in line with the northern edge of the western part of the lower airspace. Southern boundary extended to contain aircraft leaving airway structure to southern IAFs for approach procedures.

Zone:

a.	Class D CTR	(i)	Surface - 3,000 ft

Outer Area:

a.	TMZ	(i)	1,500 ft - 3,000 ft
b.	RMZ		
c.	Class E		
d.	Class E +		
e.	Class D CTA		

Upper Zone

a.	TMZ	(i)	3,000 ft – FL65
b.	RMZ		
c.	Class E		
d.	Class E +		
e.	Class D CTA		

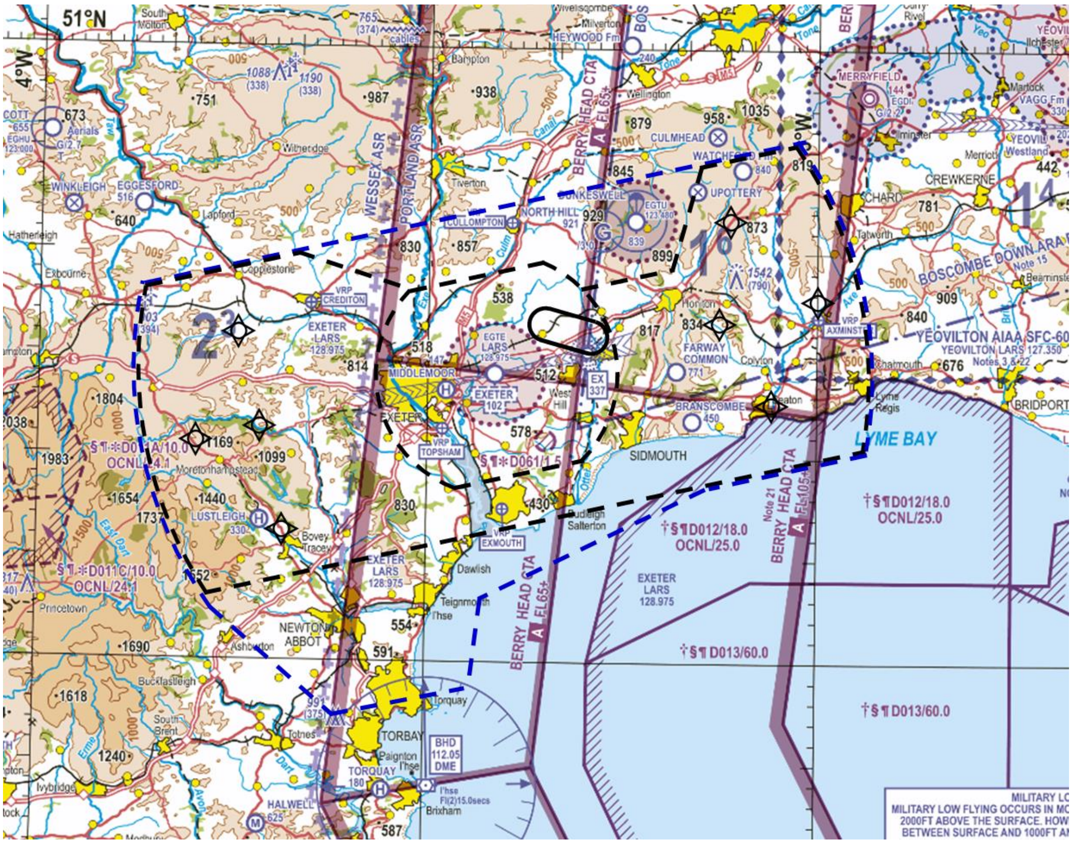

Figure 26 – 6x5 Lozenge and IAF-Protected Expanded Zone Avoiding Dunkeswell plus Upper Zone to the South

Options that include the use of a TMZ for the lower portion of the airspace are considered unviable as they do not address the issue of creating a known traffic environment and therefore do not afford protection to aircraft on the final approach and climb out paths at the airport. All other combinations of this option are considered viable.

4.6.7 Option 16

Layered airspace, lower airspace option the same as option 9 above (lozenge zone and lozenge outer zone protecting IAFs and avoiding Dunkeswell and North Hill airfields) but with upper altitude of 3,000 ft. Upper airspace northern boundary in line with the northern edge of the lower airspace, also avoiding Dunkeswell and North Hill airfields. Southern boundary extended to contain aircraft leaving airway structure via nominal letterboxes to southern IAFs for approach procedures.

Zone:

a. Class D CTR (i) Surface - 3,000 ft

Outer Area:

a. TMZ (i) 1,500 ft - 3,000 ft

b. RMZ

c. Class E

d. Class E +

e. Class D CTA

Upper Zone

a. TMZ (i) 3,000 ft – FL65

b. RMZ

c. Class E

d. Class E +

e. Class D CTA

Figure 27 – 6x5 Lozenge and IAF-Protected Expanded Zone plus Upper Zone to the South Avoiding Dunkeswell

Options that include the use of a TMZ for the lower portion of the airspace are considered unviable as they do not address the issue of creating a known traffic environment and therefore do not afford protection to aircraft on the final approach and climb out paths at the airport. All other combinations of this option are considered viable.

4.7 Maximum Zone Options

4.7.1 Option 17

Layered airspace, lower airspace option the same as option 16 above (lozenge zone and lozenge outer zone protecting IAFs and avoiding Dunkeswell and North Hill airfields) but with upper altitude of 3,000 ft. Upper airspace extended to the north to contain aircraft leaving airways structure via nominal letterboxes to northern IAFs. Southern boundary extended to contain aircraft leaving airways structure via nominal letterboxes to southern IAFs for approach procedures.

Zone:

a. Class D CTR (i) Surface - 3,000 ft

Outer Area:

a. TMZ (i) 1,500 ft - 3,000 ft

b. RMZ

c. Class E

d. Class E +

e. Class D CTA

Upper Zone

a. TMZ (i) 3,000 ft – FL65

b. RMZ

c. Class E

d. Class E +

e. Class D CTA

Figure 28 – 6x5 Lozenge and IAF-Protected Expanded Zone plus Upper Zone to the North and South

Options that include the use of a TMZ for the lower portion of the airspace are considered unviable as they do not address the issue of creating a known traffic environment and therefore do not afford protection to aircraft on the final approach and climb out paths at the airport. All other combinations of this option are considered viable.

4.7.2 Option 18

Layered airspace, lower airspace option the same as option 16 above (lozenge zone and lozenge outer zone protecting IAFs and avoiding Dunkeswell and North Hill airfields) but with upper altitude of 3,000 ft. Upper airspace extended to the north to contain aircraft leaving airways structure via nominal letterboxes to north western IAF but amended to the north east to avoid Dunkeswell and North Hill airfields. Southern boundary extended to contain aircraft leaving airways structure via nominal letterboxes to southern IAFs for approach procedures.

Zone:

a. Class D CTR (i) Surface - 3,000 ft

Outer Area:

a. TMZ (i) 1,500 ft - 3,000 ft

b. RMZ

c. Class E

d. Class E +

e. Class D CTA

Upper Zone

a. TMZ (i) 3,000 ft – FL65

b. RMZ

c. Class E

d. Class E +

e. Class D CTA

Figure 29 – 6x5 Lozenge and IAF-Protected Expanded Zone plus Upper Zone to the North and South Avoiding Dunkeswell

Options that include the use of a TMZ for the lower portion of the airspace are considered unviable as they do not address the issue of creating a known traffic environment and therefore do not afford protection to aircraft on the final approach and climb out paths at the airport. All other combinations of this option are considered viable.

4.8 Previous ACP Option

4.8.1 Option 19

The original ACP submission consisting of a Class D CTR and multiple Class D CTAs with varying lower and upper altitudes.

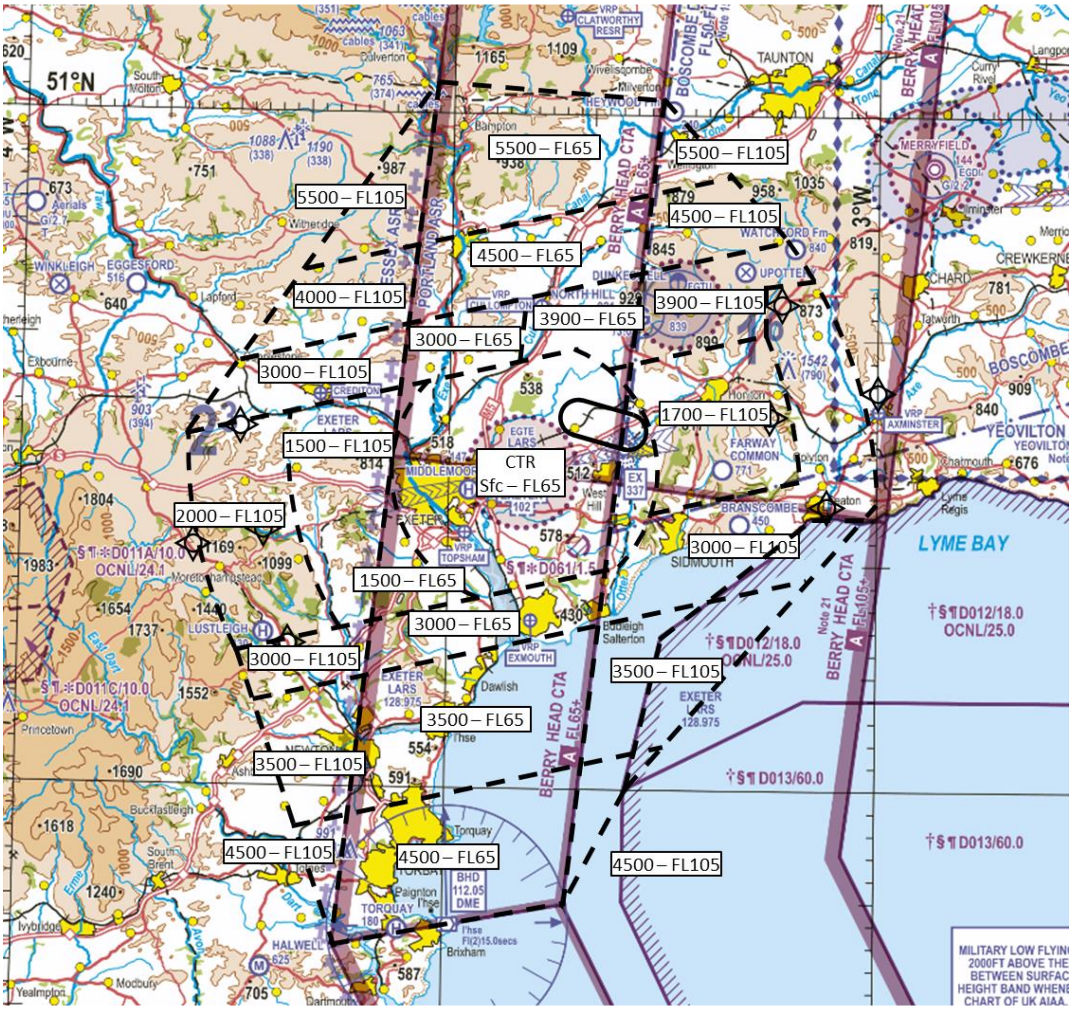

Figure 30 – Previous ACP Submission

This option remains a viable option and we welcome stakeholder views.

5 The Design Options – Your Input

5.1 Design Options – Your Input

Exeter Airport is seeking any views or comments that stakeholders may wish to express regarding the list of airspace design options described in Section 2 above. The planned workshops (details attached) give you the opportunity to discuss these options with the Exeter Airport team and provide your input to the designs. If you are unable to attend the workshops, we will accept your input via any written method that you prefer.

Pleased do not feel constrained in your response to the options provided. Your views could include, but not limited to:

- Your preferences.
- Suggested amendments to the designs shown.
- Alternative ideas to those shown.
- Any options that you do not think should be taken forward with reasons.

5.2 How to Respond

5.2.1 By email

Please send us your comments and views via email to the following address:

acpexeterenquiries@exeter-airport.co.uk

It is important that individual email responses, subject heading '**Exeter Airport ACP Design Options**', clearly show your name and contact details; this will allow us to cross refer to the emails we send out. Please return any responses by **Friday 17th December 2021**.

5.2.2 Focus Groups

In addition to accepting comments and views via e-mail, Exeter Airport is organising two Focus Groups with stakeholders, to give you the opportunity to give your views in person, or to ask questions about the information contained in this document.

Invitations for these Focus Groups and details of how to attend are included in the covering e-mail for this document.

As described in paragraph 1.7, a full public consultation will be conducted at some point in the future and all participants will have a further opportunity to comment. Exeter Airport will ensure any views expressed at this stage will also be recorded and processed through to the full consultation.