

Manston Airport
ACP (ACP-2018-75)
Consultation Document



Welcome to the Manston Airport Airspace Change Proposal (ACP) Consultation Document.

Manston Airport is a disused airport on the Isle of Thanet in Kent. It has one of the longest and widest runways in the UK, making it a valuable infrastructure asset. Manston Airport is owned by RiverOak Strategic Partners Limited (RSP). RSP intends to secure the future of this valuable national asset by redeveloping and reopening it as a successful hub for international air freight which also offers passenger travel, executive travel and aircraft engineering services. The airport will be comprehensively rebuilt and upgraded, including the provision of new cargo aircraft stands.

In this document, we will explain the background to the ACP consultation, we will tell you what we are consulting on, and we will explain how you can have your say.

The development has been subject to a Development Consent Order (DCO) application submitted by RSP to the Government Planning Inspectorate (PINS) in July 2019. RSP's Development Consent Order for the redevelopment of Manston Airport was approved by the UK Government in August 2022. Work is now underway on the detailed planning work necessary prior to the reopening of the airport.

In addition to the DCO, to gain authorisation to operate Manston Airport, we need to secure a range of specialist aviation approvals and permissions from the Civil Aviation Authority (CAA). Manston Airport will need to submit an application to the CAA to establish the airspace and procedures required to enable safe and efficient operations to and from the airport in accordance with the Civil Aviation Publication (CAP) 1616 – Airspace Change Process and its associated guidance documents. The CAA will ensure that any airspace and aviation proposals put forward by Manston Airport are compliant with national, international and global aviation regulations and the DCO approval would guide the airspace proposal.

This document relates only to the CAA CAP 1616 process and the proposal to introduce the airspace and Instrument Flight Procedures (IFPs) required to enable safe and efficient operations to and from the airport. IFP is a term used to describe the published profiles aircraft fly over the ground, both in plan and elevation view when arriving at and departing from an airport.

This ACP is not related to the DCO or the decision by the UK Government to grant the DCO and allow the airport to be redeveloped.

The aim of this consultation is to seek the views of any groups or individuals who may be interested in this ACP and the effect it may have on them. Manston Airport is proposing to introduce IFPs that can be flown with reference to Global Navigation Satellite Systems (GNSS) for aircraft arriving at, and departing from, the airport.

Our Airspace Change is aimed at introducing safe routes that aircraft will fly when departing from and arriving at Manston Airport and we aim to minimise the environmental impacts of aircraft operations, wherever possible.

We are asking you to consider what impact this proposal could have on you as an individual, your community as a whole, or your organisation's activities. This is your opportunity to review the proposed procedures and influence the final designs that Manston Airport will submit to the CAA. We would welcome any feedback and suggestions that you may have.

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Glossary

Acronym	Meaning
aal	above aerodrome level
ACOG	Airspace Change Organising Group
ACP	Airspace Change Proposal
agl	above ground level
AIP	Aeronautical Information Publication
amsl	above mean sea level
ANSP	Air Navigation Service Provider
AONB	Area of Outstanding Natural Beauty
ATC	Air Traffic Control
ATM	Air Transport Movement
ATS	Air Traffic Service
ATZ	Aerodrome Traffic Zone
CAA	Civil Aviation Authority
CAP	Civil Aviation Publication
CAS	Controlled Airspace
CAT	Commercial Air Transport
CPRE	Campaign for the Protection of Rural England
dB	Decibel
dBA	Decibel A-Weighted
DfT	Department for Transport
DCO	Development Consent Order
DPE	Design Principles Evaluation
FAF	Final Approach Fix
FASI	Future Airspace Strategy Implementation
FASI-S	Future Airspace Strategy Implementation - South
ft	feet
FL	Flight Level
FMS	Flight Management System
FRZ	Flight Restriction Zone

Glossary (continued)

Acronym	Meaning
GA	General Aviation
GNSS	Global Navigation Satellite Systems
IF	Intermediate Fix
IAF	Initial Approach Fix
IAP	Instrument Approach Procedure
IFP	Instrument Flight Procedure
IFR	Instrument Flight Rules
ILS	Instrument Landing System
LTMA	London Terminal Manoeuvring Area
MAP	Missed Approach Procedure
NATMAC	National Air Traffic Management Advisory Committee
NATS	formerly National Air Traffic Services
NDB	Non-Directional Beacon
NM	nautical mile
NPV	Net Present Value
NSIP	Nationally Significant Infrastructure Project
PINS	Planning Inspectorate
RNP	Required Navigation Performance
RPZ	Runway Protection Zone
RSP	RiverOak Strategic Partners Ltd
SID	Standard Instrument Departure
VFR	Visual Flight Rules

The descriptions within this document contain a number of technical terms. To assist with understanding these terms, we have included a Glossary of Terms in Appendix D at the end of this document. We recommend using this list while reading this Consultation Document to help you understand some of the technical terminology used throughout this and other consultation material.

1. Introduction

1.1 Welcome

Welcome to Manston Airport's Airspace Change Proposal (ACP) Consultation Document. In this document, we will explain the background to our consultation, we will tell you what we are consulting on and we will explain how you can have your say.

This consultation is open to everyone. If there is anyone you know who you feel may be affected by these proposed changes, and may not have heard about our consultation, please feel free to share this document with them or let them know that they can find all the information regarding this consultation on the CAA Airspace Change Portal via the following link:

Airspace Change proposal public view – Manston Airport ACP
<https://airspacechange.caa.co.uk/PublicProposalArea?pid=112>

If you, or anyone you know, requires this information in an alternative format, please ask at one of our public events listed in Section 9, email us at manstonairspace@communityrelations.co.uk or write to us at the following address:

Free Post 1616

Please do not add anything else to the envelope.

1.2 Background

Manston airport is a disused airport on the Isle of Thanet in Kent. It has one of the longest and widest runways in the UK, making it a valuable infrastructure asset. Manston Airport is owned by RiverOak Strategic Partners (RSP). RSP intends to secure the future of this valuable national asset by redeveloping and reopening it as a successful hub for international air freight which also offers passenger travel, executive travel and aircraft engineering services. The airport will be comprehensively rebuilt and upgraded, including the provision of new cargo aircraft stands.

The development has been subject to a Development Consent Order (DCO) application submitted by RSP to the Government Planning Inspectorate (PINS) in July 2019. In August 2019, PINS announced its decision to accept the application for examination as a Nationally Significant Infrastructure Project (NSIP). RSP's Development Consent Order for the redevelopment of Manston Airport was approved by the UK Government in August 2022. Work is now underway on the detailed planning work necessary prior to the reopening of the airport.

In addition to the DCO, to gain authorisation to operate Manston Airport, we will need to secure a range of specialist aviation approvals and permissions from the Civil Aviation Authority (CAA). Manston Airport will need to submit an application to the CAA to establish the airspace and procedures required to enable safe and efficient operations to and from the airport in accordance with the Civil Aviation Publication (CAP) 1616 – Airspace Change Process and its associated guidance documents. The CAA will ensure that any airspace and aviation proposals put forward by Manston Airport are compliant with national, international and global aviation regulations and the DCO approval will guide the airspace proposal.

1.3 Scope of this Consultation

This document relates only to the CAA CAP 1616 process and the proposal to introduce the airspace and Instrument Flight Procedures (IFPs) required to enable safe and efficient operations to and from the airport. IFP is a term used to describe the published profiles aircraft fly over the ground, both in plan and elevation view when arriving at and departing from an airport.

This ACP is not related to the DCO or the decision by the UK Government to grant the DCO and allow the airport to be redeveloped.

1.4 Guidance and Process for making an Airspace Change Proposal

The CAA – the UK’s independent aviation regulator – has responsibility for deciding whether to approve changes to the design of airspace in the UK. Proposals to change airspace design must follow a detailed process as set out in the CAA’s CAP 1616: The Process for Changing the Notified Airspace Design. This public consultation has been developed and planned in line with the fifth edition of this document, which came into effect on 2 January 2024. This ACP has also been developed in line with the CAA’s guidance documents, namely CAP 1616f: Guidance on Airspace Change Process for Permanent Airspace Change Proposals, and other guidance and legislation as outlined in CAP 1616.

Effective engagement and consultation with stakeholders and communities is a vital part of the airspace change process. CAP 1616 requires change sponsors to engage stakeholders and the wider public at key stages of the process to explain the proposed changes and gather feedback.

The CAA evaluates the progress of every ACP through a series of stages and gateway assessments. At each gateway assessment, the ACP sponsor must satisfy the CAA that it has followed the process correctly and met all the requirements before it can move to the next stage. At the end of the process, the CAA will make a decision on whether the proposed changes can be implemented. Having successfully met the requirements of three assessment gateways, RSP has now commenced Stage 3 - Consult - for the Manston Airport ACP.

The diagram below provides an overview of the airspace change process:

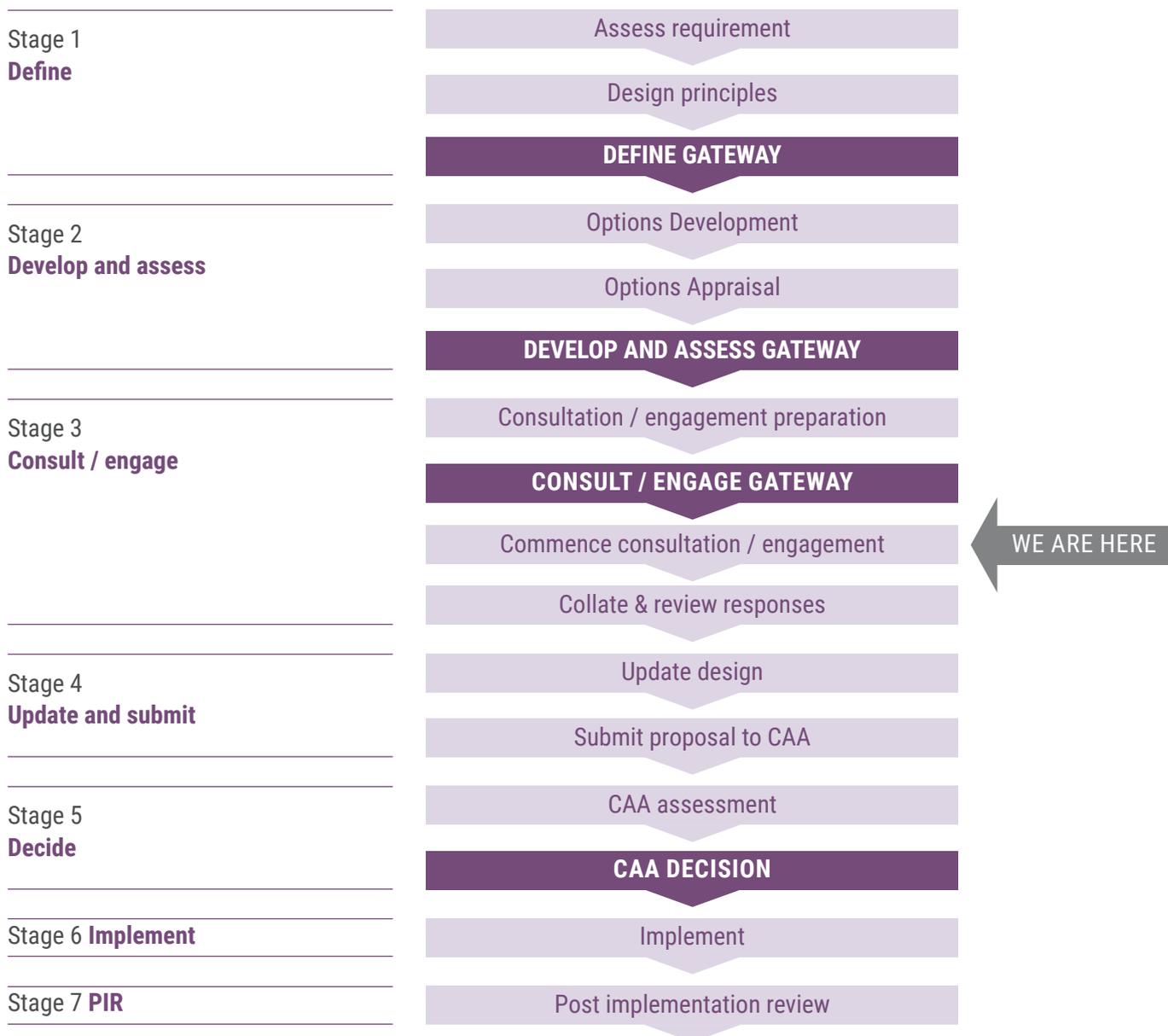


Figure 1 - Overview of the Airspace Change Process

2. About this Consultation

2.1 Overview

The aim of this consultation is to seek the views of any groups or individuals who may be interested in this Airspace Change Proposal (ACP) and the effect it may have on them. Manston Airport is proposing to introduce Instrument Flight Procedures (IFPs) that can be flown with reference to Global Navigation Satellite Systems (GNSS) for aircraft arriving at, and departing from, the airport.

Our Airspace Change is aimed at introducing safe routes that aircraft will fly when departing from and arriving at Manston Airport and we aim to minimise the environmental impacts of aircraft operations, wherever possible.

We appreciate that some of our stakeholders may have concerns about the re-introduction of flightpaths and operations at Manston Airport. Therefore, we have sought to ensure that this change favourably balances the requirement to deliver safe, effective and sustainable arrival and departure procedures against the requirements of local communities who would wish to minimise any environmental impact, particularly noise.

2.2 Our Stakeholders – You

Stakeholders are third-party groups or individuals interested in the Manston Airport ACP. A full list of all organisation and individual stakeholders can be found in Appendix A1 of the Consultation Strategy, which has been published on the CAA Airspace Change Portal.

2.2.1 Aviation Stakeholders

Key aviation stakeholders who operate in, or around, the airspace in the vicinity of Manston Airport will be contacted directly. In addition, we are inviting members of the National Air Traffic Management Committee (NATMAC) to participate in this consultation. The following aviation stakeholders will be contacted:

- Local Airports and Aerodromes

- Local General Aviation airfields and clubs

- Air Navigation Service Providers (NATS¹), Southend Airport, London City Airport

2.2.2 Non-Aviation Stakeholders

We are consulting those communities that may be impacted by the proposed changes. We have therefore asked the following community stakeholder organisations to participate by representing the interests of their local communities and residents:

- Local and Combined Authorities

- Nationally Elected Representatives

- Town and Parish Councils

2.2.3 Environmental Stakeholders

We are also consulting with those organisations whose primary interest concerns the environmental impacts of these changes (e.g. noise, local air quality and tranquillity). These organisations will include, but is not limited to, Natural England, the National Trust and CPRE Kent.

¹ NATS – National Air Traffic Services Ltd; NATS are providers of UK en-route air traffic services handing over traffic to and from the airport air traffic controllers as aircraft transit the airways.

2.3 Engagement Activities So Far

We have carried out a significant level of engagement with stakeholder representatives prior to this public consultation. A targeted range of engagement activities have been conducted in accordance with the process set out in CAP 1616. Specifically, stakeholders such as local council representatives, neighbouring airports, environmental organisations and airlines have been involved in the previous stages of the CAP 1616 process. All previous work relating to this ACP can be viewed on the CAA airspace change portal via the following link:

Airspace Change proposal public view – Manston Airport ACP
<https://airspacechange.caa.co.uk/PublicProposalArea?PID=112>

2.4 Stage 1: Engagement on Design Principles

RSP used a structured questionnaire to elicit information and comments from stakeholders that were analysed to derive the Design Principles for this ACP. Questionnaires were sent to both aviation and non-aviation stakeholders and the language, and questions were designed to help us understand the constraints that should be considered when developing the Design Principles.

RSP also held a series of Focus Groups to further elicit and discuss Design Principles with selected relevant stakeholders. Three focus groups were organised that included mixed attendance from the following stakeholder types:

Aviation – Airport Users, General Aviation and Air Navigation Service Providers

Non-Aviation – Local Authorities (County, District, City and Town and Parish Councils)

Once the shortlist of Design Principles had been developed, RSP undertook a second round of engagement in order to understand which Design Principles were the most important to the stakeholders and their representative organisations. Stakeholders were asked to rank the Design Principles in order of priority. In addition, stakeholders were asked to provide any amplifying comments on their responses and given the opportunity to suggest any additional Design Principles that they felt ought to be considered. A final prioritised shortlist of Design Principles was created and is shown in Table 1 below.

	Design Principle
1	Procedures must be designed to meet acceptable levels of flight safety
2	Design options must accord with the CAA's published Airspace Modernisation Strategy (CAP 1711) and any current or future plans associated with it
3	Procedures should be designed to minimise the impact of noise below 7,000 feet
4	Where practicable, designs should seek to minimise the impact of noise on particularly sensitive areas
5	Designs should minimise the impact on other airspace users in the local area
6	Procedures should be designed that minimise aircraft emissions to reduce air pollution
7	Designs should make provision for multiple routes that can be used to spread the noise burden more equitably
8	Procedures should be designed to minimise the number of track miles flown

Table 1 - Prioritised Design Principles

You can see our Design Principles and a description of the engagement activities on the CAA Airspace Change Portal at Stage 1. Here is the link to the Manston Airport page:

Airspace Change proposal public view – Manston Airport ACP
<https://airspacechange.caa.co.uk/PublicProposalArea?PID=112>

2.5 Stage 2: Options Development and Appraisal

At Stage 2, Step 2A in the process concerns the development of a potential long list of procedure design options that seek to meet the original Statement of Need and are aligned with the Design Principles shown above. A comprehensive list of design options for Manston Airport was developed initially and subsequently refined, through three stages of stakeholder input, to produce a long list of options.

The comprehensive list of options allowed for aircraft arriving at and departing from Manston Airport in any direction. This list was not constrained and considered every option, even if not apparently feasible or desirable. The first engagement was limited to Air Navigation Service Providers (ANSP) and sponsors of other ACPs in order to identify any areas where the comprehensive list of options could interact with their operations, including airspace and procedures.

Feedback from the first engagement responses identified areas where the comprehensive list of options could interact with their operations, including airspace and procedures. The second engagement involved sharing the comprehensive list of options, plus the areas identified where the options would conflict with other procedures, was shared with those stakeholders and representative bodies that contributed to the development of the Design Principles in Stage 1. These included a wide range of organisations and groups from airlines and the wider aviation industry, regional and local councils and public officials and national and regional conservation and environmental organisations. Stakeholders were asked at this stage to comment on the areas, or envelopes, where they consider that the route designs should, or should not, be. This resulted in areas around Manston Airport that stakeholders considered should be avoided wherever possible.

Following stakeholder input to the design envelopes and taking the feedback into account, a series of route options were developed for each of the required procedures. These route options were again shared with the same stakeholders who were invited to contribute to the previous step to check that we had properly understood and accounted for stakeholder concerns specifically related to the design options and that we had accurately reflected their feedback. Stakeholders were asked to provide their input to help further develop the designs to form the shortlist that would be taken forward to the next stage of the process. Stakeholders were also invited to attend an online workshop where they had the opportunity to discuss the options that had been presented, or to ask questions about why the routes had been planned as they were.

The comprehensive list of Design Options was refined to a longlist through our Design Principles Evaluation (DPE) – this activity assessed the designs to see if they met our Design Principles and resulted in a several options being rejected for not meeting them.

Options rejected at this stage included departures from Runway 28 that turned left and routed overland to the south towards Dover. These options had significant safety concerns over the impact on other aviation users and were considered to be a high Air Traffic Control (ATC) workload option with heavy network interactions and unnecessary environmental and noise impacts.

Approach procedures where the Missed Approach procedure routed to the south of the airport overland were also rejected due to the negative impact on large areas of east Kent in terms of noise, tranquillity and other aviation users.

The result of the DPE was a shorter list of options taken forward to Initial Options Appraisal required by Step 2B.

At Step 2B, the options were appraised against the cost and benefit criteria of CAP 1616; these criteria include noise impact on communities, CO₂ emissions, air quality, capacity and resilience of UK airspace infrastructure, and economic impact on airline, general aviation and the airport itself. This activity resulted in a number of options being rejected to form a shortlist of options carried forward for Full Options Appraisal in Stage 3.

Options were rejected at this stage as a result of refining the track over the ground to the north west of the airport for the Runway 28 departure procedure and the MAP for the Runway 28 Approach procedure. This was to minimise the environmental impact of noise in the vicinity of Saint Nicholas-at-Wade.

The Full Options Appraisal builds on the Initial Options Appraisal to provide a more detailed quantitative assessment of the cost/benefit criteria as detailed in CAP 1616. The Full Options Appraisal is also where we carried out our detailed noise and environmental impact assessment of the options.

You can see our comprehensive list of design options, and the processes by which they were shortlisted on the CAA airspace change portal at Stage 2 – Develop and Assess. You can also view the Full Options Appraisal and the detailed noise and other cost/benefit assessments therein at Stage 3 on the portal. Here is the link to the Manston Airport page:

Airspace Change proposal public view – Manston Airport ACP
<https://airspacechange.caa.co.uk/PublicProposalArea?plD=112>

2.6 Changes Since Stage 2

2.6.1 Withdrawal from the LTMA Masterplan Programme

Although not currently an active airport, Manston was originally included within the London Terminal Manoeuvring Area (LTMA) cluster of the Masterplan as the route designs being considered might constrain designs of other LTMA airports. After a review of the ACP documentation submitted by the change sponsor (RSP), NERL's assessment was that the proposal would not create any technical interdependencies with other LTMA airports. This therefore allows Manston Airport to progress its ACP independently outside the Masterplan, bringing forward the delivery of economic benefits and spreading the demand on scarce technical resource. Therefore, the Airspace Change Organising Group (ACOG) recommended that Manston Airport can leave the Masterplan and progress the ACP independently, without any loss of benefit or negative impacts to any other LTMA airports.

The co-sponsors of the Masterplan (DfT and CAA) accepted ACOG's recommendation and rationale for removing Manston from the coordinated masterplanning process and accepted that the Manston Airport ACP could follow an independent timeline.

Therefore, the Manston Airport ACP has been removed from the Masterplan and is no longer considered as part of the Future Airspace Strategy Implementation (FASI) programme, and the progress will not be conditional on Iteration 3 of the Masterplan being assessed and accepted.

2.6.2 Transition Procedures

During the Stage 2 engagement we included options for new Transition procedures. The Transition procedures describe the route that the aircraft will take when arriving at an airport from the en-route Air Traffic Control network to the start of the Instrument Approach Procedure.

Throughout this process, our interpretation of CAA policy and guidance led us to believe that the introduction of Transition procedures at an airport outside of Controlled Airspace (CAS) would be possible on the assumption that it would be supported by a robust safety case. Whilst Manston Airport could propose to introduce Transition procedures at an aerodrome outside CAS, it would need to provide the rationale as to how it falls within current policy or robust justification as to why it could be introduced in contravention of policy.

Since Manston Airport has no intention of introducing CAS as part of this ACP, the introduction of Transition procedures is no longer being considered and the options that were previously shared with stakeholders during Stage 2 will no longer be taken forward during this consultation.

The alternative option will therefore be for ATC at Manston to tactically manage arriving traffic through vectoring. On leaving CAS and the en-route network, aircraft will be directed by ATC to a position where they can join an approach procedure to land at the airport.

2.6.3 NDB Hold

During Stage 2, options were considered for the introduction of a Hold procedure based on a Non-Directional Beacon (NDB) located at the airport. This was to be established in the airfield overhead for the use of General Aviation (GA) aircraft for both training and whilst awaiting approval to land at the airport. At the time, the intention was to explore the possibility of basing a GA training school at the airport, which would utilise the NDB and associated Hold. However, the current Business Model for the airport does not include basing a training school or indeed any GA aircraft at the airport and therefore installing NDB equipment is no longer being considered. Without the NDB equipment, there is no method of introducing an NDB Hold at the airport; therefore, this option is no longer being considered and will not be taken forward for this consultation. GA aircraft requiring to hold will either be directed by ATC within the Aerodrome Traffic Zone (ATZ) or be able to hold outside of the ATZ at any location and any height, under Visual Flight Rules (VFR) within the Rules of the Air.

2.6.4 Stage 2 Do Minimum Option

In accordance with CAP 1616 Edition 4 (guidance followed during Stage 2), a baseline is required for all environmental assessments. This allows the change sponsor (in this case RSP) to conduct an assessment to understand the current impacts so that a comparison can be made with the impacts of the options. In most cases, the baseline will be the 'Do Nothing' option and will largely reflect the current day scenario. In certain cases, doing nothing is not a feasible option and the change sponsor must therefore set out its informed view of the future and the minimum changes required to address the issues identified – a 'Do Minimum' option.

The 'Do Nothing' option would represent the current situation where there is no airport at Manston, and no air traffic. There is no environmental impact associated with this option and therefore no measurable comparative baseline against which to assess the options. An assumption is made that the airport DCO consent leads to an introduction of a level of air traffic into the environment for which we must identify at least minimal safe operational procedures. Therefore, the 'Do Nothing' option was not considered to be a feasible option.

During Stage 2, and in accordance with CAP 1616 Edition 4, the baseline for comparative purpose was defined as the 'Do Minimum' option, which represents the opening of the airport without any approved procedures or airspace. The minimum requirement would be for the airport details to be promulgated in the UK Aeronautical Information Publication (AIP).

CAP 1616 Edition 5 was published in October 2023 and became effective in January 2024. Alongside this document, the CAA also published CAP 1616f - Guidance on Airspace Change Process for Permanent Airspace Change Proposals in November 2023. This document provides the guidance for change sponsors on how to achieve the process requirements set out in CAP 1616 for permanent airspace change proposals. There is no requirement for a 'Do Nothing' or 'Do Minimum' option with CAP 1616 Edition 5 and the baseline scenario will be the future scenario without the airspace change and this will need to assume the current-day situation where there is no airport and no associated air traffic or environmental impacts.

As a result of redefining the baseline scenario, the previously described 'Do Minimum' option (the airport opens without any approved procedures or airspace) could be included as an option. However, as concluded during the Design Principles Evaluation conducted at Stage 2, specific elements of this option were rejected as being unsafe. Specifically, not implementing any form of Regulated Airspace at Manston Airport would not provide for the protection of air traffic operating in and out of the airport during the critical stages of flight where commercial aircraft would be less manoeuvrable. Commercial aircraft would be unable to carry out avoiding action from conflicting air traffic. In addition, not having any prescribed departure procedures raised significant safety concerns for some overland departure directions; ATC monitoring would be required to provide safe separation from traffic operating outside Controlled Airspace, such as gliders, which may not be radio or transponder equipped.

Therefore, we do not consider this to be a viable option due to significant safety concerns. This option is discounted and will not be taken forward for this consultation.

2.6.5 Flight Restriction Zone

In addition to the ATZ, Manston Airport is also planning on introducing a Flight Restriction Zone (FRZ) around the airport. This is an addition to the airspace requirements that were engaged on during Stage 2 of the CAP 1616 process and has become a standard restriction around UK airports as an additional safety and security layer of protection.

An FRZ, as defined in the Air Navigation Order 2016, is a designated area around airports, airfields, heliports, and spaceports where flying drones or model aircraft is prohibited without permission from the relevant authority. These zones are in place to enhance safety by preventing potential collisions with aircraft. Further details of the proposed FRZ can be found in Section 5.

3. Manston Airport Baseline Scenario

3.1 Overview

In accordance with CAP 1616 Edition 5, change sponsors must develop a baseline scenario for all airspace change proposals, which will be the future scenario without the airspace change. This will need to assume the current-day airspace situation as it provides a clear description of the current aviation activity and associated impacts and sets the context for all stages of the airspace change process.

The current-day scenario should include a description of the current airspace design (today's airspace structure, flight procedures and flight behaviours/patterns) and a description of the current prevailing air traffic situation and an indication of estimated forecast traffic growth over a period of 10 years from the intended year of implementation.

In accordance with CAP 1616, a baseline will be required for all environmental assessments. This will allow the change sponsor to conduct an assessment to understand the current impacts so that a comparison can be made with the impacts of the options.

3.2 Manston Airport Baseline Scenario

In the case of Manston Airport, the current-day scenario represents the current situation where there is no airport at Manston and no associated air traffic. There is no direct environmental impact associated with this scenario.

However, there is currently some General Aviation air traffic operating in the vicinity of the Manston Airport site that is not associated with the airport. The changes being proposed with this ACP are likely to have consequential impacts on other airspace users as a result of airport operations, and these will be included as part of the assessment of the options later in this document. Therefore, a description of other air traffic operations in the vicinity of Manston has been included in the description of the current day scenario below.

3.3 Local Area Current Operations

Manston Airport site is located approximately 2.5 miles west of the town of Ramsgate in the Thanet District of Kent. The airfield is located within Class G airspace which is established from ground level to Flight Level (FL) 65 (approximately 6,500 feet (ft) above mean sea level (amsl)). That is, the airspace around the site is uncontrolled airspace where aircraft are permitted to fly in without the need to submit a flight plan, be in radio contact with ATC or display any type of electronic conspicuity that would allow the aircraft to be detected by ATC. There are no set routes and aircraft are free to fly anywhere, unrestricted and in any direction, as long as they abide by the weather minima stipulated for the appropriate flight under Visual Flight Rules² (VFR). Aircraft flying under Instrument Flight Rules (IFR) and in receipt of an Air Traffic Service (ATS) are also permitted to fly through this airspace. Depending on the type of ATS required, the air traffic controller may need to provide directional information to the aircraft to achieve a minimum of 5 nautical miles (NM) separation between the aircraft receiving a radar derived ATS and any unidentified aircraft in the area. Figure 2 below shows the airspace structure around Manston Airport.

² VFR – Visual Flight Rules (a set of regulations under which a pilot operates an aircraft in weather conditions generally clear enough to allow the pilot to see where the aircraft is going).



Figure 2 - Local Airspace Design

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Directly above the airport above FL 65 is Class A Controlled Airspace (CAS). This airspace is controlled by NATS, the primary provider of air traffic control services in the UK and manages UK airspace. Class A airspace is the most regulated airspace and is reserved for aircraft flying IFR only, requiring a flight plan, ATC clearance, mandatory radio communication, and adherence to ATC instructions.

Further to the east of the airport and over the sea, the base of the CAS is higher meaning there is more Class G airspace available for other airspace users.

To the west of the airport there is the London Terminal Manoeuvring Area (LTMA). This is a complex piece of airspace that is primarily used for the coordination of traffic arriving at and departing from the airports in the vicinity of London (Heathrow, Gatwick, Stansted etc). This is also Class A airspace, and the base of the airspace drops to 5,500 ft amsl to the immediate west of Manston Airport and decreases even further to the west.

To the northwest of the airport, there is CAS controlled by Southend Airport. This is for commercial aircraft arriving at and departing from Southend Airport and connects to the Class A airspace previously described to ensure aircraft operating from Southend Airport remain within CAS.

Also, to the northwest of Manston is the Shoeburyness Danger Area complex. This is a series of military ranges that are utilised for hazardous operations, including the use of munitions and explosives. When active, air traffic will need to avoid the area unless they have direct clearance to enter the complex from Range Control.

3.4 Direct Impacts

The current-day scenario represents the current situation where there is no airport at Manston and no associated air traffic. There is no direct environmental impact associated with this scenario.

3.5 Indirect Impacts

Although there is no air traffic currently associated with Manston Airport operations in the local area, there is some other flight activity in the area and there is a possibility that this activity will be impacted once operations begin at the airport. The following paragraphs describe this activity and give an appraisal of any likely impact.

3.5.1 Flights in Controlled Airspace

As described above, the controlled airspace above and around Manston Airport comprises of Class A Controlled Airspace. This forms part of the en-route network for aircraft arriving in and departing from the UK. Air traffic in these areas would be under Air Traffic Control and must abide by any instructions given by ATC controllers. Although commercial aircraft operating from Manston Airport will require permission to enter and operate in this CAS, the aircraft will have no impact on flights already operating within CAS and therefore non-Manston aircraft operating within CAS will not be included in any assessment of options as part of this ACP.

3.5.2 Flights Outside Controlled Airspace

The Manston Airport site is located within Class G airspace meaning there is uncontrolled access to the airspace to air platforms of all types. In order to determine the type and density of traffic in the area of the airport and estimate the number of aircraft that could be potentially affected by the proposed airspace solutions, a detailed analysis of traffic was conducted in the area shown in Figure 3 below. The analysis was conducted using an online aircraft tracking system for a time period of 2 weeks during June and July 2025, which was expected to be a busy period for recreational flight in the area and therefore representative of a high use period.

During the 2-week period, a total of 680 movements transited the surveyed volume of airspace below 10,000 ft. Of this total, 402 movements transited the surveyed volume outside of CAS, averaging approximately 29 movements per day. The most movements outside CAS on a single day was 50 on the 29th June and the least was 4 on the 2nd July. The majority of the movements were General Aviation (GA) aircraft, including single or twin-engine piston GA aircraft, helicopters and a small number of military and emergency service aircraft. Figure 3 below provides a representation of the aircraft tracks in the vicinity of Manston Airport for the 24-hour period on the 29th June 2025, the busiest day.

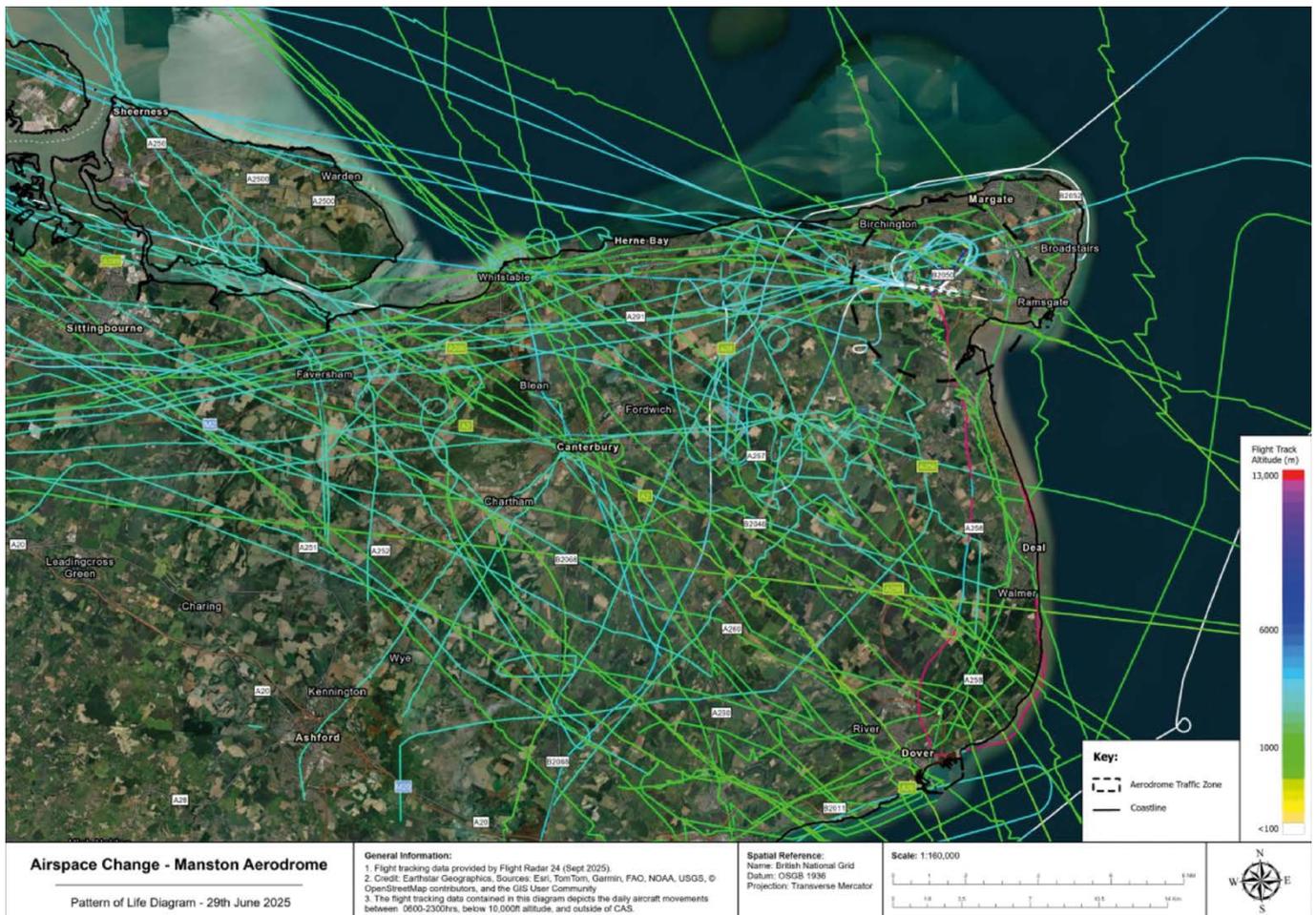


Figure 3 - Pattern of Life 29 June 2025

Source: Flightradar24 & Google Earth.

It should be noted that only aircraft carrying the necessary transponder equipment would be identified by the aircraft tracking system. It is not mandatory in the UK for all aircraft to have this equipment and therefore movements in the area (particularly GA and gliders) that may have occurred that have not appeared in the survey.

As can be seen in Figure 3, the traffic identified in the survey is operating over a large area of east Kent and is not concentrated in the area around Manston Airport. The majority of this traffic should not be affected by the introduction of the airspace and procedures being proposed at Manston Airport. The traffic patterns throughout the 2-week analysis period showed a similar distribution of traffic across the area.

To provide insight into the distribution of aircraft tracks around the airport that might be affected by the proposals, Figure 4 below shows the area around what would be the proposed ATZ (identified by the black dashed circular line) and the traffic patterns for the 4 busiest days during the analysis period. Traffic numbers in the area are generally low and some of the tracks shown are helicopters operating from the Manston Airport site as an unlicensed aerodrome. Some of this traffic may be affected by the proposed changes and may be required to avoid the ATZ during their flights, creating a small impact on their operation. However, Manston Airport ATC is anticipated to have a radar surveillance capability when it opens and will be able to provide an Air Traffic Service (ATS) to aircraft operating in the vicinity of the airport, including transit flight across the ATZ when the operational situation allows, which will enhance safety of operations for all air traffic in the vicinity.

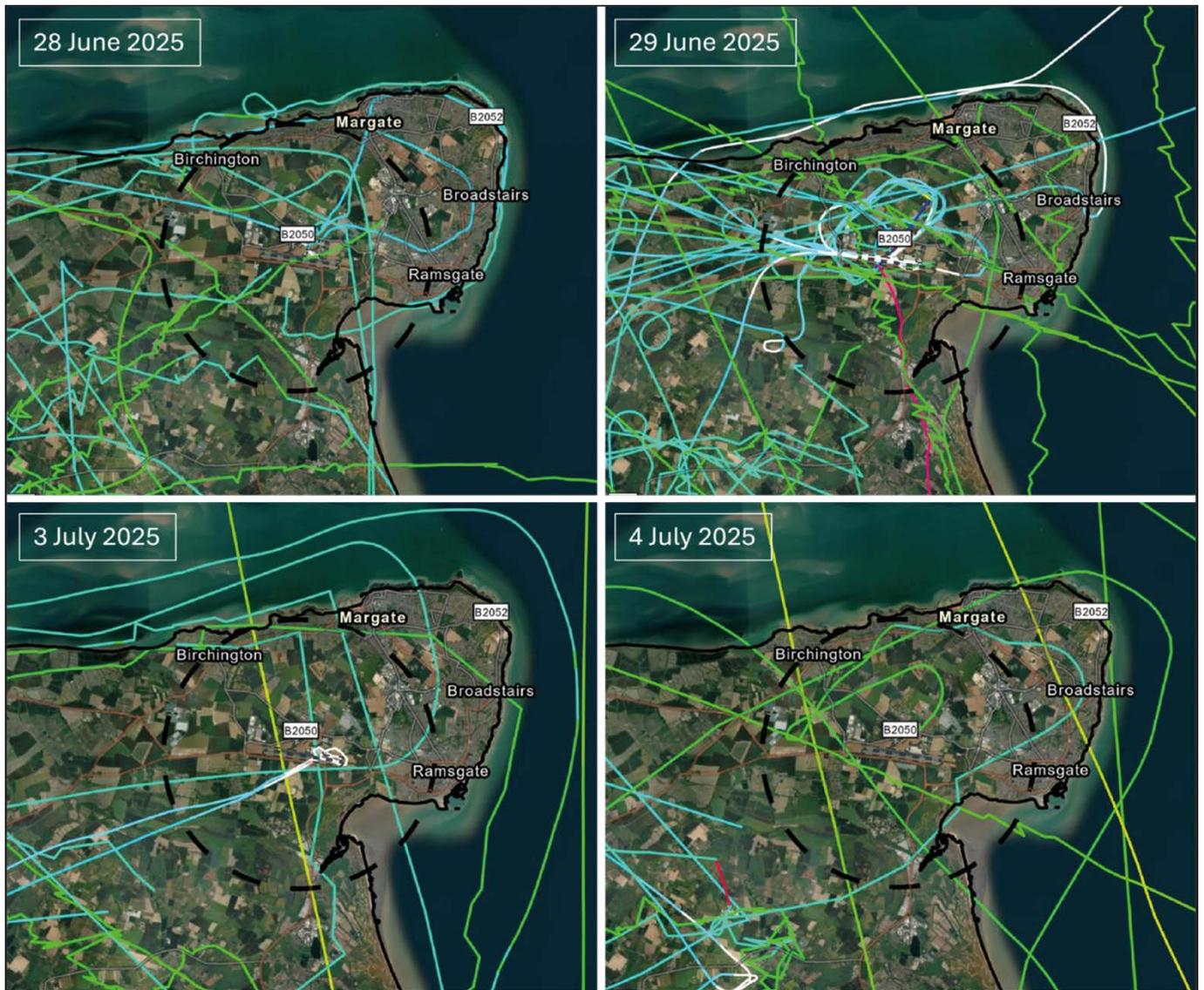


Figure 4 - Manston Airport Pattern of Life

Source: Flightradar24 & Google Earth.

The potential environmental impacts as a result of other airspace users being affected by the proposed changes, specifically avoiding the ATZ, are expected to be minimal. There is no anticipated change in fuel burn and therefore emissions. Some aircraft will be able to continue as before by obtaining clearance from ATC to operate within the ATZ. Aircraft that are unable to enter the ATZ, either through lack of permission or being unable to contact ATC, are likely to fly for the same duration, but following different routes to what they would if the ATZ were not present. There may be a small change in the noise footprint as a result of aircraft re-routing to avoid the ATZ, but this is not considered to be a significant impact due to the low numbers of aircraft expected to be affected.

In line with the CAA's Airspace Modernisation Strategy, it is expected that the demand on use of UK Airspace will expand, not only from existing airspace users such as Commercial Air Transport, GA, and the Military, but also from new users such as Unmanned Aircraft Systems, Advanced Air Mobility, Spaceflight and High Altitude Platform Systems.

Although the GA sector has shown significant growth in the past, ongoing challenges from land-use pressures from housing developments and the need to reduce its environmental impact could affect future growth. There is not expected to be any significant change in numbers of those aircraft that may be impacted by this ACP. The number of fixed-wing GA aircraft operating in the UK is expected to remain broadly similar over the 10-year period following the implementation of this ACP.

From this traffic survey, based upon the data analysed, it can be deduced that the airspace above Manston Airport is a low-density air traffic environment and therefore any potential environmental impacts are likely to be insignificant.

4. Proposed Changes

4.1 Manston Airport Operations

RiverOak Strategic Partners (RSP) is redeveloping and reopening Manston Airport as a hub for international air freight which also offers passenger travel, executive travel and aircraft engineering services. The airport will be comprehensively rebuilt and upgraded, including the provision of extensive cargo aircraft stands and a new passenger terminal.

RSP's latest Business Model for the opening of the airport is planning for the airport to be operation in early 2029, with the prime focus in the early years being on building up the freight operation. In the first year of operation, it is expected that the only Commercial Air Transport (CAT) movements will be freight aircraft, with commercial passenger services not commencing until a number of years after airport operations commence.

The Manston Airport Development Consent Order 2022 imposes restrictions on aircraft operations at the airport which limits the total number of movements that are permitted to take place annually at the airport. In addition, there are restrictions to the times during the day that some operations may take place. In particular, there are to be no take-offs or scheduled landings between the hours of 23:00 (11 p.m.) and 06:00 (6 a.m.). Between 06:00 (6 a.m.) and 07:00 (7 a.m.), the only scheduled flights will be passenger flights that are required to take-off early due to short-haul scheduling requirements.

In addition to CAT movements, provision has been made for other aviation activities including pilot training flights and General Aviation (GA) light aircraft flights at the airport. Traffic forecasts, provided by RSP, have estimated 5,950 annual CAT movements in 2029 (Year 1) and 26,468 annual CAT movements in 2038 (Year 10). Also, there could be up to an additional 5,840 non-CAT movements in Year 1, rising to 10,220 non-CAT movements in Year 10. Although these figures have been included, this is considered the worst-case scenario; there are currently no firm plans within the Business Model for the airport for these movements.

The aircraft forecast predicts a gradual increase in aircraft movements between Year 1 and Year 10. Over this period there will also be changes in aircraft types, with airlines expected to phase out older aircraft and replace with more efficient models. The forecast assumes that total aircraft traffic will grow from approximately 16 Air Transport Movements (ATMs) for a typical busy day in Year 1 to 77 ATMs per typical busy 24-hour day during the summer period in Year 10. These figures are considered the maximum number of movements for a typical busy day with fewer daily movements during less busy periods. An Air Transport Movement (ATM) includes all landings and take-offs of commercial flights related to the transport of passengers and freight. In addition, an average of approximately 28 movements of non-commercial ATM per 24-hour day in all years including general aviation and training flights have been included in the traffic forecast and as mentioned above, this is considered a worst-case scenario; there are currently no firm plans within the Business Model for the airport for these movements.

Manston Airport will operate with a single runway orientated approximately east-west. The runway can be operated in either direction and this will depend on the prevailing wind direction; typically, aircraft arrive and depart into the wind. Since there is no airport operational at Manston currently, historical weather data has been assessed to determine the proportion of time each runway direction would be expected to be utilised. The historical weather data suggests that for an average year, aircraft will take off and land in a westerly direction for 70% of the time, and take-off and land in an easterly direction 30% of the time. This means that approximately 70% of arriving aircraft would be expected to arrive over Ramsgate and 30% would be expected to arrive over Herne Bay. For departing aircraft approximately 70% would be expected to depart in the direction of Herne Bay and 30% would be expected to depart towards Ramsgate. The expected average number of daily movements utilising each departure and approach procedure for Year 10 (2038) is shown in Figure 5 below.

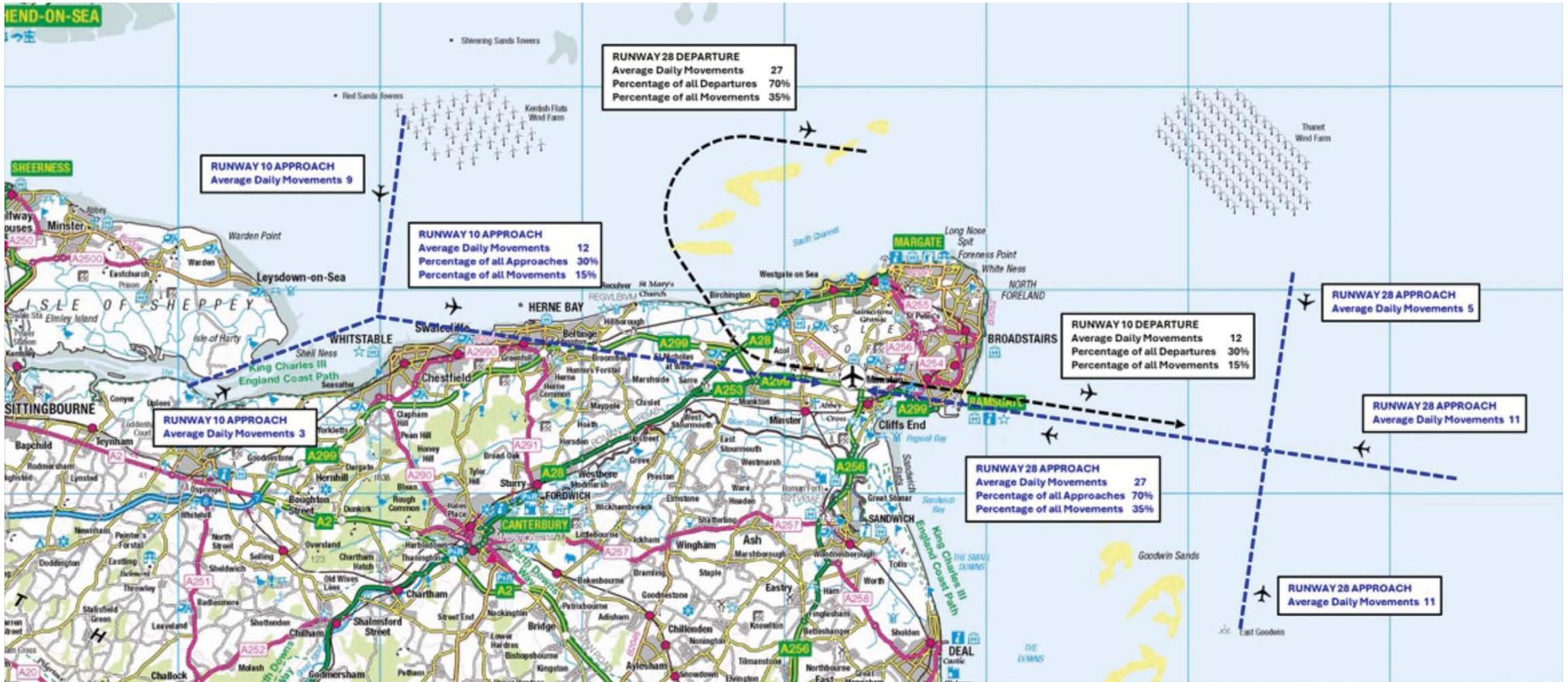


Figure 5 - Operational Picture

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When the weather and operational conditions permit, Manston Airport will aim to operate a preferential runway system to reduce the impact of noise on Ramsgate. In this case, departing aircraft would take-off and depart in a westerly direction and arriving aircraft would approach from the west and fly an approach in an easterly direction. These operations can only take place when the wind conditions allow and there will need to be adequate capacity to allow safe taxiing to take place when aircraft have vacated the runway. In addition, there will need to be sufficient separations between arriving and departing aircraft to ensure that operations can meet the prescribed separation minima between flights. It is currently impossible to predict what proportion of the year this mode of operation will be possible, as there are too many factors to consider, including meteorological conditions, which will vary by time of day and day of the year. In addition, this mode of operation will likely reduce over time as the airport gets busier. The use of preferential runway operations has therefore not been included in the environmental analysis for the Manston Airport ACP and will instead be included within the Manston Airport Noise Management Plan and the associated airport operating procedures, where possible.

As part of the redevelopment of the airport, the Air Traffic Control facilities will be updated and when it opens, Manston Airport ATC will have a surveillance capability and will be able to provide aircraft with an Air Traffic Service (ATS). Aircraft operating to, or from Manston Airport will be able to receive an ATS appropriate to their flight conditions (IFR or VFR) in Class G airspace. Basic Service and Traffic Service will be available to flights in Class G airspace operating under both IFR and VFR, whereas a Deconfliction Service will only be available to flights in Class G airspace operating under IFR. Manston ATC will also be able to provide an ATS to other air traffic operating in the vicinity of the airport if the aircraft captain requests such a service, including transit flight across the ATZ. There is no obligation for aircraft operating VFR in the vicinity of the airport to talk to ATC or receive an ATS or to operate a transponder. ATC monitoring would be able to provide safe separation from known or unknown traffic using either Primary or Secondary Surveillance Radar.

4.2 Proposed Procedures

Manston Airport is seeking to introduce Instrument Flight Procedures (IFPs) for aircraft departing from, and arriving at, the airport. IFPs is a term used to describe the published routes aircraft fly over the ground, both in plan and elevation view. The new procedures proposed for Manston will allow aircraft to use GNSS technology to follow routes more accurately and to allow the airport to make more efficient use of the airspace, whilst maintaining or enhancing current levels of safety.

It is important to understand that when airspace change proposals are developed for the introduction of procedures utilising improved navigational technologies, including the use of GNSS, aircraft are more likely to be able to follow the prescribed flight paths more accurately and therefore result in less dispersal of traffic flying the routes.

The individual procedure options described below have been renamed (when compared to the earlier stages of the ACP process) and are set out below. There have been no changes to the design of these options when compared to the previous Stage 2 submission.

- Runway 28 Departure – referred to in Stage 2 as ‘Runway 28 North (East) to East (Procedure Option 10)’.
- Runway 10 Departure – a consolidated option of the options referred to in Stage 2 as ‘Runway 10 North (Procedure Option 13)’, ‘Runway 10 South to East (Procedure Option 14)’ and ‘Runway 10 South to West (Procedure Option 15)’.
- Runway 28 Approach – referred to in Stage 2 as ‘Runway 28 Approach MAP North (East) (Procedure Option 27)’.
- Runway 10 2,500 ft Approach – referred to in Stage 2 as ‘Runway 10 2,500 ft Approach MAP North (Procedure Option 30)’.
- Runway 10 3,000 ft Approach – referred to in Stage 2 as ‘Runway 10 3,000 ft Approach MAP North (Procedure Option 32)’.

4.3 Explanation of Waypoints

All the procedures are constructed of a series of waypoints designed to be flown by the automatic systems that the majority of modern aircraft use for navigation. A waypoint is defined positionally by its Latitude and Longitude and generally will not necessarily represent a physical feature on the ground but will be positioned so that the routes designed are technically flyable by the various aircraft types. Some waypoints describe the point at which the route integrates with the national airways structure. The aircraft navigation systems will automatically direct the aircraft according to the routing designed into the procedure.

The majority of the waypoints will be designated as a ‘Fly-By’ waypoint, where the aircraft will initially be heading in the direction of the waypoint but the aircraft Flight Management System (FMS) will anticipate a point in space to turn before it reaches the waypoint so that the aircraft ends up heading directly towards the next waypoint in sequence, as shown in Figure 6 below. Depending on the angle of turn, the aircraft may not overfly the actual waypoint at all. In addition, the actual flight path that an aircraft follows during these turns will vary slightly depending on the flight performance of each aircraft, creating a small amount of lateral dispersion of aircraft tracks during the turn. Once the aircraft have intercepted the straight portion of the following leg, the aircraft FMS will follow this route very accurately, resulting in a concentration of aircraft tracks.

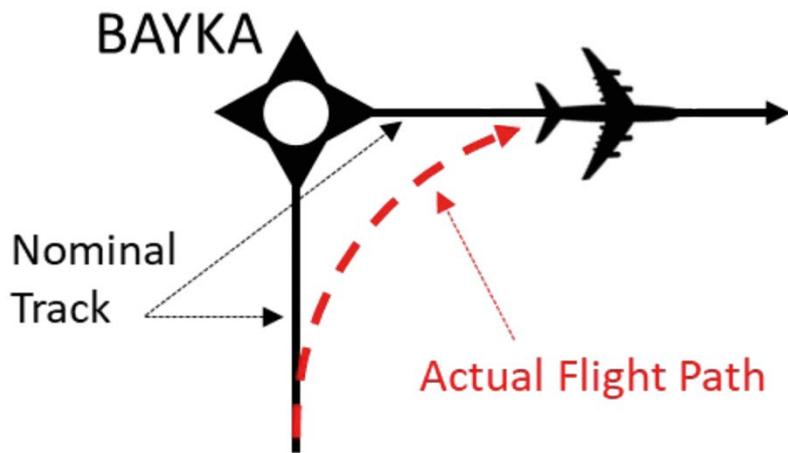


Figure 6 - Fly-By Waypoint

If a waypoint is designated a 'Fly-Over' waypoint, the aircraft must fly over the point prior to starting a turn. Once past the waypoint, the aircraft will then fly a route that intercepts the new nominal track beyond the waypoint, as shown in Figure 7 below. The actual flight path that an aircraft follows during these turns will vary slightly depending on the flight performance of each aircraft, creating a small amount of dispersion as the aircraft tracks to intercept the new leg.

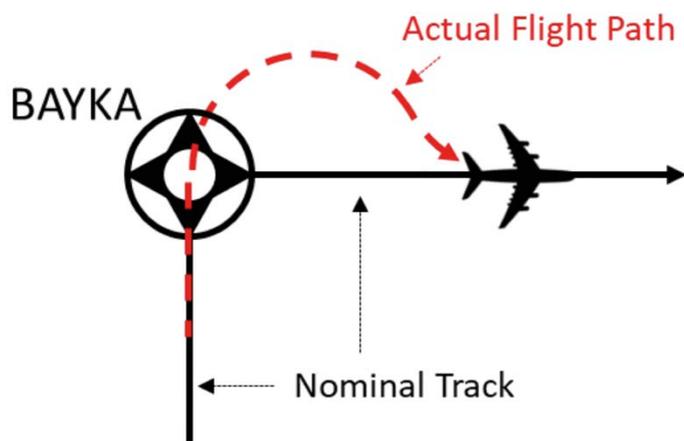


Figure 7 - Fly-Over Waypoint

4.4 The New Proposed Departure Procedures

Within the UK, the term Standard Instrument Departure (SID) is the sole term to be used in the context of routes providing designated IFR departure procedures that remain wholly within CAS and permit direct connectivity with the en-route ATS system. It is a UK requirement that all SIDs must be wholly contained within CAS. For this reason, a SID must originate at an aerodrome that is also within CAS.

Since Manston Airport has no intention of introducing CAS as part of this ACP, the alternative to introducing SIDs would be promulgate omnidirectional departures for IFR departing aircraft in Class G airspace. The purpose of an omnidirectional departure is to ensure obstacle clearance for IFR departing aircraft where there are obstacles in the vicinity of an aerodrome which could affect IFR departures. An omnidirectional departure procedure is designed on the basis that an aircraft maintains runway direction to a minimum height of 500 ft above aerodrome level before commencing a turn, at which point a turn in any direction may be made to join the en-route phase of flight.

Since aircraft will be operating in Class G airspace and outside of CAS, an ATS will be provided by ATC to monitor aircraft, provide traffic information and utilise radar vectoring to ensure deconfliction between aircraft, which will enhance safety of operations for all air traffic in the vicinity. As aircraft approach the en-route phase of flight, control of the aircraft will be transferred from Manston ATC to NATS who are the en-route Air Navigation Service Provider responsible for ensuring a seamless transition between the departure phase of flight and the en-route segment.

It is important that omnidirectional departure could be designed such that the routes aircraft flew conformed to the conclusions reached as part of the Stage 2 engagement activities. Following discussions with the IFP Regulator at the CAA, and clarity on the design of omnidirectional departures, the omnidirectional departures could be designed to behave in a similar way to the departure procedure options shared with stakeholders during the development of the design options. To that end, Manston Airport is planning to introduce an Instrument Departure procedure that would have the same impact as the route options presented during stakeholder engagement. These individual procedures are outlined in the following paragraphs.

4.4.1 Runway 28

Stage 2 Option – Runway 28 North (East) to East (Procedure Option 10).

Stage 3 Option – Runway 28 Departure

Departing aircraft will continue straight ahead on runway heading until approximately 2.3 km (1.25 NM) where they will be at or above 500 ft above aerodrome level (aal). On reaching this point, aircraft turn right onto a north westerly heading initially, until beyond the coast and over the sea. Aircraft then turn right onto an easterly heading, under the direction of ATC. Aircraft will then continue on an easterly heading, continuing to climb to 7,000 ft or as directed by ATC to enter Controlled Airspace and join the en-route network.

Figure 8 below shows the expected routing of aircraft until they reach 7,000 ft whilst Figure 9 shows the expected overland track of aircraft.

This option is the only Runway 28 departure procedure being considered. All other options were rejected at Stage 2 following stakeholder engagement.

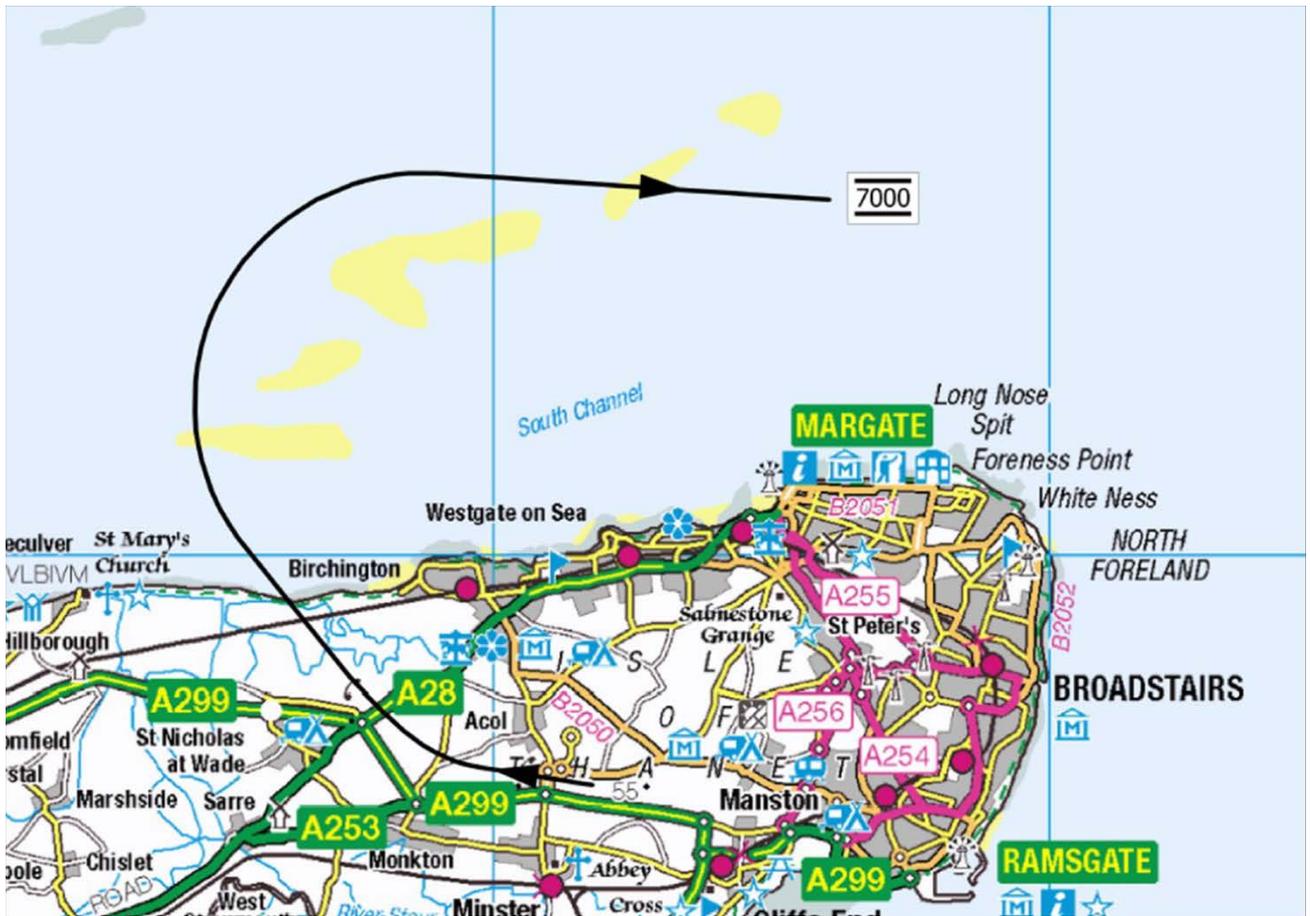


Figure 8 - Runway 28 Departure

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Figure 9 - Runway 28 Departure – Overland Portion

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4.4.2 Runway 10

- Stage 2 Options – Runway 10 North (Procedure Option 13)
- Runway 10 South to East (Procedure Option 14)
- Runway 10 South to West (Procedure Option 15)

Stage 3 Option – Runway 10 Departure

Departing aircraft will continue straight ahead on runway heading until approximately 13.9 km (7.5 NM), where aircraft should be at approximately 3,500 ft above mean sea level (amsl). On reaching this point, aircraft will continue as directed by Air Traffic Control and continue to climb to 7,000 ft to enter Controlled Airspace and join the en-route network.

As aircraft will be directed by Air Traffic Control beyond the 13.9 km point, the 3 options brought forward from Stage 2 (Options 13, 14 and 15) have been amalgamated into a single departure option for Runway 10. There is expected to be no difference in the environmental impact once aircraft are over the sea east of Ramsgate.

Figure 10 below shows the expected routing of aircraft until they reach 7,000 ft whilst Figure 11 shows the expected overland track of aircraft.

This option is the only Runway 10 departure procedure being considered due to the location of Manston Airport in relation to the town of Ramsgate.

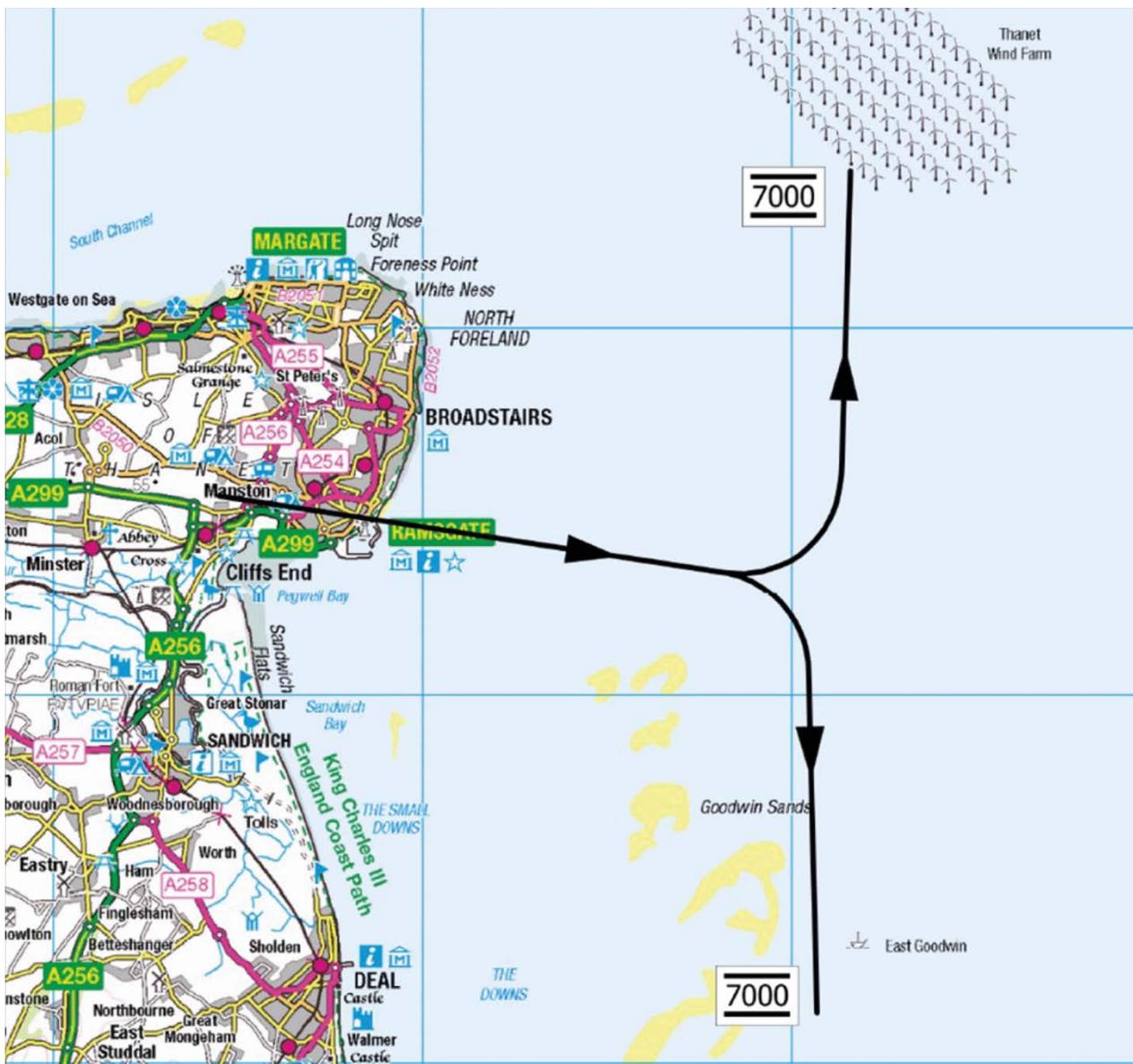


Figure 10 - Runway 10 Departure

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Figure 11 - Runway 10 Departure – Overland Portion

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4.5 Instrument Approach Procedures

The Instrument Approach Procedure (IAP) is the procedure for the final stage of flight as an aircraft arrives at the airport to land, detailing the route and descent profile that an aircraft must follow to safely avoid ground obstacles in the final, critical stages of flight. It also includes a Missed Approach Procedure (MAP), and an associated Hold position, that defines what the aircraft should do in the event of not being able to land. A MAP is the flightpath an aircraft will follow if, for some reason, it is not able to complete its approach to the runway due to weather constraints, safety reasons, or aircraft performance.

An IAP is designed to align an aircraft in a direction that will enable it to make a safe approach to land at the designated runway at the airport. From approximately 8-10 miles from landing, only minor adjustments to the aircraft's direction can be made. The Initial Approach Fix (IAF) is the point where the Approach procedure begins. An aircraft will fly to one of the IAFs depending on the direction they are coming from and then make a turn to fly down the long segment of the approach which is lined up to the runway. The IAF for these procedural approaches are points generally 4-5 miles and 90° away from the extended centreline (the route the aircraft will fly to land), so that the aircraft can safely manoeuvre onto the required direction to make an approach. Sometimes, the IAF can be less than 90° from the extended centreline but can never be more than 90° as the turn the aircraft would have to make to achieve the centreline would be too great. After the IAF, the aircraft will fly towards the Intermediate Fix (IF), where it will be turned onto the approach heading. The aircraft's Flight Management System (FMS) will direct the aircraft to anticipate the turn onto the centreline and may not directly overfly the IF point, as can be seen in Figure 12 below. Once established on the centreline, aircraft will route via the Final Approach Fix (FAF), where the aircraft will start descending towards the runway. The position of the FAF and its distance from the runway will depend on the height from which the aircraft start the descent; the higher the start height, the further away the descent will need to start. All of the approach procedures for Manston will be planned to have a 3° descent profile from the FAF, which is the standard descent gradient for an Instrument Approach Procedure.

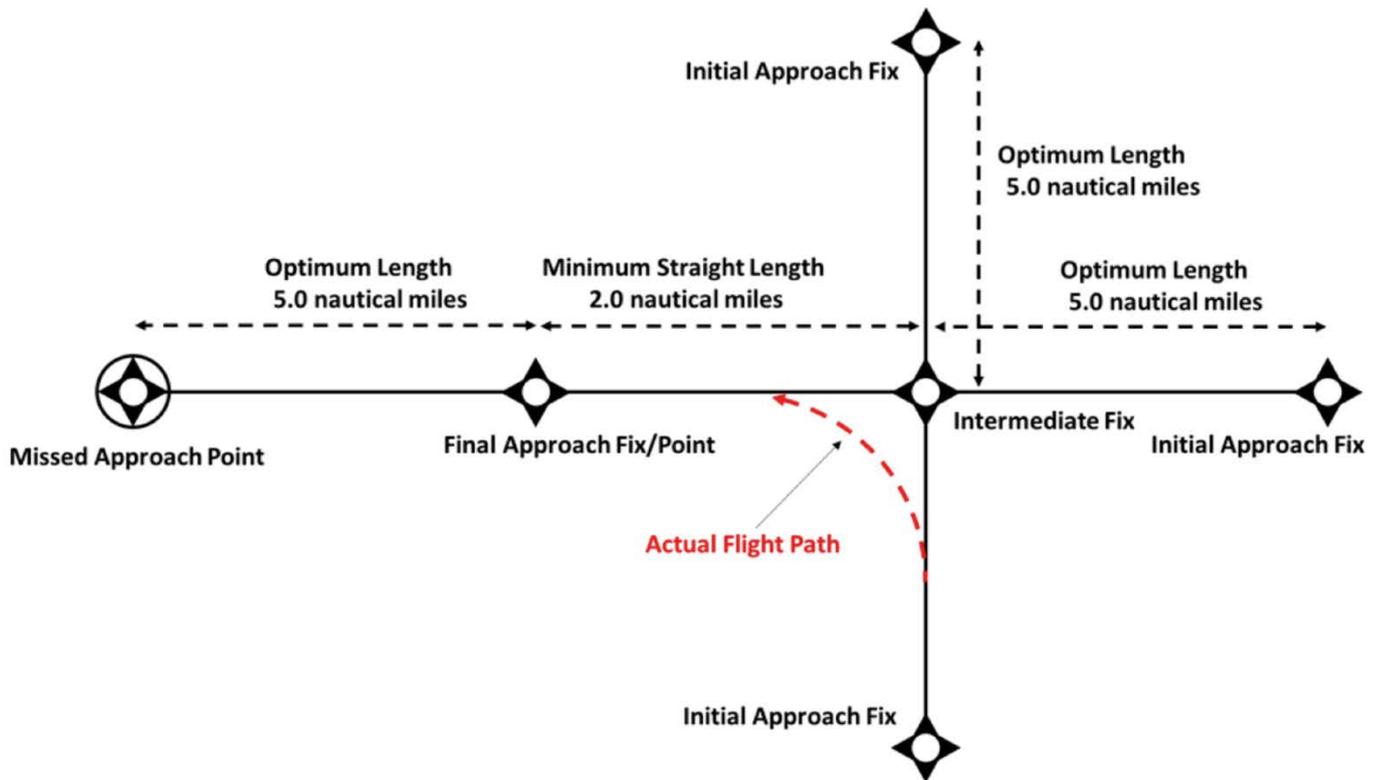


Figure 12 - Instrument Approach Procedure General Arrangement

Manston Airport is planning to introduce two approach procedures for each of the runway directions:

- RNP to ILS Procedure – the IAF and IF positions will be designed using satellite technology. The approach will be flown with reference to the Instrument Landing System (ILS), which is a ground-based navigation system which uses directional beacons to guide the aircraft both laterally and vertically to the runway. An ILS approach will generally enable an aircraft to descend to a lower height (for instance, in the case of bad weather) than other approach types and is generally the preferred method of approach.
- RNP Procedure – the full procedure will be designed using satellite technology. A critical component of Required Navigation Performance (RNP) is the ability of the aircraft navigation system to monitor its achieved navigation performance, and to identify for the pilot whether the operational requirement is, or is not, being met during an operation. The height to which an aircraft can safely descend to on an RNP approach will depend on the aircraft's equipage and would usually be slightly higher than an ILS.

The ground-track flown by aircraft will not differ regardless of the approach type flown. Therefore, each of the approach options presented below can be considered as being both RNP to ILS and RNP approaches.

It is expected that all of the approaches will be designed to allow the aircraft to fly a continuous descent approach. This type of procedure allows an aircraft to descend continuously with minimal thrust and in a low-drag configuration, avoiding level flight and frequent power changes. This method keeps the aircraft higher for longer, resulting in lower fuel burn, reduced carbon emissions, and significantly less noise for communities on the ground, offering environmental benefits.

Although aircraft will autonomously fly the procedure using onboard equipment, Manston ATC will monitor the aircraft during the final approach and provide traffic information and deconfliction advice where necessary to ensure safety of operations.

4.5.1 Runway 28 Approach

Runway 28 Approach MAP North (East) (Procedure Option 27).

Runway 28 Approach

Aircraft arriving at Manston Airport will be provided with radar vectors by ATC to leave Controlled Airspace and the en-route network and will be radar vectored towards one of the Initial Approach Fixes (IAF), which represent the start of the approach procedure, shown in Figure 13 below. Aircraft will join the approach procedure at an altitude anticipated to be in the region of 4,000ft amsl and will be expected to perform a continuous descent from the en-route network all the way to landing.

Once on the approach procedure, aircraft will route via the Intermediate Fix (IF) where they will turn onto the runway heading and be lined up with the runway from approximately 8 miles away. At the FAF, approximately 6 miles from the runway threshold, aircraft will be at 2,000 ft to begin the planned descent profile of 3° for the procedure to land at the airport. Manston ATC will monitor the aircraft during the final approach to ensure safety of operations.

In the event that a successful landing cannot be made, the aircraft may be given ATC vectors to immediately perform another approach to land or may be required to follow the MAP. If following the MAP, aircraft will continue on runway heading and climb to at least 500 ft before turning right onto a north westerly heading to route over the sea (the blue line in Figure 13 below). Once over the sea, aircraft will turn right onto an easterly heading to route to the Hold, shown in Figure 13 below as the 'racetrack' shape over the sea. From the Hold position, aircraft will be directed by ATC to re-join the approach procedure to carry out a further attempt to land. Figure 14 shows the expected overland track of aircraft.

This option is the only Runway 28 approach option being considered due to the location of Manston Airport in relation to the town of Ramsgate.

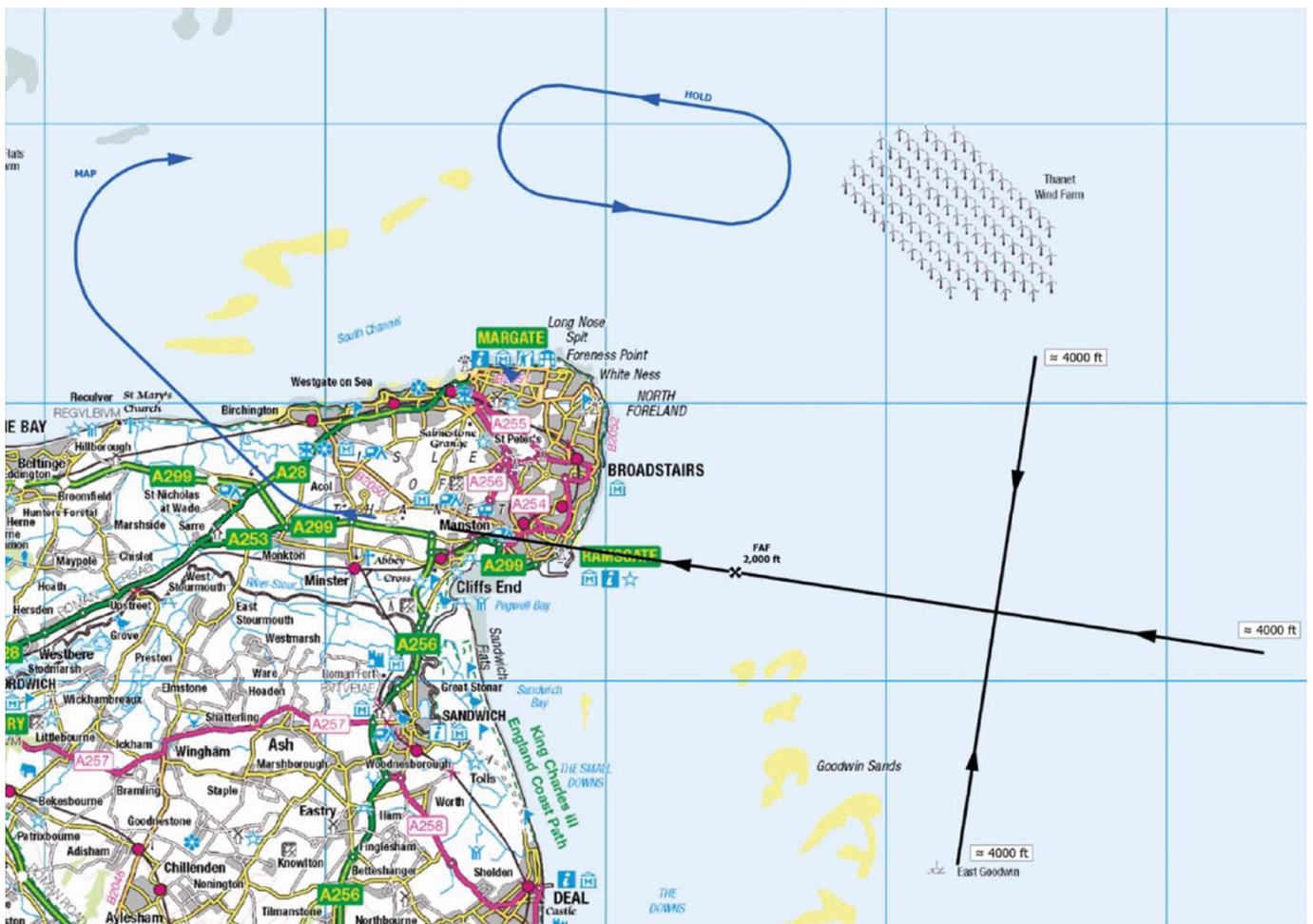


Figure 13 - Approach Runway 28

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Figure 14 - Approach Runway 28 – Overland Portion

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4.5.2 Runway 10 2,500 Ft Approach

Runway 10 2,500 ft Approach MAP North (Procedure Option 30)

Runway 10 2,500 ft Approach

Aircraft arriving at Manston Airport will be provided with radar vectors by ATC to leave Controlled Airspace and the en-route network and will be radar vectored towards one of the Initial Approach Fixes (IAF), which represent the start of the approach procedure, shown in Figure 15 below. Aircraft will join the approach procedure at an altitude anticipated to be in the region of 4,000ft amsl and will be expected to perform a continuous descent from the en-route network all the way to landing.

Once on the approach procedure, aircraft will route via the Intermediate Fix (IF) where they will turn onto the runway heading and be lined up with the runway from approximately 10 miles away. At the FAF, approximately 7 miles from the runway threshold, aircraft will be at 2,500 ft to begin the planned descent profile of 3° for the procedure to land at the airport. Manston ATC will monitor the aircraft during the final approach to ensure safety of operations.

In the event that a successful landing cannot be made, the aircraft may be given ATC vectors to immediately perform another approach to land or may be required to follow the MAP. If following the MAP, aircraft will continue on runway heading and climb to at least 500 ft and follow the blue route shown in Figure 14 below. Once east of Ramsgate and over the sea, aircraft will turn left onto a northerly heading to route to the Hold, shown in Figure 15 below as the 'racetrack' shape over the sea. From the Hold position, aircraft will be directed by ATC to re-join the approach procedure to carry out a further attempt to land. Figure 16 shows the expected overland track of aircraft.



Figure 15 - Runway 10 2,500 ft Approach

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Figure 16 - Runway 10 2,500 ft Approach – Overland Portion

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4.5.3 Runway 10 3,000 Ft Approach

Runway 10 3,000 ft Approach MAP North (Procedure Option 32)

Runway 10 3,000 ft Approach

Aircraft arriving at Manston Airport will be provided with radar vectors by ATC to leave Controlled Airspace and the en-route network and will be radar vectored towards one of the Initial Approach Fixes (IAF), which represent the start of the approach procedure, shown in Figure 17 below. Aircraft will join the approach procedure at an altitude anticipated to be in the region of 4,000ft amsl and will be expected to perform a continuous descent from the en-route network all the way to landing.

Once on the approach procedure, aircraft will route via the Intermediate Fix (IF) where they will turn onto the runway heading and be lined up with the runway from approximately 12 miles away. At the FAF, approximately 9 miles from the runway threshold, aircraft will be at 3,000 ft to begin the planned descent profile of 3° for the procedure to land at the airport. Manston ATC will monitor the aircraft during the approach to ensure safety of operations.

In the event that a successful landing cannot be made, the aircraft may be given ATC vectors to immediately perform another approach to land or may be required to follow the MAP. If following the MAP, aircraft will continue on runway heading and climb to at least 500 ft and follow the blue route shown in Figure 16 below. Once east of Ramsgate and over the sea, aircraft will turn left onto a northerly heading to route to the Hold, shown in Figure 17 below as the 'racetrack' shape over the sea. From the Hold position, aircraft will be directed by ATC to re-join the approach procedure to carry out a further attempt to land. Figure 18 shows the expected overland track of aircraft.



Figure 17 - Runway 10 3,000 ft Approach Portion

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Figure 18 - Runway 10 3,000 ft Approach – Overland Portion

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4.5.4 Runway 10 Approach Procedures

The Runway 10 approach procedures described above are the only procedures in this consultation that have alternate options for consideration.

Because the descent gradient is the same for each option, aircraft will need to be further away from the runway at the FAF for the Runway 10 3,000 ft Approach in order to descend at the same rate and arrive at the runway threshold for landing as shown in Figure 19 below. The way the procedures need to be designed means that the position of the IF and IAF's for this approach will also be further from the runway. Therefore, the length of this procedure is longer than the 2,500 ft approach option and aircraft will be further west to join the procedure.

However, since the approach angle is the same as the 2,500 ft approach option described above, aircraft descending from a 3,000 ft FAF would pass through same position of the FAF as described in the previous option and subsequently follow the same descent profile, as shown in Figure 19 below. In both options, the FAFs are located over Herne Bay, so the impact from both options will be very similar.

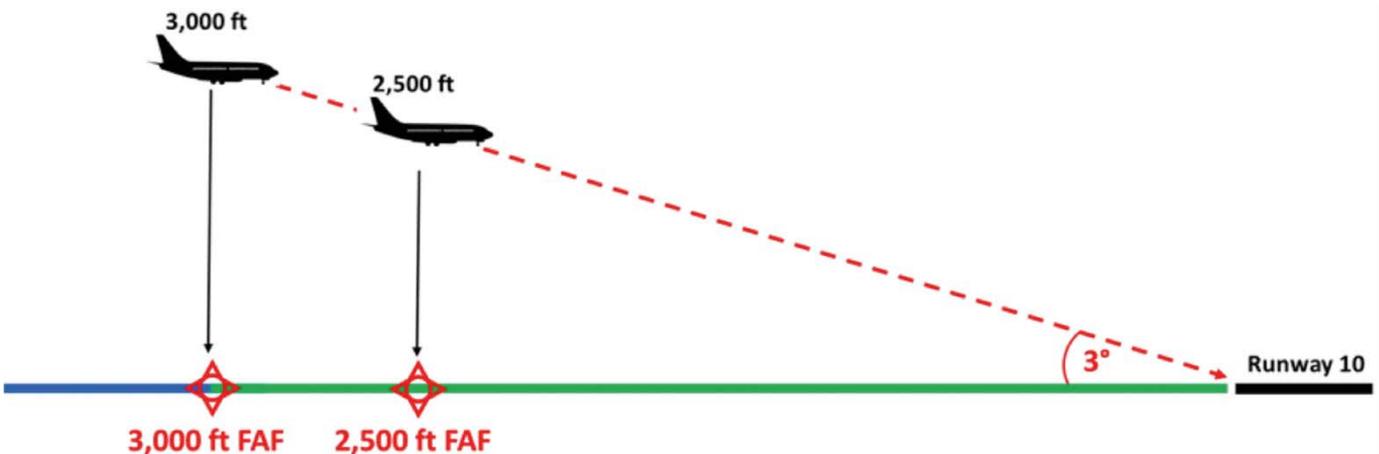


Figure 19 - Runway 10 3° Instrument Approach Procedure Height Profile

4.6 Airspace

As well as the procedures described above, Manston Airport is planning on introducing an airspace solution that will seek to provide an appropriate degree of protection to enable the safe management of Air Transport Movements in the critical stages of flight; take-off and landing. In order to minimise the impact on other airspace users in the local area, Manston is proposing to introduce an Aerodrome Traffic Zone (ATZ) as the airspace solution.

An ATZ is a fixed area of protected airspace extending around an aerodrome. An ATZ takes on the classification of the airspace within which it is established, which, in the case of Manston Airport, would be Class G uncontrolled airspace. Given that the expected length of the runway at Manston Airport will be approximately 2,750 m, the ATZ would be a circle extending from the surface to 2,000 ft above ground level (agl) with a radius of 2.5 NM from the midpoint of the runway.

Manston ATC will be responsible for the management of the ATZ in order to protect users of the aerodrome during the critical stages of flight and also to enhance safety for other airspace users within the vicinity of the aerodrome. Aircraft must not fly, take off or land within the ATZ unless the commander of the aircraft has obtained the permission of ATC to enable the flight to be conducted safely within the ATZ. Figure 20 below show the lateral extent of the ATZ.

The implementation of the ATZ will include a definition of the visual circuit pattern which could be utilised as required, the visual circuit pattern will be defined in the Aerodrome Manual once established and it is anticipated that the visual circuit will be established to the south of the runway at a height of 1,000 ft aal for GA aircraft and 2,000 ft aal for larger, commercial aircraft.



Figure 20 - Aerodrome Traffic Zone

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In addition to the ATZ, Manston Airport is also planning on introducing a Flight Restriction Zone (FRZ) around the airport. This is an addition to the airspace requirements that were engaged on during Stage 2 of the CAP 1616 process and has become a standard restriction around UK airports as an additional safety and security layer of protection.

An FRZ is a designated area around airports, airfields, heliports, and spaceports where flying drones or model aircraft is prohibited without permission from the relevant authority. These zones are in place to enhance safety by preventing potential collisions with aircraft. Manston ATC will be responsible for the management of the FRZ.

An FRZ typically includes the aerodrome traffic zone (ATZ) and a runway protection zone (RPZ) extending 5 kilometres along the runway from each end and 1 kilometre wide, as shown in Figure 21 below.



Figure 21 - Flight Restriction Zone

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4.7 Combining of Options for Assessment

In order to carry out a Full Options Appraisal (including an Environmental Assessment) in accordance with CAP 1616, the departure and approach procedures are combined in various ways to create an 'operational picture' of where aircraft arriving and departing Manston Airport will fly. An illustrated example of this is given below in Figure 22.

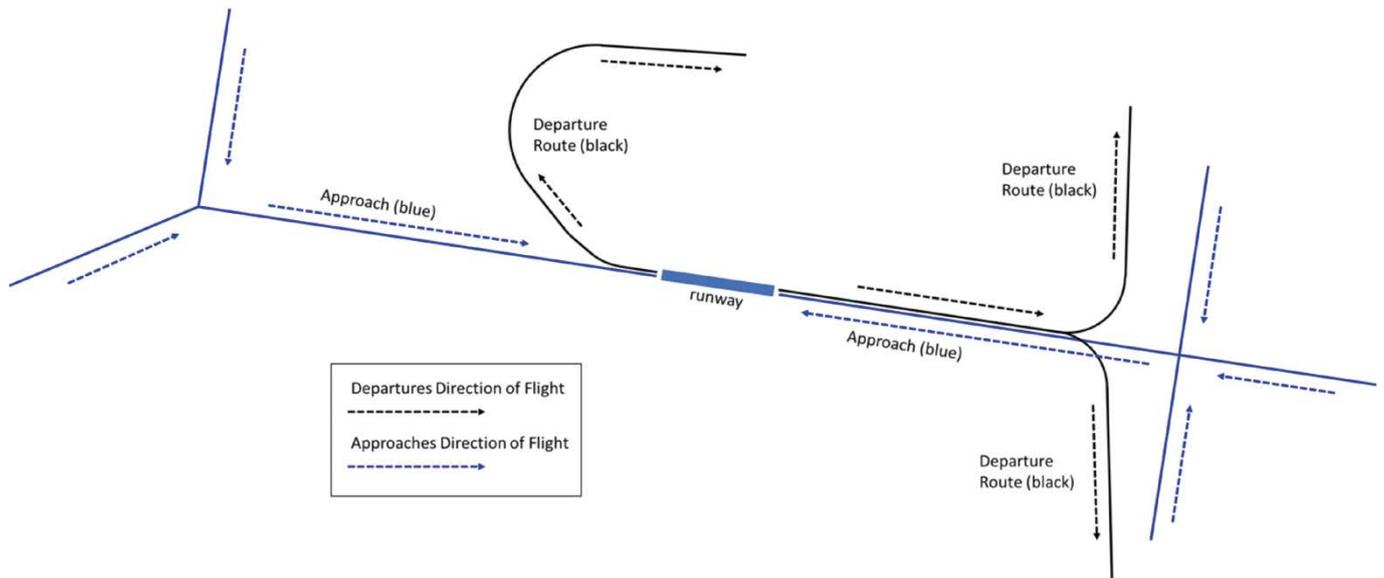


Figure 22 - Example combination of Departure and Approach Procedures

The environmental assessments have been conducted for an average summer day when the airport operations are expected to be the busiest. The modelling takes into account that operations could occur from either end of the runway depending on the wind conditions. Historical weather data suggests that the airport will operate from Runway 28 (take-offs and landings in a westerly direction) for 70% of the time and Runway 10 (take-offs and landings in an easterly direction) for 30% of the time. An average summer day is therefore modelled with aircraft operating from different runway directions in a 70/30 split.

The Full Options Appraisal includes an assessment of the environmental impacts including the change in noise, emissions and fuel burn, and shows how we arrived at our preferred combination. You can view our Full Options Appraisal documentation on the airspace portal but a summary of the results for each combined option is shown in Section 5 and Section 6 below.

As there were limited options carried forward from Stage 2 (as described above), there are only 2 possible ways to combine all of the options into an operational picture for the airport. These are described in paragraphs 4.8 and 4.9 below.

4.8 Design Combination A

Design Combination A is our preferred option for the arrival and departure procedures and airspace following our environmental and operational assessments of both options.

Table 2 below shows which of the individual procedures have been combined to form the preferred Design Combination A.

	Runway 28	Runway 10
Departure	Runway 28 Departure	Runway 10 Departure
Approach	Runway 28 Approach	Runway 10 2,500 ft Approach
Airspace	Aerodrome Traffic Zone + Flight Restriction Zone	

Table 2 - Preferred Design Combination A

4.9 Design Combination B

Table 3 below shows which of the individual procedures have been combined to form the alternate Design Combination B.

	Runway 28	Runway 10
Departure	Runway 28 Departure	Runway 10 Departure
Approach	Runway 28 Approach	Runway 10 3,000 ft Approach
Airspace	Aerodrome Traffic Zone + Flight Restriction Zone	

Table 3 - Alternate Design Combination B

5. Design Combination A

5.1 Design Combination A – Our Preferred Option

Combination A is preferred as a result of the findings in our Full Options Appraisal. A reminder of the individual procedures that make up each combination is shown in the tables below. The descriptions of the procedures can be found in Section 4.

	Runway 28	Runway 10
Departure	Runway 28 Departure	Runway 10 Departure
Approach	Runway 28 Approach	Runway 10 2,500 ft Approach
Airspace	Aerodrome Traffic Zone + Flight Restriction Zone	

Figure 23 below shows how the individual procedures have been combined to produce combination A.



Figure 23 - Preferred Design Combination A

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5.2 Combination A Full Options Appraisal Assessment Results

Group	Notes	Quantitative noise assessment results compared to Baseline	Assessment result
Communities	Noise	Individuals experiencing increased daytime noise in forecast year: 2038	26,224
Communities	Noise	Individuals experiencing reduced daytime noise in forecast year: 2038	0
Communities	Noise	Individuals experiencing increased night-time noise in forecast year: 2038	2,055
Communities	Noise	Individuals experiencing reduced night-time noise in forecast year: 2038	0
Communities	Noise	Net Present Value of change in noise	£20,843,003 ³

Group	Other Impact	Assessment compared to Baseline	Assessment result
Communities	Air Quality	No change versus Baseline as no AQMAs in vicinity of proposed routings.	No change
Wider Society	Greenhouse Gas impact. Negative figure = decrease versus Baseline	Change in CO ₂ Equivalent emissions over 10-year appraisal period (tonnes)	113,034
		Change in annual CO ₂ Equivalent emissions in opening year (tonnes)	37,164
	Greenhouse Gas CO ₂ e: positive figures are a benefit; negative are a cost to society	Overall Assessment NPV CO ₂ Equivalent emissions	£194,968,305
		NPV of traded sector CO ₂ Equivalent emissions	£21,389,616
Wider Society	Tranquillity	<p>The nominal track for Option A overflies a small section in the centre of the Kent Downs AONB between Lenham and Brogdal for aircraft below 7000 ft. It has been calculated that 2.17 flights would overfly the area.</p> <p>The area is some distance from the project site and is very unlikely any impacts on tranquillity from increased overflying would be sufficiently significant to meet criteria.</p>	No change

Continued overleaf

³ Note, the noise appraisal assumes a no airport baseline with default baseline noise levels < Leq 16 hr 51 dB and Leq,8 hr night 45 dB which is unrealistic because other noise sources such as road traffic are above this in the majority of areas. Therefore, noise increases will not be as large as assumed at the majority of locations, so the estimated total cost is substantially over-stated. TAG is a tool developed for comparing options against options not against a zero baseline.

Group	Other Impact	Assessment compared to Baseline	Assessment result
Wider Society	Biodiversity	<p>There are 29 sites within 18 km of the Manston runway ends. Of those 29, 15 are identified to be overflown by Option A, coming to 90.93 operations (<7,000 ft) from 2038 that overfly the designations. This includes, one local nature reserve, two national nature reserves, one Ramsar site, three sites of specific scientific interest, four special areas of conservation, two special protection areas, and two marine conservation zones. For the purposes of this ASC, when comparing a to a baseline of no operations, it can be highlighted that the option would have a very minor negative change to the extent that significant negative impacts would not be expected.</p> <p><i>* The above conclusion is borne out in the DCO application where an appropriate assessment was undertaken as part of the habitats regulations appraisal, which concluded that the Secretary of State for Transport confirmed that the proposed Development would not result in any adverse effects on the integrity of any of the adjacent designated European sites, either alone or in combination with other plans and that all necessary mitigation measures are secured within the Development Consent Order (DCO), and Natural England supports the conclusions. In the case of Option A, this presents no change from the consented development and would therefore in reality result in no change on the integrity of European sites.</i></p>	Negative*
Wider Society	Capacity and resilience	The procedures have been designed in consultation with NATS and the FASI-S programme, in accordance with the UK Airspace Modernisation Strategy. This enables increased capacity, efficiency and resilience.	Benefit
General Aviation (GA)	Access	The introduction of an ATZ will have an impact on GA access. If this option is taken forward, GA pilots would be required to contact ATC and request permission to enter the ATZ. Manston ATC will facilitate access to airspace for all users, regardless of the airspace classification, unless for overriding operational safety issues. Access will not routinely be denied but some airspace users may be unwilling or unable to operate in the airspace due to the lack of the necessary equipment (radio or transponder). This is expected to be more of an impact than the current situation.	Negative
GA / commercial airlines	Economic impact from increased effective capacity	The introduction of procedures will contribute to the delivery of associated benefits including increased effective capacity which is predicted to have direct and indirect economic benefits associated with an increase in both air transport and GA movements. The economic impact of an ATZ will be realised as movements will be handled in a more efficient way, increasing effective capacity at the airport.	Benefit

Continued overleaf

Group	Other Impact	Assessment compared to Baseline	Assessment result
GA / commercial airlines	Fuel burn	Annual fuel burn in opening year 2029 (tonnes)	11,779
		Annual fuel burn in forecast year 2038 (tonnes)	35,827
Commercial airlines	Training costs	There will be no additional training costs required for commercial operators with the implementation of procedures and airspace.	No change
Airport / ANSP	Other costs	Other costs to operators may include updates to aircraft Flight Management Systems (FMS) and navigation databases. Any additional costs are likely to be small and not significant.	No significant change
Airport / ANSP	Infrastructure Costs	There will be no additional infrastructure costs associated with the introduction of procedures and airspace.	No change
Airport / ANSP	Operational costs	The operational costs associated with implementing procedures relate to IFP design, validation (ground and airborne), safety assessment, airspace change and consultation, certification and publication. Once implemented, the costs of ownership of procedures is very low, requiring maintenance of the procedure on a five yearly basis.	No significant change
Airport / ANSP	Deployment costs	There may be some additional air traffic controller training specifically associated with the implementation of approved procedures; however, this training will form part of the training required to establish Air Traffic Control at the airport as part of the airport development.	No change

5.3 Combination A Noise Contours

Figure 24 and Figure 25 below show the calculated noise contour for the forecast Year 1 (2029) and Year 10 (2038) for combination A representing the areas around the airport within which average summer day noise levels can be expected to exceed 51dBA LAeq 16hr; this represents the average noise levels for the 16-hour period between 0700 and 2300 hrs during the summer season.

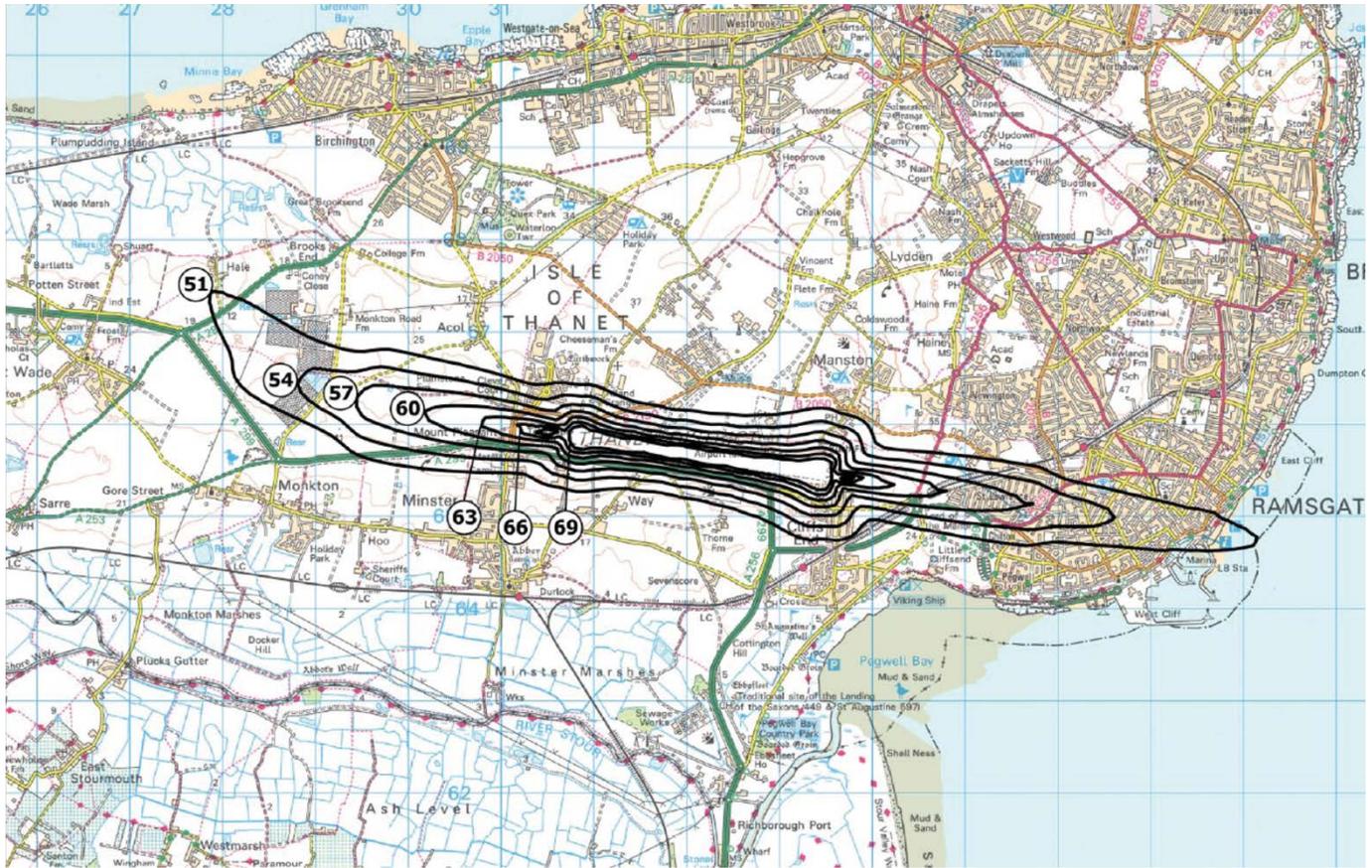


Figure 24 - Year 1 (2029) Noise Contour 51dBA LAeq 16hr

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LAeq,16h dB	Area (km ²)	Population	Community Buildings	Hospitals	Schools	Places of Worship
>51	10.4	13,000	1	0	2	7
>54	6.1	4,800	0	0	0	2
>57	3.7	1,200	0	0	0	0
>60	2.1	100	0	0	0	0
>63	1.3	0	0	0	0	0
>66	0.8	0	0	0	0	0
>69	0.5	0	0	0	0	0

Table 4 – Combination A Year 1 (2029) Day Noise Contours Area and Population Data

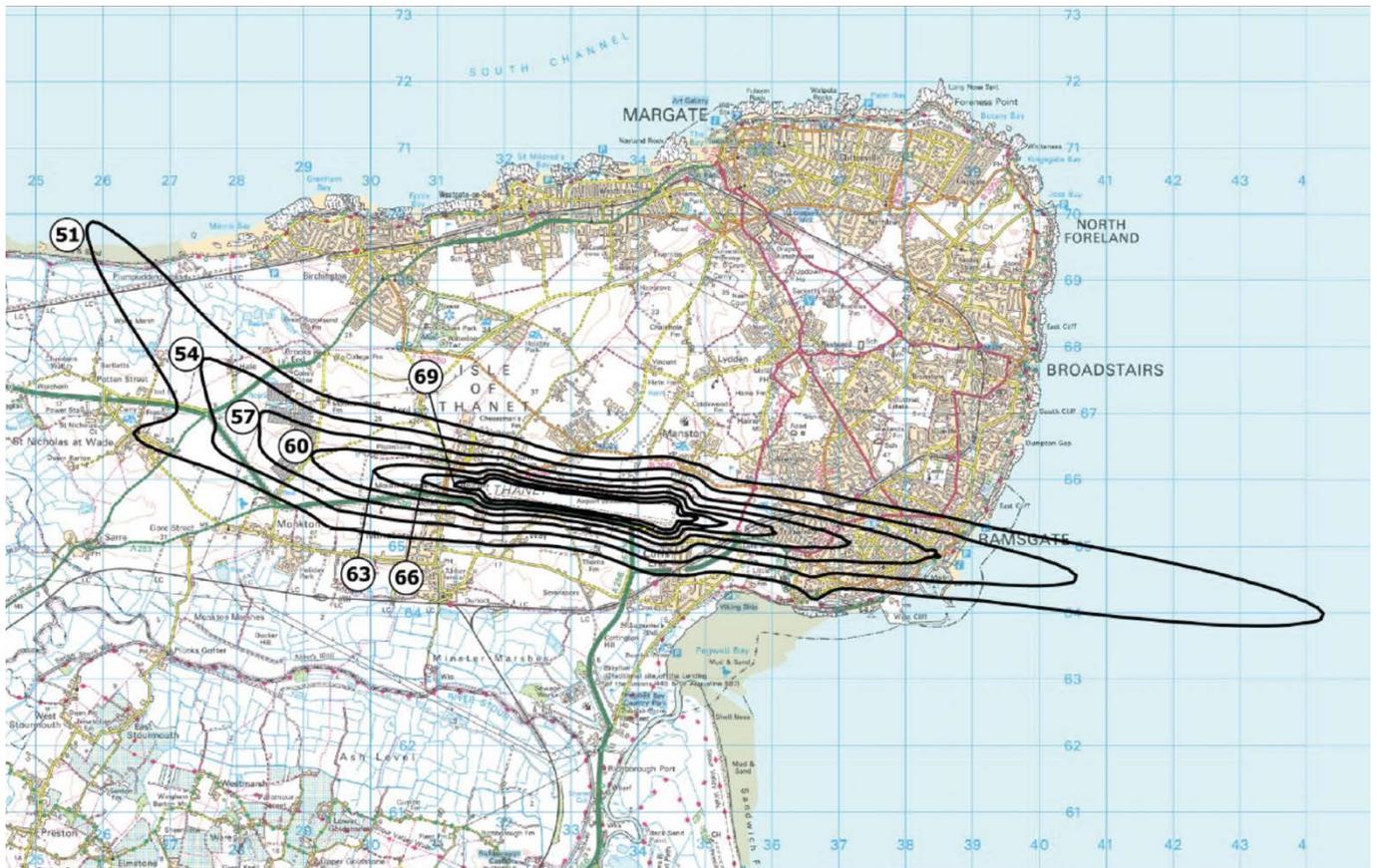


Figure 25 - Year 10 (2038) Noise Contour 51dBA LAeq 16hr

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LAeq,16h dB	Area (km ²)	Population	Community Buildings	Hospitals	Schools	Places of Worship
>51	25.8	26,200	5	0	8	16
>54	13.9	18,500	3	0	7	12
>57	7.88	9,600	1	0	0	6
>60	4.42	2,200	0	0	0	1
>63	2.4	300	0	0	0	0
>66	1.38	0	0	0	0	0
>69	0.85	0	0	0	0	0

Table 5 – Combination A Year 10 (2038) Day Noise Contours Area and Population Data

Figure 26 is the calculated noise contours, for the forecast Year 10 (2038), showing the area around the airport within which noise levels can be expected to exceed 45dBA LAeq 16hr; this represents the average noise levels for the 8-hour night time period between 2300 and 0700 hrs during the summer season. There is no noise contour for the night period in Year 1 (2029) as there will be no scheduled night operations.

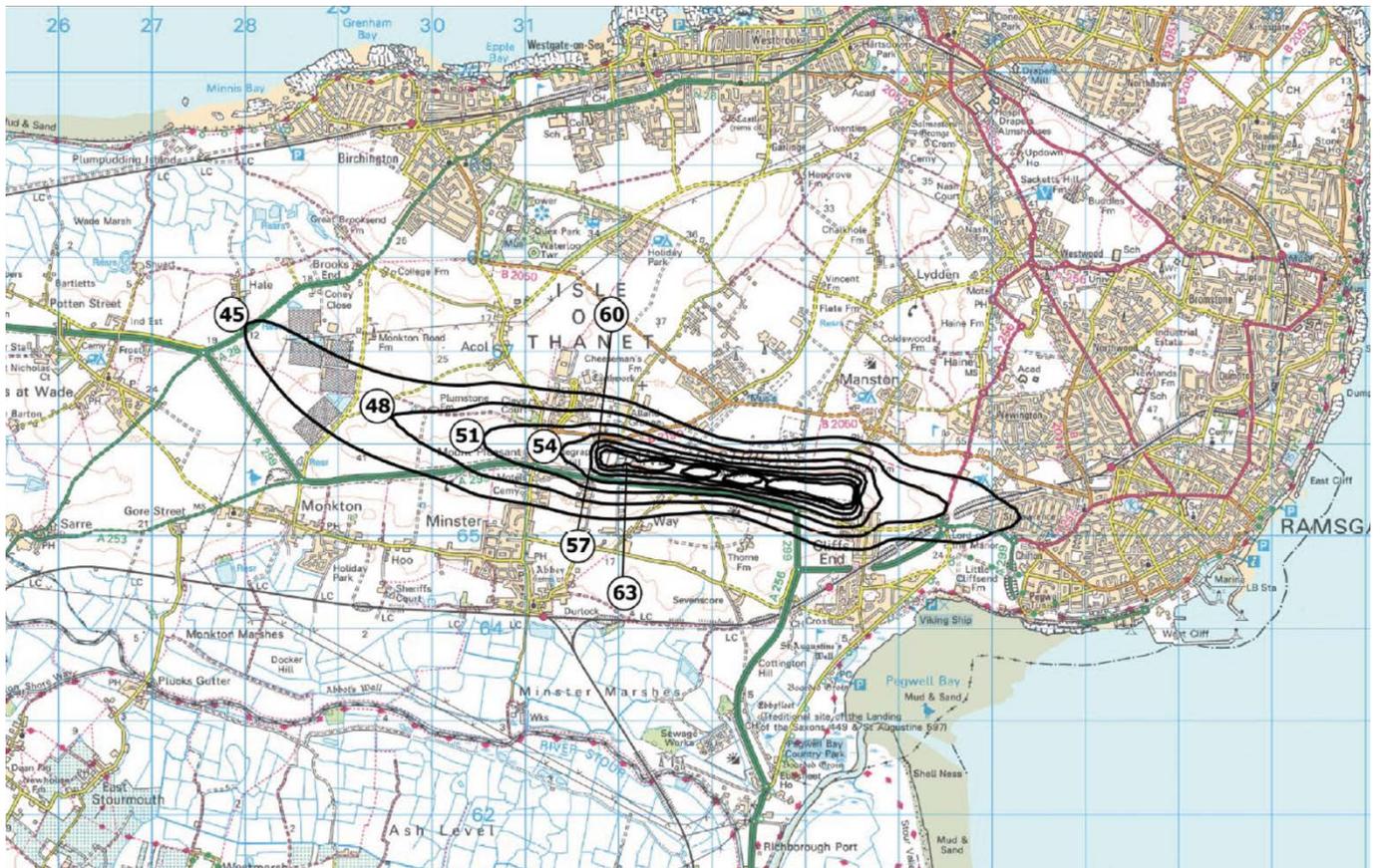


Figure 26 - Year 10 (2038) Noise Contour 45dB LAeq 8hr

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LAeq,16h dB	Area (km ²)	Population	Community Buildings	Hospitals	Schools	Places of Worship
>45	8.0	2,000	0	0	0	3
>48	4.1	400	0	0	0	1
>51	2.3	100	0	0	0	0
>54	1.3	0	0	0	0	0
>57	0.8	0	0	0	0	0
>60	0.5	0	0	0	0	0
>63	0.3	0	0	0	0	0

Table 6 - Combination A Year 10 (2038) Night Noise Contours Area and Population Data

5.4 Combination A Noise Assessments

Figure 27 and Figure 28 below show the N65 (day) assessments respectively for combination A predicted for the forecast Year 1 (2029) and Year 10 (2038). Each contour represents the area around the airport within which the number of events of noise exceeding 65dB(A) (N65) in the daytime, for an average 24 hours in the summer, would be experienced by people living within the contour.

Change sponsors are also required to show N60 night-time contours as part of the noise assessment where contours ranging from 5 events and above are shown. Night-time is defined as between 2300 hrs (11pm) and 0700 hrs (7am).

There is no N60 (night) assessment for the night period in Year 1 (2029) as there will be no scheduled night operations.

An N60 (night) assessment was conducted for operations in Year 10 (2038). However, there were no locations where the number of noise events exceeding 60dB(A) (N60) in the night-time reached 5 events, so there are no contours shown.

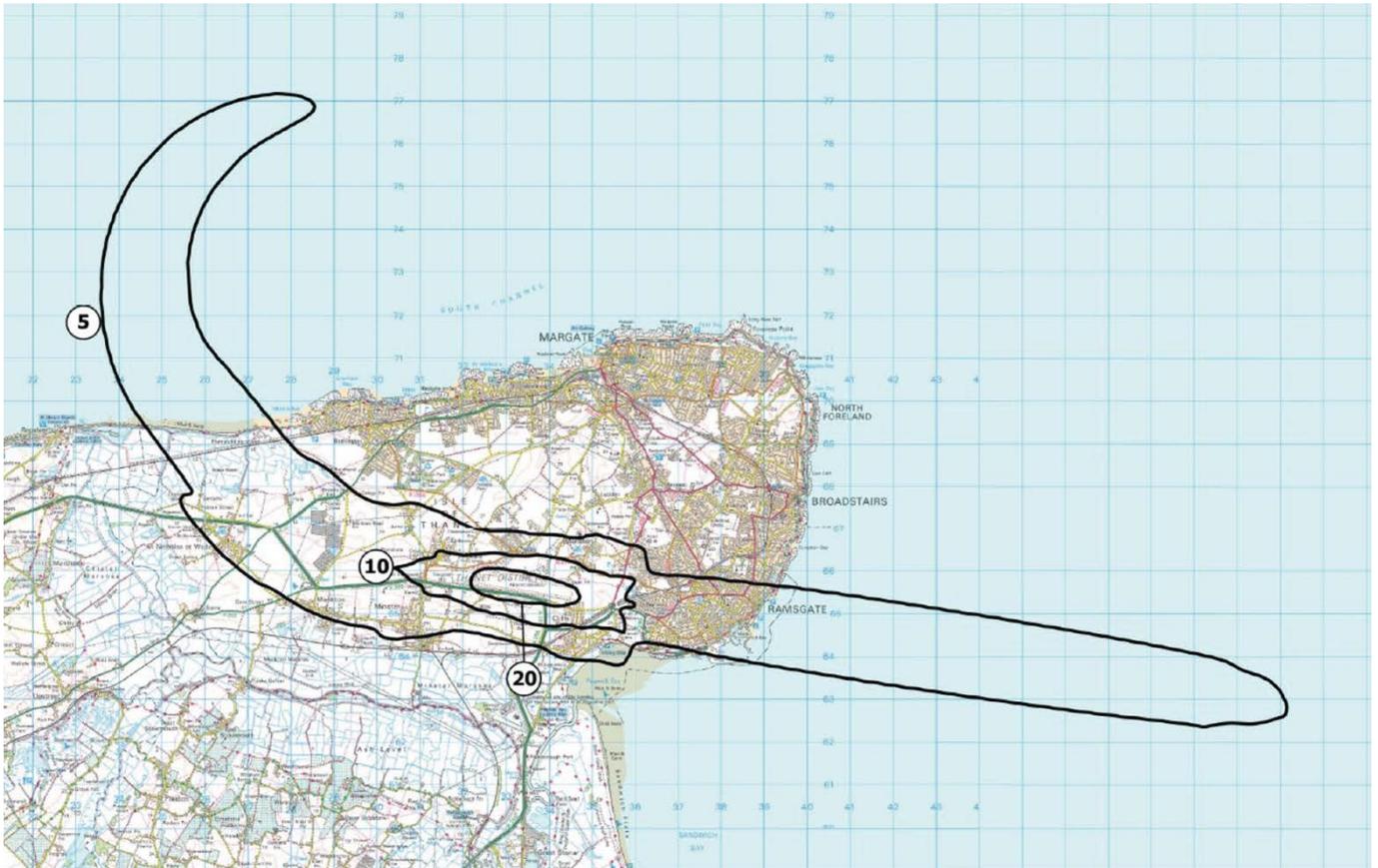


Figure 27 - Year 1 (2029) Projected Day Operations, events exceeding 65dBA (N65)

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N65	Area (km ²)	Population	Community Buildings	Hospitals	Schools	Places of Worship
>5	76.0	35,000	13	0	12	22
>10	6.5	1,600	0	0	0	2
>20	1.5	0	0	0	0	0

Table 7 - Combination A Year 10 (2038) Day Noise Contours Area and Population Data

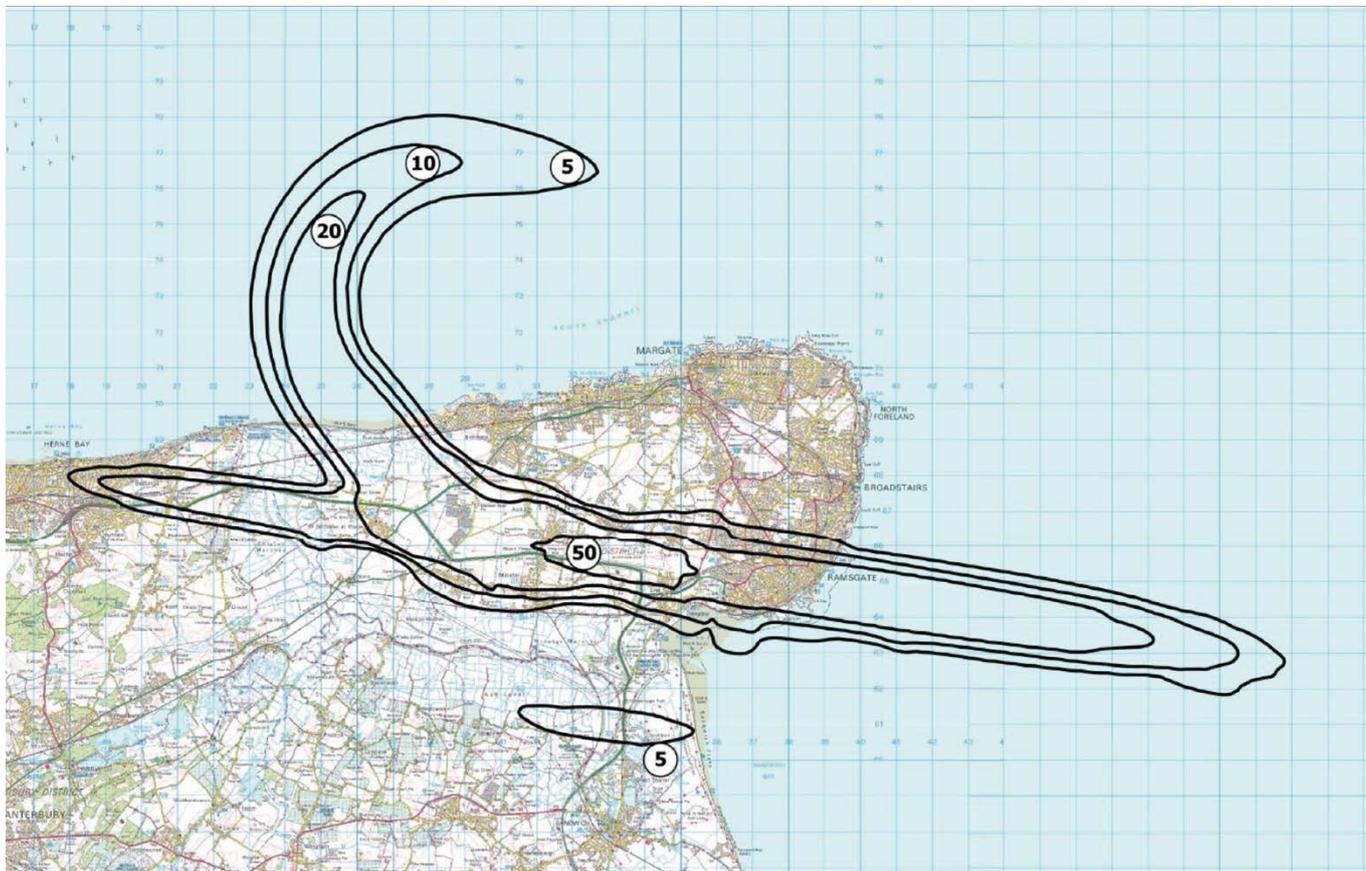


Figure 28 - Year 10 (2038) Projected Day Operations, events exceeding 65dBA (N65)

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N65	Area (km ²)	Population	Community Buildings	Hospitals	Schools	Places of Worship
>5	126.4	57,000	14	1	17	32
>10	85.4	44,300	13	1	13	25
>20	51.4	30,400	7	0	8	16
>50	4.1	800	0	0	0	0

Table 8 - Combination A Year 10 (2038) N65 Contours Area and Population Data

6. Procedure Combination B

6.1 Combination B – Our Alternative Option

Combination B is an alternate option for consideration. A reminder of the individual procedures that make up each combination is shown in the table below. The descriptions of the procedures can be found in Section 4.

	Runway 28	Runway 10
Departure	Runway 28 Departure	Runway 10 Departure
Approach	Runway 28 Approach	Runway 10 3,000 ft Approach
Airspace	Aerodrome Traffic Zone + Flight Restriction Zone	

Figure 29 below shows how the individual procedures have been combined to produce combination B.



Figure 29 - Alternate Design Combination B

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6.2 Combination B Full Options Appraisal Assessment Results

Group	Notes	Quantitative noise assessment results compared to Baseline	Assessment result
Communities	Noise	Individuals experiencing increased daytime noise in forecast year: 2029	26,224
Communities	Noise	Individuals experiencing increased daytime noise in forecast year: 2038	0
Communities	Noise	Individuals experiencing increased night-time noise in forecast year: 2029	2,055
Communities	Noise	Individuals experiencing increased night-time noise in forecast year: 2038	0
Communities	Noise	Net Present Value of change in noise	-£20,843,003 ⁴

Group	Other Impact	Assessment compared to Baseline	Assessment result
Communities	Air Quality	No change versus baseline as no AQMAs in vicinity of proposed routings.	No Change
Wider Society	Greenhouse Gas impact. Negative figure = decrease versus Baseline	Change in CO ₂ Equivalent emissions over 10-year appraisal period (tonnes)	117,215
		Change in annual CO ₂ Equivalent emissions in opening year (tonnes)	37,296
	Greenhouse Gas CO ₂ e: positive figures are a benefit; negative are a cost to society	Overall Assessment NPV CO ₂ Equivalent emissions	-£200,469,352
		NPV of traded sector CO ₂ Equivalent emissions	-£21,985,072
Wider Society	Tranquillity	The nominal track for Option B is the same as Option A (i.e. 2.17 flights would overfly the area) overflying the Kent Downs AONB and is therefore also very unlikely any impacts on tranquillity from increased overflying would be sufficiently significant to meet criteria.	No Change

Continued overleaf

⁴ Note, the noise appraisal assumes a no airport baseline with default baseline noise levels < Leq 16 hr 51 dB and Leq,8 hr night 45 dB which is unrealistic because other noise sources such as road traffic are above this in the majority of areas. Therefore, noise increases will not be as large as assumed at the majority of locations, so the estimated total cost is substantially over-stated. TAG is a tool developed for comparing options against options not against a zero baseline.

Group	Other Impact	Assessment compared to Baseline	Assessment result
Wider Society	Biodiversity	<p>There are 29 sites within 18 km of the Manston runway ends. Of those 29, 15 are identified to be overflowed by Option B (same as Option A) i.e. 90.93 operations (<7,000 ft) from 2038 that overfly the designations. As for the assessment of Option A as part of this ASC, when comparing a to a baseline of no operations, it can be highlighted that the option would have a very minor negative change to the extent that significant negative effects should not be expected.</p> <p><i>*The above conclusion is borne out in the DCO application where an appropriate assessment was undertaken as part of the habitats regulations appraisal, which concluded that the Secretary of State for Transport confirmed that the proposed Development would not result in any adverse effects on the integrity of any of the adjacent designated European sites, either alone or in combination with other plans and that all necessary mitigation measures are secured within the Development Consent Order (DCO), and Natural England supports the conclusions. In the case of Option A, this presents no change from the consented development and would therefore in reality have no change on the integrity of European sites.</i></p>	Negative*
Wider Society	Capacity and resilience	The procedures have been designed in consultation with NATS and the FASI-S programme, in accordance with the UK Airspace Modernisation Strategy. This enables increased capacity, efficiency and resilience.	Benefit
General Aviation (GA)	Access	The introduction of an ATZ will have an impact on GA access. If this option is taken forward, GA pilots would be required to contact ATC and request permission to enter the ATZ. Manston ATC will facilitate access to airspace for all users, regardless of the airspace classification, unless for overriding operational safety issues. Access will not routinely be denied but some airspace users may be unwilling or unable to operate in the airspace due to the lack of the necessary equipment (radio or transponder). This is expected to be more of an impact than the current situation.	Negative
GA / commercial airlines	Economic impact from increased effective capacity	The introduction of procedures will contribute to the delivery of associated benefits including increased effective capacity which is predicted to have direct and indirect economic benefits associated with an increase in both air transport and GA movements. The economic impact of an ATZ will be realised as movements will be handled in a more efficient way, increasing effective capacity at the airport.	Benefit

Continued overleaf

Group	Other Impact	Assessment compared to Baseline	Assessment result
GA / commercial airlines	Fuel burn	Change in annual fuel burn in opening year versus Baseline (tonnes)	11,821
		Change in annual fuel burn in forecast year versus Baseline (tonnes)	37,151
Commercial airlines	Training costs	There will be no additional training costs required for commercial operators with the implementation of procedures and airspace.	No change
Airport / ANSP	Other costs	Other costs to operators may include updates to aircraft Flight Management Systems (FMS) and navigation databases. Any additional costs are likely to be small and not significant.	No significant change
Airport / ANSP	Infrastructure costs	There will be no additional infrastructure costs associated with the introduction of procedures and airspace.	No change
Airport / ANSP	Operational costs	The operational costs associated with implementing procedures relate to IFP design, validation (ground and airborne), safety assessment, airspace change and consultation, certification and publication. Once implemented, the costs of ownership of procedures is very low, requiring maintenance of the procedure on a five yearly basis.	No significant change
Airport / ANSP	Deployment costs	There may be some additional air traffic controller training specifically associated with the implementation of approved procedures; however, this training will form part of the training required to establish Air Traffic Control at the airport as part of the airport development.	No change

6.3 Combination B Noise Contours

Figure 30 and Figure 31 below show the calculated noise contour for the forecast Year 1 (2029) and Year 10 (2038) for combination B representing the areas around the airport within which average noise levels can be expected to exceed 51dBA LA_{eq} 16hr; this represents the average noise levels for the 16-hour period between 0700 and 2300 hrs during the summer season.

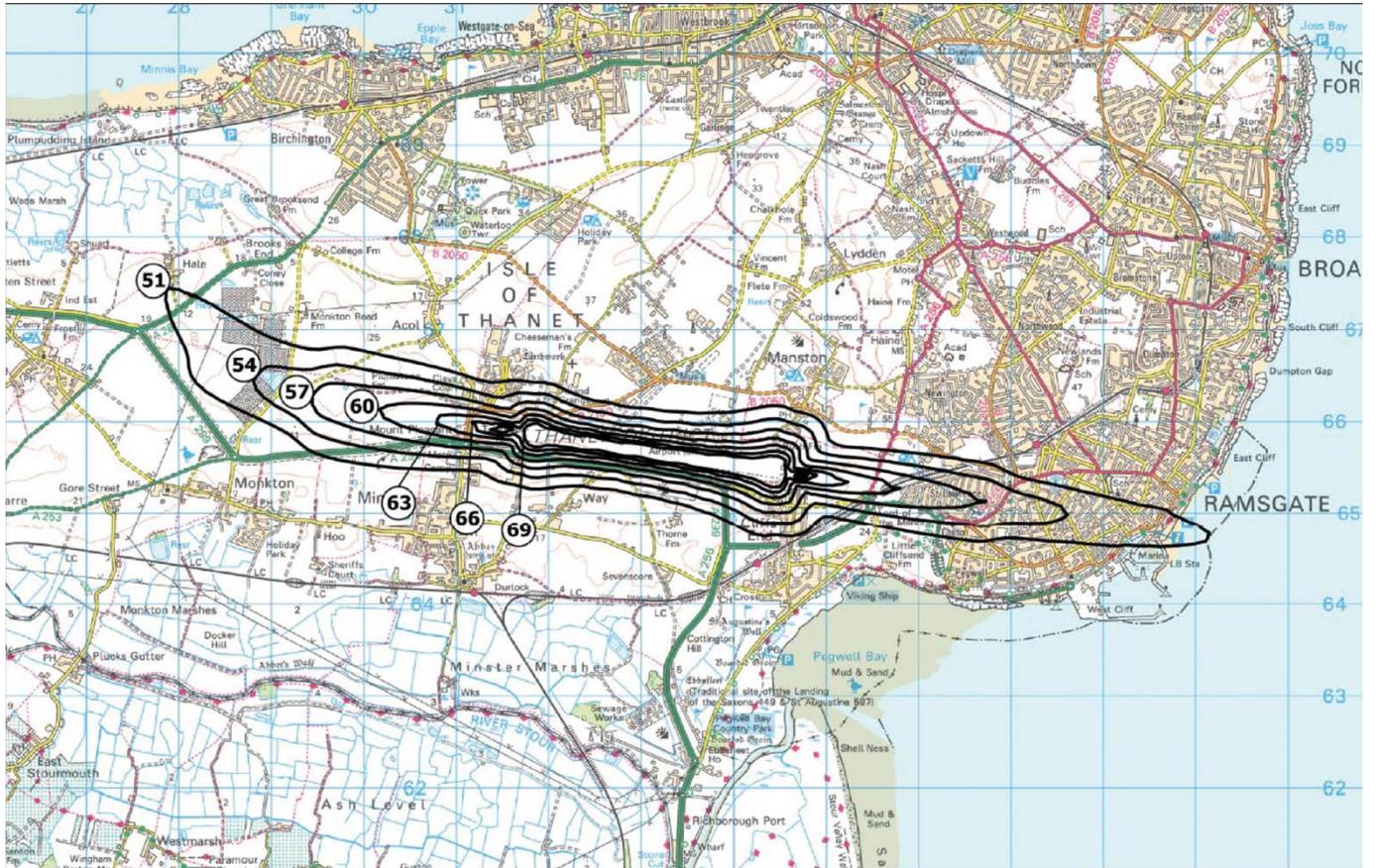


Figure 30 - Year 1 (2029) Noise Contour 51dBA LA_{eq} 16hr

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LA _{eq,16h} dB	Area (km ²)	Population	Community Buildings	Hospitals	Schools	Places of Worship
>51	10.4	13,000	1	0	2	7
>54	6.1	4,800	0	0	0	2
>57	3.7	1,200	0	0	0	0
>60	2.1	100	0	0	0	0
>63	1.3	0	0	0	0	0
>66	0.8	0	0	0	0	0
>69	0.5	0	0	0	0	0

Table 9 - Combination B Year 1 (2029) Day Noise Contours Area and Population Data

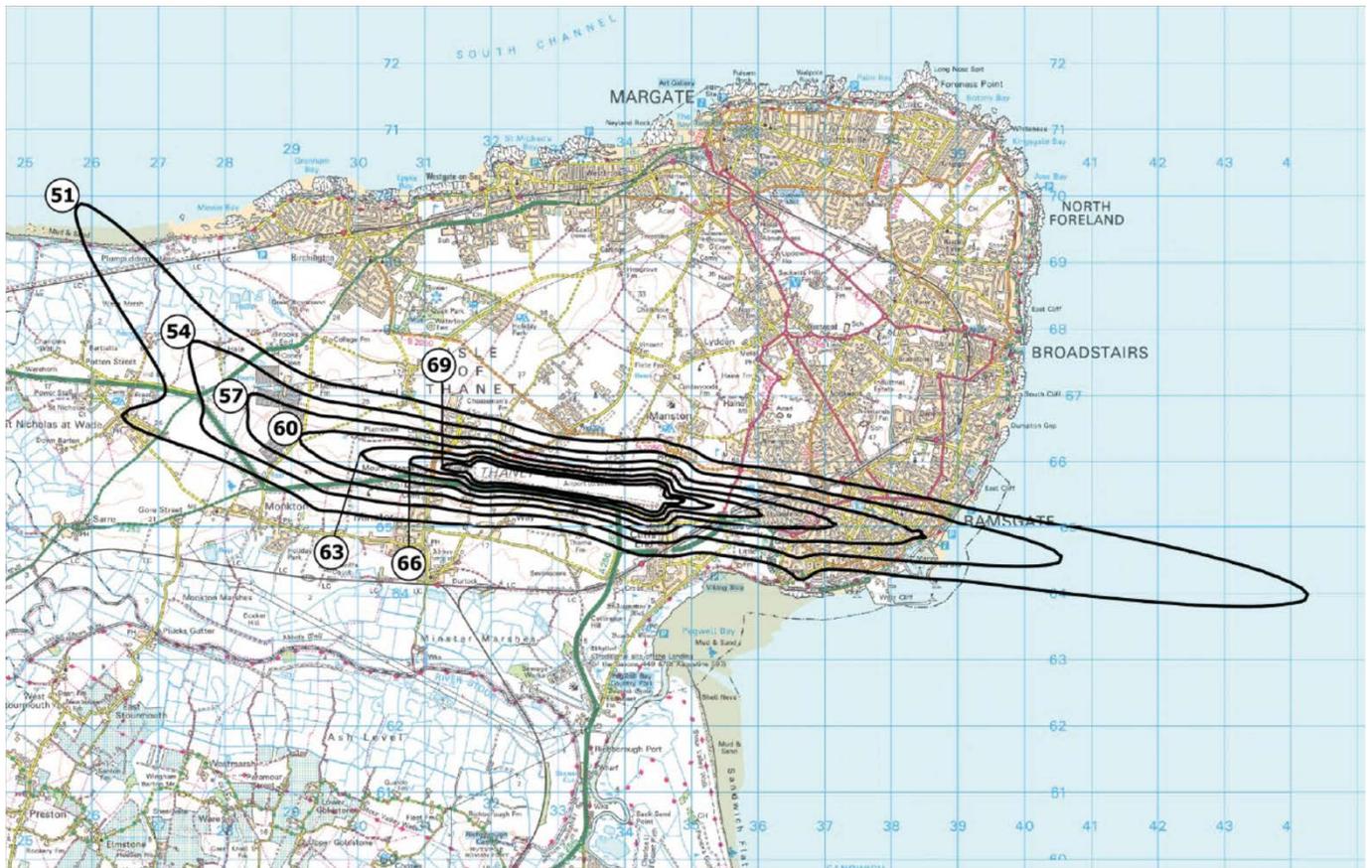


Figure 31 - Year 10 (2038) Noise Contour 51dB LAeq 16hr

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LAeq,16h dB	Area (km ²)	Population	Community Buildings	Hospitals	Schools	Places of Worship
>51	25.8	26,200	5	0	8	16
>54	13.9	18,500	3	0	7	12
>57	7.88	9,600	1	0	0	6
>60	4.42	2,200	0	0	0	1
>63	2.4	300	0	0	0	0
>66	1.38	0	0	0	0	0
>69	0.85	0	0	0	0	0

Table 10 - Combination B Year 10 (2038) Day Noise Contours Area and Population Data

Figure 32 is the calculated noise contours, for the forecast Year 10 (2038), showing the area around the airport within which noise levels can be expected to exceed 45dB LAeq 16hr; this represents the average noise levels for the 8-hour night time period between 2300 and 0700 hrs during the summer season. There is no noise contour for the night period in Year 1 (2029) as there will be no scheduled night operations.

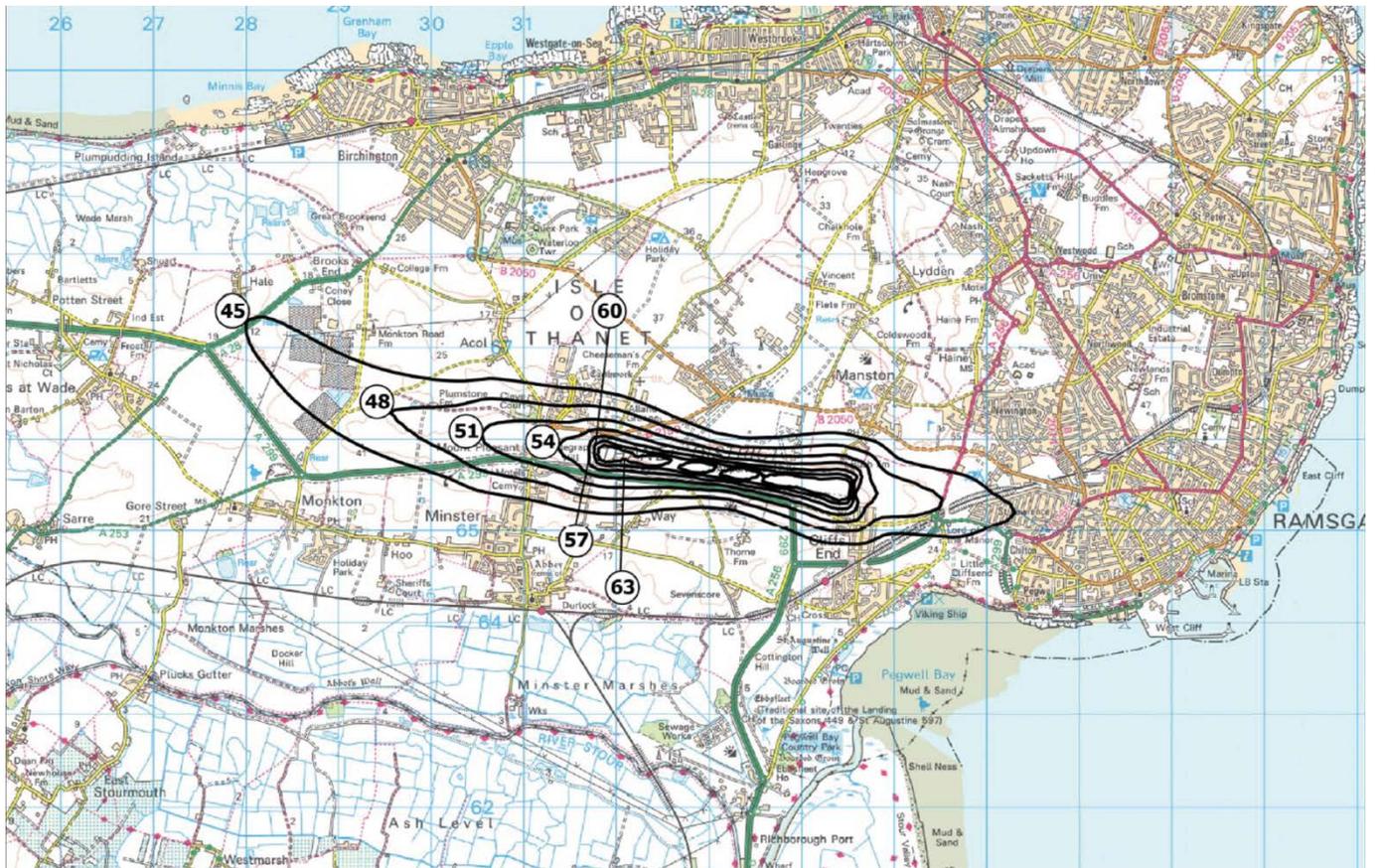


Figure 32 - Year 10 (2038) Noise Contour 51dB LAeq 16hr

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LAeq,16h dB	Area (km ²)	Population	Community Buildings	Hospitals	Schools	Places of Worship
>45	8.0	2,000	0	0	0	3
>48	4.1	400	0	0	0	1
>51	2.3	100	0	0	0	0
>54	1.3	0	0	0	0	0
>57	0.8	0	0	0	0	0
>60	0.5	0	0	0	0	0
>63	0.3	0	0	0	0	0

Table 11 - Combination B Year 10 (2038) Night Noise Contours Area and Population Data

6.4 Combination B Noise Assessments

Figure 33 and Figure 34 below show the N65 (day) assessments respectively for combination B predicted for the forecast Year 1 (2029) and Year 10 (2038). Each contour represents the area around the airport within which the number of events of noise exceeding 65dB(A) (N65) in the daytime, for an average 24 hours in the summer, would be experienced by people living within the contour.

Change sponsors are also required to show N60 night-time contours as part of the noise assessment where contours ranging from 5 events and above are shown. Night-time is defined as between 2300 hrs (11pm) and 0700 hrs (7am).

There is no N60 (night) assessment for the night period in Year 1 (2029) as there will be no scheduled night operations.

An N60 (night) assessment was conducted for operations in Year 10 (2038). However, there were no locations where the number of noise events exceeding 60dB(A) (N60) in the night-time reached 5 events, so there are no contours shown.

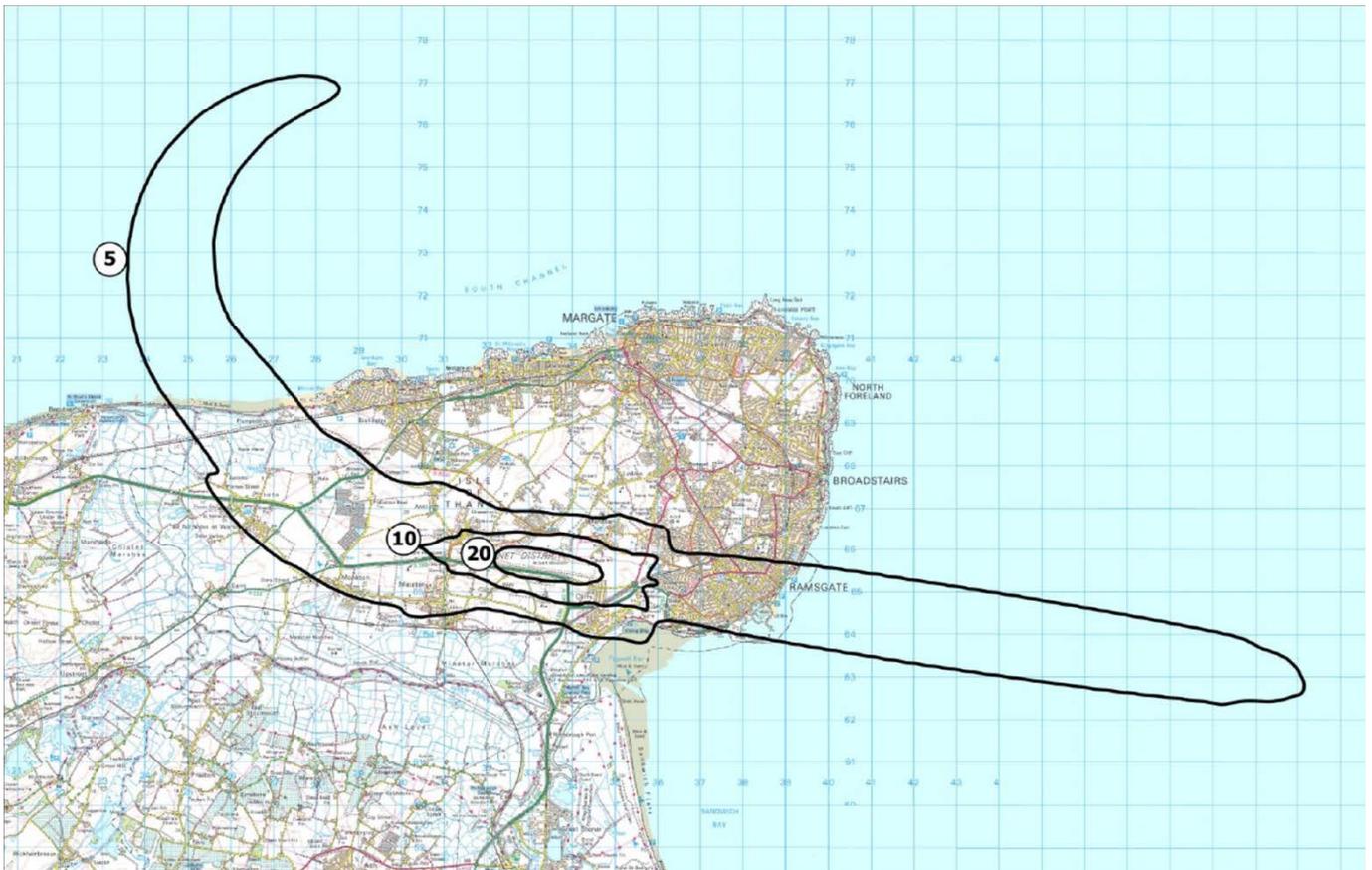


Figure 33 - Year 1 (2029) Projected Day Operations, events exceeding 65dBA (N65)

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N65	Area (km ²)	Population	Community Buildings	Hospitals	Schools	Places of Worship
>5	76.0	35,000	13	0	12	22
>10	6.5	1,600	0	0	0	2
>20	1.5	0	0	0	0	0

Table 12 - Combination B Year 1 (2029) N65 Contours Area and Population Data

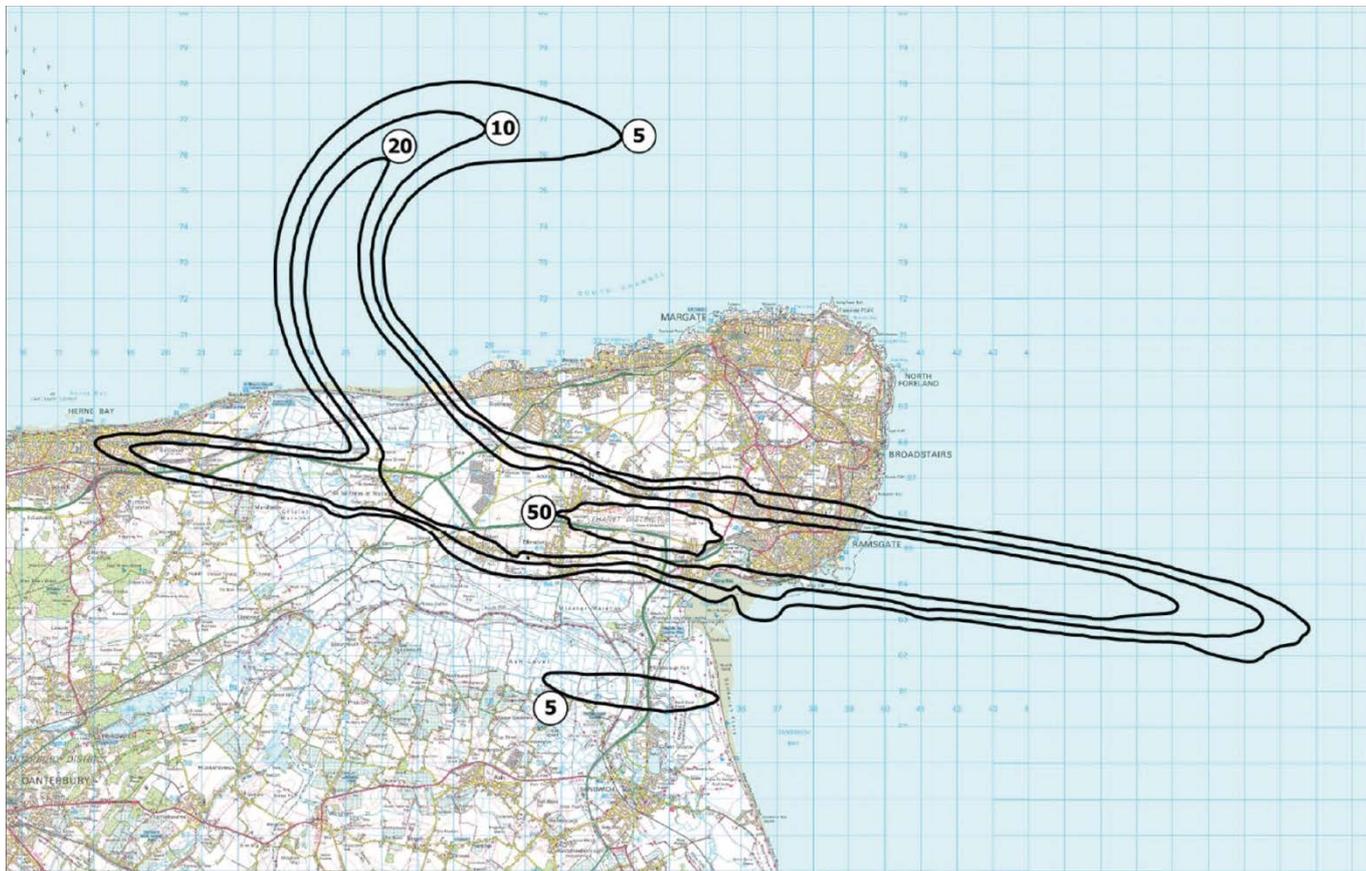


Figure 34 - Year 10 (2038) Projected Day Operations, events exceeding 65dBA (N65)

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N65	Area (km ²)	Population	Community Buildings	Hospitals	Schools	Places of Worship
>5	126.4	56,600	14	1	17	32
>10	85.4	44,000	13	1	13	25
>20	51.4	30,400	7	0	8	16
>50	4.1	800	0	0	0	0

Table 13 - Combination B Year 1 (2029) N65 Contours Area and Population Data

7. Further Assessments

7.1 Overflight Assessment

We have carried out an 'overflight' assessment to determine the number of people perceived to be overflown by aircraft in the different options. This is not a measure of noise but a demonstration of the pattern and dispersal of traffic i.e. a perception of overflight.

The definition of overflight is based on the angle between an aircraft in the sky and a person viewing it from the ground. CAP 1616i states that change sponsors must use of a 48.5° angle either side of the aircraft track to create a swathe on the ground representing the area overflown, as depicted in Figure 35 below; the size of the area on the ground increases according to the altitude of the aircraft.

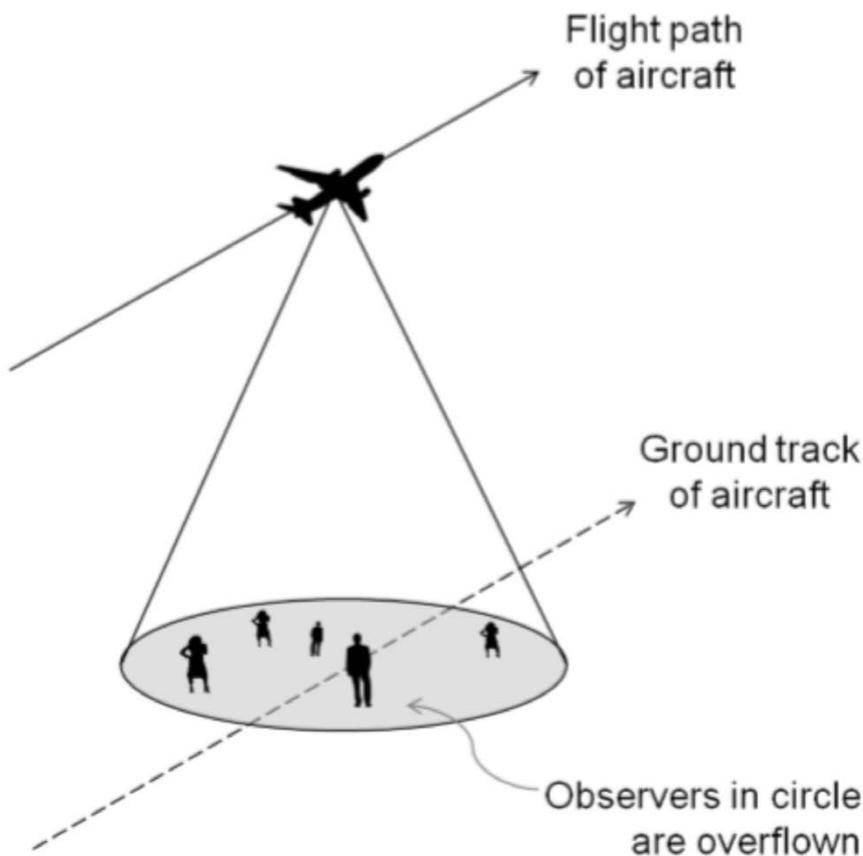


Figure 35 - Example Overflight Swathe

More information on the definition of overflight can be found in CAP 1498 here:

CAA CAP 1498 – Definition of Overflight
<https://www.caa.co.uk/publication/download/15916>

We have modelled the areas likely to be overflown and carried out a population count within those areas. The figures in Table 14 below represent the population counts that are likely to experience 5, 10, 20 or 50 overflights per day in Year 1 (2029) and Year 10 (2038). Figures have been rounded to the nearest 100.

Both Combination A and Combination B have been modelled independently, but due to the nature of the differences between the combinations, there is no difference in the overflight results. The number of people experiencing the number of overflights shown in the above paragraph is the same for each option; therefore, we have only presented the results once.

Daily Events	Population Count - 2029	Population Count - 2038
5	7,500	43,100
10	800	40,000
20	0	7,500
50	0	550

Table 14 - Overflight Population Counts

Figure 36 and Figure 37 below show the overflight contours for Year 1 (2029) and Year 10 (2038). The contours represent the areas where people are likely to experience 5, 10, 20 or 50 overflights per day in Year 1 (2029) and Year 10 (2038). As previously mentioned, the results are the same for Combination A and Combination B, so are only shown once.



Figure 36 - Year 1 (2029) Overflights – Combination A & Combination B

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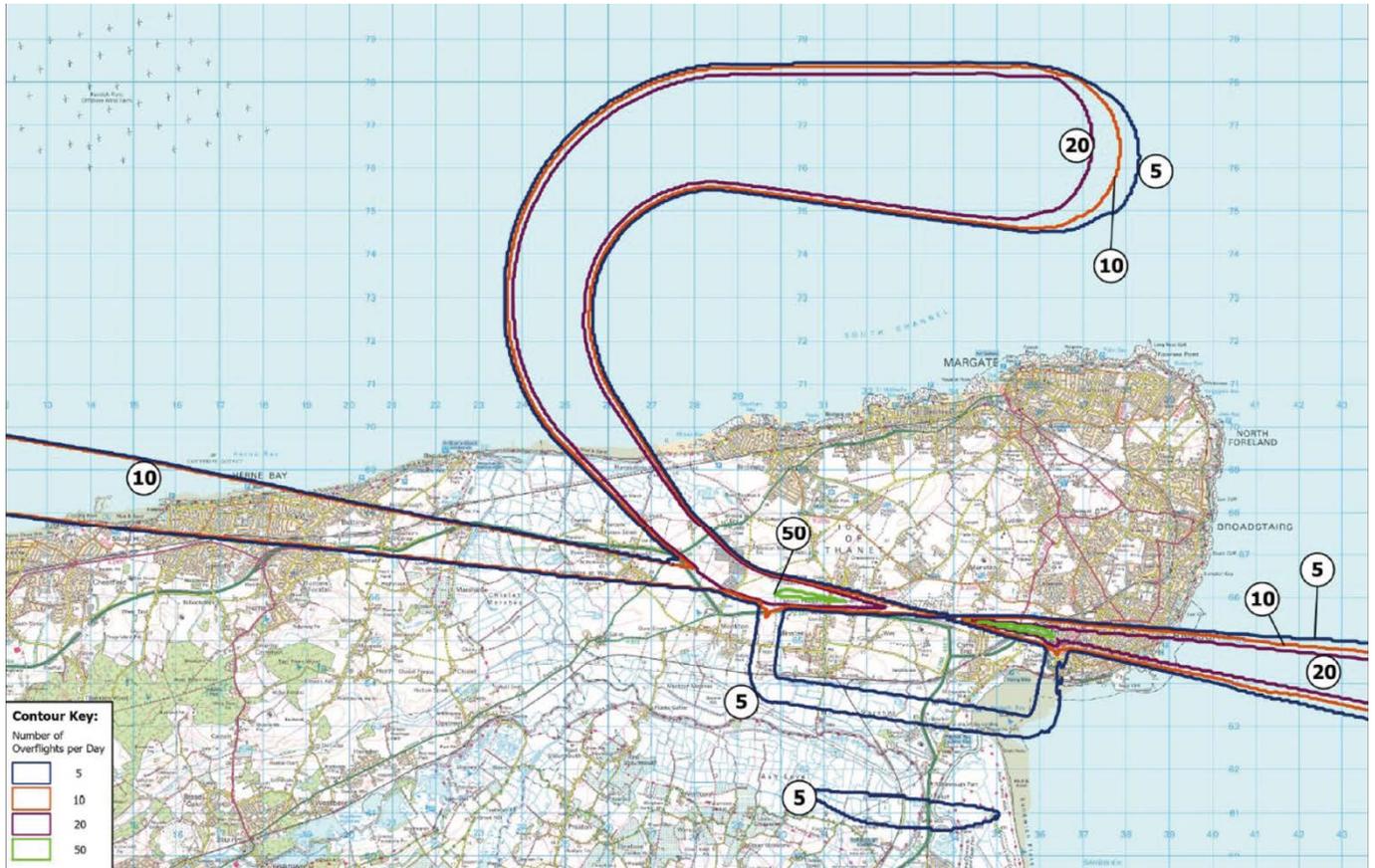


Figure 37 - Year 10 (2038) Overflights – Combination A & Combination B

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The 5 overflights contour to the west of Manston Airport towards Herne Bay is not obvious in Figure 37 above due to its proximity to the 10 overflights contour. Figure 38 below shows how close the 5 and 10 overflights contours are in this area. To all intents and purposes there is no difference in the locations in this area experiencing 5 or 10 overflights per day so it should be assumed that the worst-case of 10 overflights is experienced.

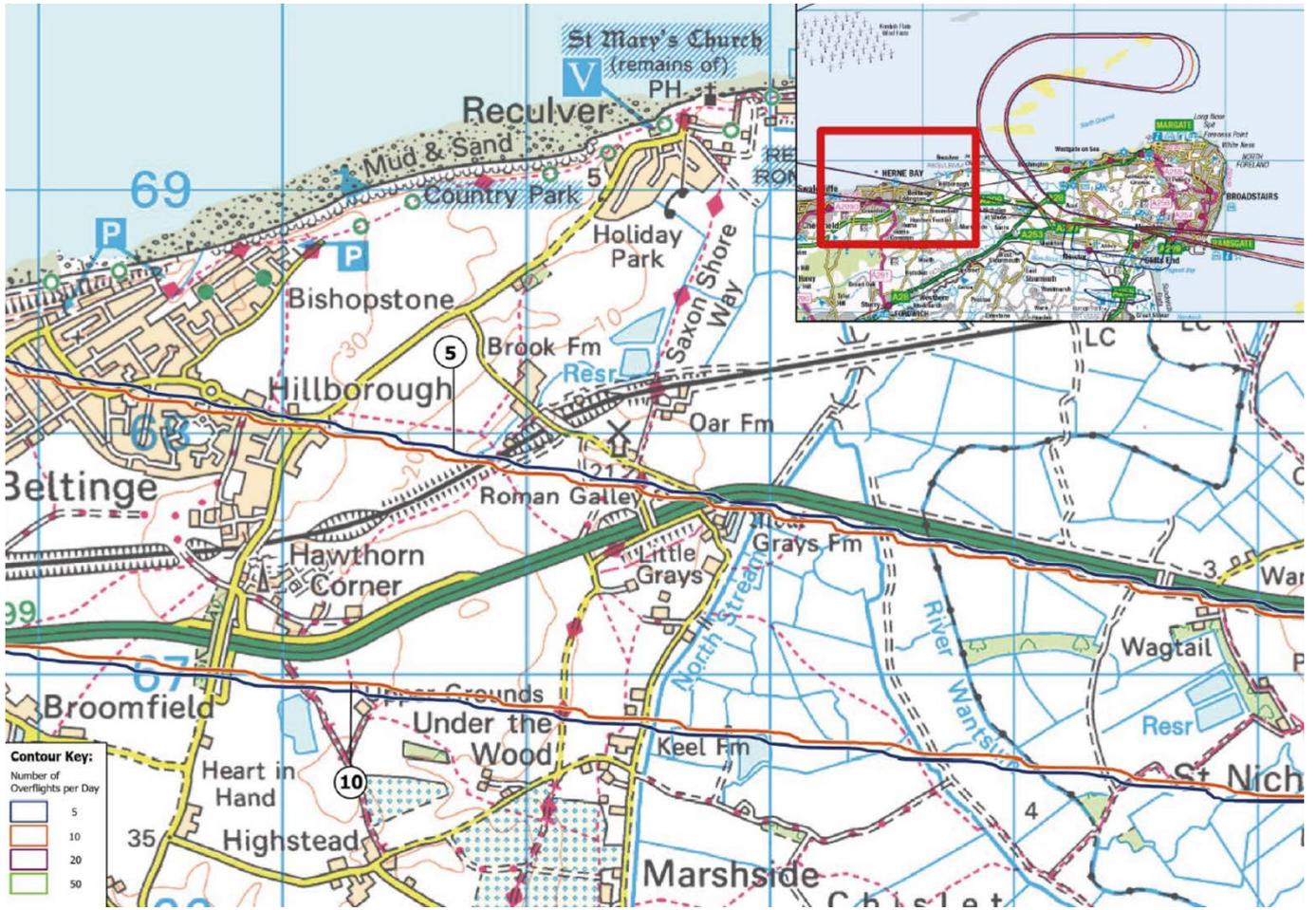


Figure 38 - Five and Ten Overflights Contour Proximity

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8. Conclusions

8.1 Introduction

The tables below summarise the environmental impacts associated with the two options being considered, Combination A and Combination B. When compared to the baseline, both options show a large increase in impacts compared to the baseline. This is not surprising since the baseline for this airspace change is the current-day scenario where there is no airport and no associated air traffic and therefore no direct environmental impact.

The results of the environmental analysis for each combined option are very similar, with only small differences in some of the metrics measured. This is due to the fact that the only difference in the procedures between the 2 combined options is the Runway 10 Approach procedure, where the Combination A approach has a Final Approach Fix at 2,500 ft, whereas the Combination B approach has a Final Approach Fix at 3,000 ft.

8.2 Noise: Net Present Value (NPV) of Impacts

Table 15 presents the Transport Analysis Guidance⁵ (TAG) noise assessment results in terms of Net Present Value (NPV) in 2023 prices of a range of impacts. The monetised results represent the annual cost over the 10-year appraisal period, and the output is the net present value of the change in noise exposure. **A positive £ figure indicates a positive benefit, i.e. a reduction in noise-related adverse health impacts.** As the Leq contours are the same for both options, both TAG output values are also the same.

Impact	A	B
Sleep disturbance	-£355,157	-£355,157
Amenity	-£14,539,029	-£14,539,029
AMI ⁶	-£95,670	-£95,670
Stroke	-£2,333,407	-£2,333,407
Dementia	-£3,519,740	-£3,519,740
Total Change in Noise	-£20,843,003	-£20,843,003

Table 15 - NPV of Noise Impact

8.3 Noise: Quantitative Population Exposure to Change in Noise

Table 16 presents the quantitative assessment of the number of individuals experiencing either an increase of or a decrease in noise levels for each of the options. As Table 16 compares data for increased noise with that of reduced noise, a higher value does not necessarily equate to positive outcome.

The overall change row for both day and night represents the combined impact against the baseline. The negative figures highlighted in red represent a negative impact against the baseline; this is not unexpected since the baseline represents the current-day scenario where there is no airport and no associated air traffic and therefore no noise impact associated with it.

As above, since the Leq contours are the same for both options, the output values for both options are also the same.

⁵ Transport analysis guidance (TAG), published by the DfT, provides information on the role of transport modelling and appraisal.

⁶ AMI = Acute Myocardial Infarction (Heart Attack)

Quantitative Change	A	B
Increased day noise	26,224	26,224
Reduced day noise	0	0
Overall day change	-26,224	-26,224
Increased night noise	2,055	2,055
Reduced night noise	0	0
Overall night change	-2,055	-2,055

Table 16 - Quantitative Assessment of Population Exposure to Change in Noise Levels

8.4 Fuel and CO₂

The mass fuel burn results (in tonnes) are summarised in Table 17. The differences calculated for future year scenarios are relative to the corresponding Baseline scenario. Positive numbers mean that more fuel is burned. As such, the option with the most optimal item in both 2027 and 2036 has been highlighted green and the least optimal has been highlighted red.

Scenario		Total Fuel Burn (tonnes)	Difference in Fuel Burn (tonnes)
2029	Baseline	0	2029 Reference Scenario
	Option A	11,779	+11,779
	Option B	11,821	+ 11,821
2038	Baseline	0	2038 Reference Scenario
	Option A	35,827	+35,827
	Option B	37,151	+37,151

Table 17 - Mass Fuel Burn Results

The tonnes CO₂e results are summarised in Table 18.

Scenario		Total CO ₂ (tonnes)	Traded CO ₂ (tonnes)	Non-Traded CO ₂ (tonnes)
2029	Baseline	0	0	0
	Option A	37,164	5,575	31,590
	Option B	37,296	5,594	31,701
2038	Baseline	0	0	0
	Option A	113,034	16,955	96,079
	Option B	117,215	17,582	99,632

Table 18 - Tonnes CO₂e Results

Fuel burn and CO_{2e} figures have been presented to the nearest tonne to enable meaningful comparisons between options. However, due to the various assumptions made and the inherent uncertainties in the modelling process, the absolute values of fuel burn and CO_{2e} should only be treated as estimates.

8.5 Financial Impacts (TAG for Greenhouse Gases)

The Overall Assessment Score in each case and the Quantitative Assessment (which shows the result of the NPV⁷ of traded sector CO₂ equivalent emissions (tCO_{2e}) in GBP (£) are the results of this assessment summarised for each option in Table 19 below.

The monetised results represent the annual cost over the 10-year appraisal period and the output is the net present value of the change in greenhouse gas emissions. A positive figure indicates a benefit to society versus the baseline.

TAG Assessment	A	B
NPV CO₂ Equivalent (CO_{2e}) Emissions (£)	-£194,968,305	-£200,469,352
Change in CO_{2e} Emissions over 10-year Appraisal Period (tonnes)	750,991	772,551
– Of Which Traded	112,649	115,883
Change in CO_{2e} Emissions in Opening Year (tonnes)	37,164	37,296
NPV of Traded Sector CO₂ Equivalent (CO_{2e}) Emissions of Proposal (£)	-£21,389,616	-£21,985,072

Table 19 - Financial Impacts of Greenhouse Gases for Proposed Options

8.6 Conclusions

Based on the analysis conducted in the Full Options Appraisal, Option A is deemed the preferred option because it is anticipated to have the lowest potential environmental effects. It provides slightly lower Net Present Value of changes in both CO_{2e} equivalent Emissions and fuel burn.

Operationally, there is minimal difference between the options. Option A has been selected as the preferred option as the 2,500ft FAF and approach would ensure that the Manston inbound aircraft to runway 10 would remain further away from the existing Southend Airport Controlled Airspace. Whereas Option B could impact on Southend Airport procedures.

⁷ Net Present Value.

9. How to Participate

9.1 What is Being Asked?

We are asking you to consider what impact this proposal could have on you as an individual, your community as a whole or your organisation's activities. This is your opportunity to review the proposed procedures and influence the final designs that Manston Airport will submit to the CAA. We would welcome any feedback and suggestions that you may have.

9.2 How to respond

9.2.1 Consultation Period

This consultation begins on 16th March 2026 and runs for 14 weeks. All comments must be received via the media listed below by midnight on 22nd June 2026.

9.2.2 Responding via the Airspace Portal

This consultation is being conducted using the online consultation portal Citizen Space. The page dedicated to this change can be accessed here:

<https://consultations.airspacechange.co.uk/manston-airport/manston-airport-consultation>

The page can also be accessed by scanning the following QR code:



The consultation questionnaire can also be found on Citizen Space, where you can submit your responses to this consultation. We will review and monitor the progress of the consultation and ensure that it adheres to the CAP 1616 process and government guidelines. All comments will appear in the public domain. The CAA will assess the consultation at Stage 5 of the CAP 1616 process.

This consultation document and all supporting documents are available on the CAA portal. There is a link to our consultation questionnaire hosted by Citizen Space where you can submit your answers to our specific questions. There is a free-text comments field for you to submit anything you feel is not covered by our questions. Please submit your response directly to us via the CAA portal at the link above.

We will not accept any e-mail responses to this consultation. All online responses should be submitted via the Citizen Space consultation portal at the link above. However, if you have any questions of understanding relating to the information provided, please contact us in writing or at the following e-mail address:
manstonairspace@communityrelations.co.uk

If you are unable to access the consultation materials in the conventional way and would like us to provide the information in an alternate format, please get in touch by writing to us at the address shown in paragraph 8.2.4 or by e-mailing at the address above.

9.2.3 Responding in Person – or Finding Out More

We invite you to come along to one of our public drop-in sessions to find out more, ask questions or submit a response in person. These are being held at the following times and locations:

- Session 1: San Clu Hotel, Victoria Parade, Ramsgate, Kent, CT11 8DT – Wednesday 22 April, 4pm - 8pm
- Session 2: Christ Church Hall, 47 William St, Herne Bay, CT6 5AG – Saturday 25 April, 1pm - 5pm

All in-person responses to our questionnaire or hand-written comments will be uploaded to the Citizen Space portal for moderation and must be legible and include your full name and contact details to be considered.

In addition, we will be holding two virtual consultation sessions where you can find out more about our proposal and ask questions. To join one of our virtual consultation sessions, please email manstonairspace@communityrelations.co.uk for joining details. These are being held at the following times:

- Session 1: Tuesday 28th April 2026, 6.30pm
- Session 2: Wednesday 6th May 2026, 6.30pm

9.2.4 Responding by Post

Respondents can submit a postal response to the consultation. We will not commit to respond to all postal responses directly; however, respondents are welcome to include a stamped addressed envelope if they do require a reply. Postal responses can be sent to the following address:

Free Post 1616

Please do not add anything else to the envelope.

9.3 What information you will need to provide

Please note that when submitting feedback whether online, in person or by post you will be asked to provide the following information in order for your response to be counted:

Your full name

Your role if you are responding on behalf of a stakeholder group or organisation

Your contact details

A feedback category: SUPPORT, NEUTRAL, OBJECT, NO COMMENT

Your feedback on each of the proposed options

Your general feedback comments, with an opportunity to provide more detail

All feedback will be moderated, and any anonymous, unaddressed or offensive feedback may not be counted.

We would like to know your views, including whether or not you have a preference for any one option, or whether you have any positive or negative comments to make for any or all of them.

All responses will be analysed, with any common themes extracted and summarised. We may also produce a Frequently Asked Questions update where any common themes emerge during the consultation period. We will actively monitor the consultation portal and will formally respond to queries where possible; all of these responses will also be shared with the CAA.

9.4 What happens at the end of the Consultation?

All responses will be published. Responses will be moderated, managed and uploaded to the consultation portal as appropriate. If any responses contain commercially sensitive data, then the information will be redacted as part of the moderating practice. Guidance on the moderation of consultation responses can be found in CAP1619 on the CAA

On completion of the consultation, we will analyse the responses received and produce a feedback report, summarising themes arising from the feedback, alongside our response to any issues raised. The feedback report will be uploaded onto the portal. Any new requirements identified will be considered in the on-going design process. If fundamental changes are required to our design options as a result of feedback received during this consultation, then we may need to carry out a second consultation. When all consultation and review activities are complete, we will submit a formal Airspace Change Proposal to the CAA, referring to any changes that have been made to take account of consultation feedback.

9.5 Reversion Statement

Should the proposal be approved and implemented, Manston Airport will introduce the procedures and airspace to coincide with the opening of the airport. Following implementation, Manston Airport will conduct a post implementation review, which will take place in the 12 months following implementation, which is designed to ascertain whether the changes made have achieved the objectives it is designed to achieve.

Should these proposed changes not achieve the desired outcomes, the airspace could revert to pre-airspace change position, which is no approved airspace and no approved procedures at Manston Airport. As the airport would be open and operating at this stage, this is not a viable option as it would severely reduce safety for commercial aircraft operating at the airport. Therefore, the solution would need to be a redesign of the procedures and airspace solution, rather than reversion, to ensure safety margins were maintained at the airport.

9.6 Consultation Timetable

Table 20 below summarises the key dates and activities for our consultation.

Activity	Location	Date
Consultation Launch	CAA airspace change portal	16th March 2026
Public Drop-In Session	San Clu Hotel, Victoria Parade, Ramsgate, Kent, CT11 8DT	22nd April 2026, 4pm - 8pm
Virtual Consultation Session	Online	28th April 2026, 6.30pm
Stakeholder Reminders	e-mail/social media	1st May 2026
Public Drop-In Session	Christ Church Hall, 47 William St, Herne Bay, CT6 5AG	25th April 2026, 1pm - 5pm
Virtual Consultation Session	Online	6th May 2026, 6.30pm
Consultation Closes	CAA airspace change portal	22nd June 2026

Table 20 - Consultation Period Key Activities and Dates

9.7 Thank You

Thank you for taking the time to consider the information in this document. A reminder that if you, or anyone you know, requires this information in an alternative format, please ask at one of our events or write to us at the following address:

Free Post 1616

Please do not add anything else to the envelope.

Appendix A – Procedure Images

A.1 Introduction

The images in this section are the same images on an Ordnance Survey (OS) background map as used in the main text of the document but enlarged for greater clarity. See Section B.2 for illustrative images of the IFPs overlaid on an aviation chart (Visual Flight Rules chart) for the benefit of pilots and other aviation stakeholders who may be interested in these maps.

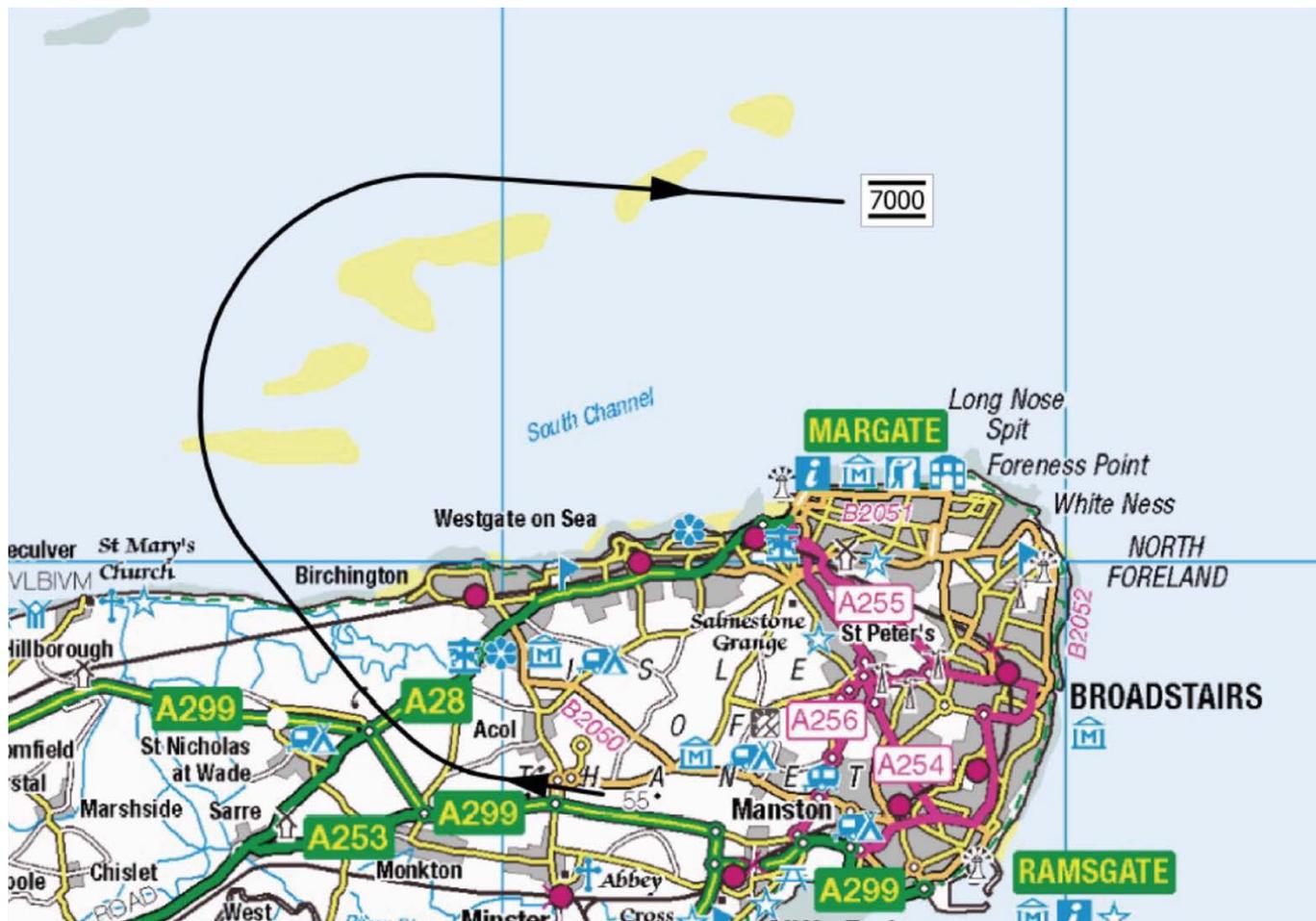


Figure 39 - Runway 28 Departure – Ordnance Survey Map

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Figure 40 - Runway 28 Departure – Ordnance Survey Map

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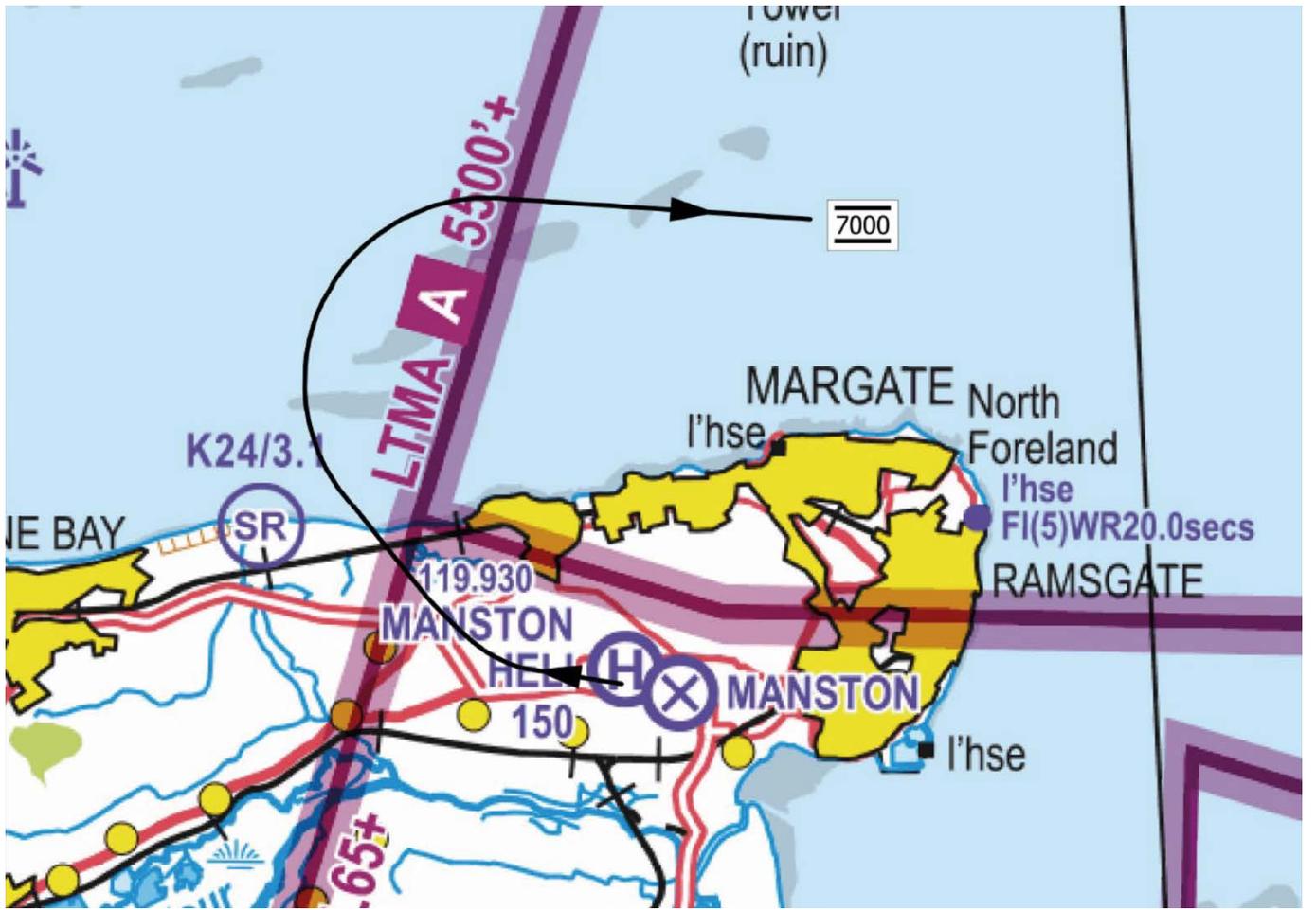


Figure 41 - Runway 28 Departure – Aeronautical (VFR) Chart

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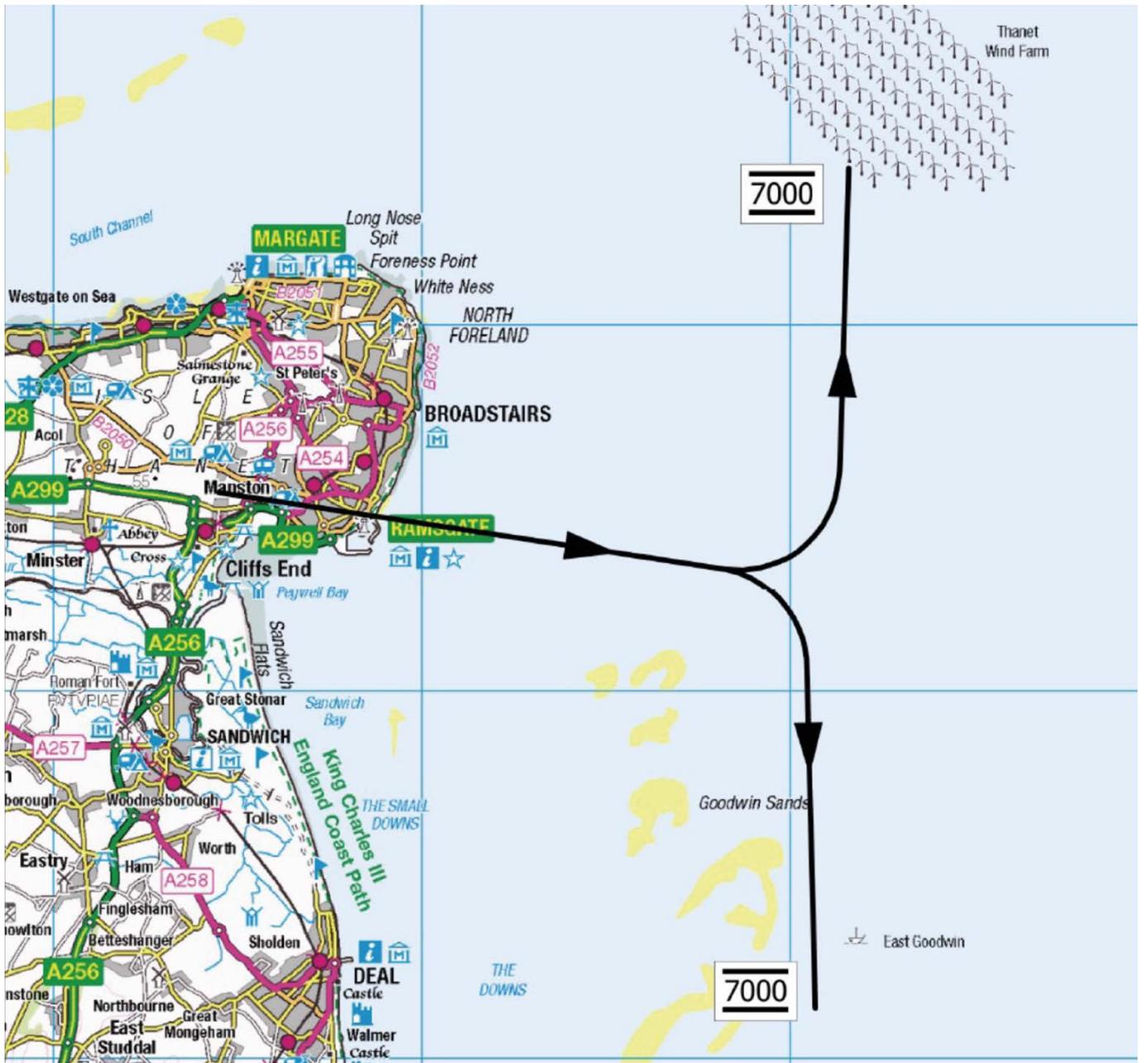


Figure 42 - Runway 10 Departure – Ordnance Survey Map

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Figure 43 - Runway 10 Departure – Ordnance Survey Map

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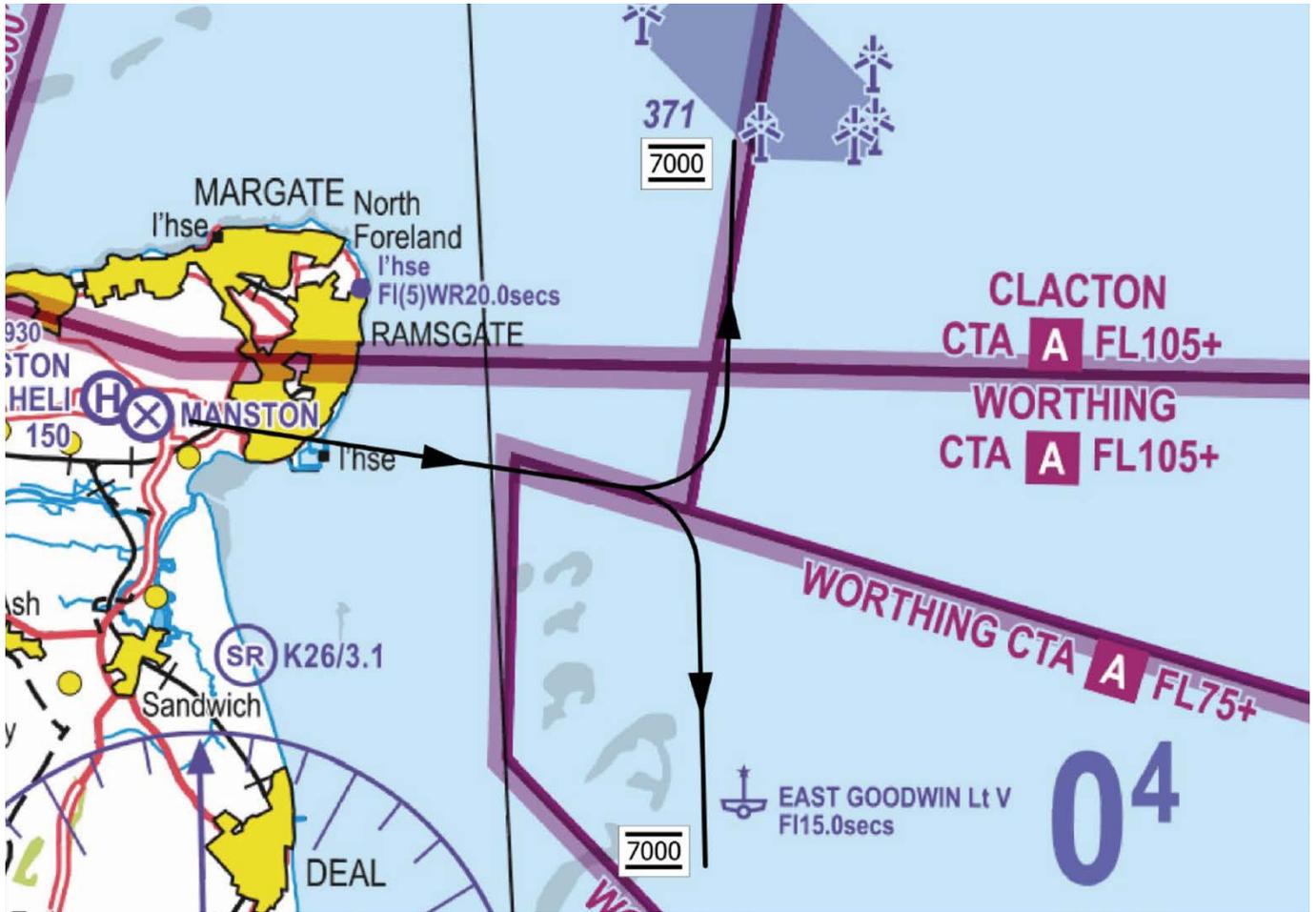


Figure 44 - Runway 10 Departure – Aeronautical (VFR) Chart

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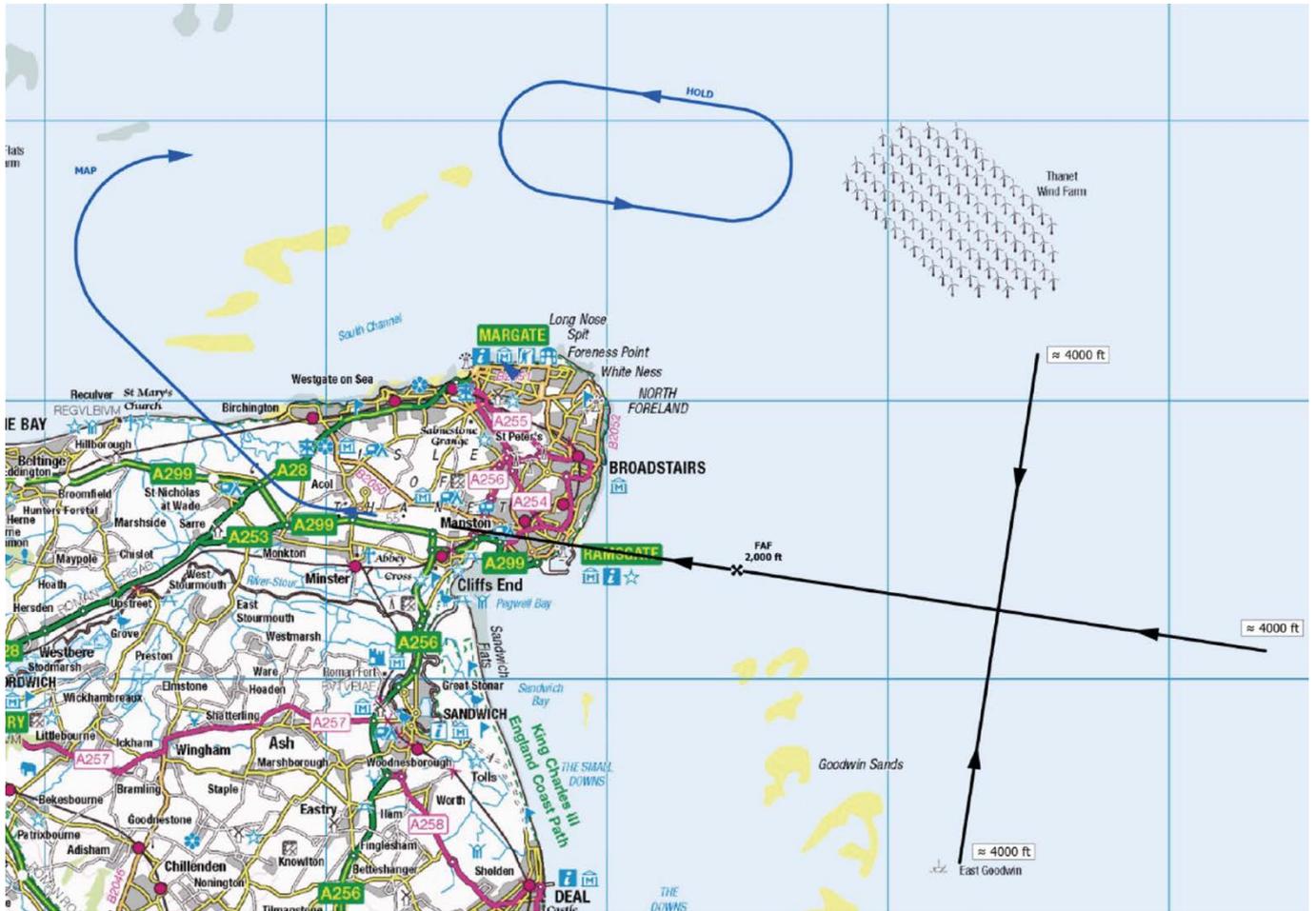


Figure 45 - Runway 28 Departure – Ordnance Survey Map

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Figure 46 - Runway 28 Approach – Ordnance Survey Map

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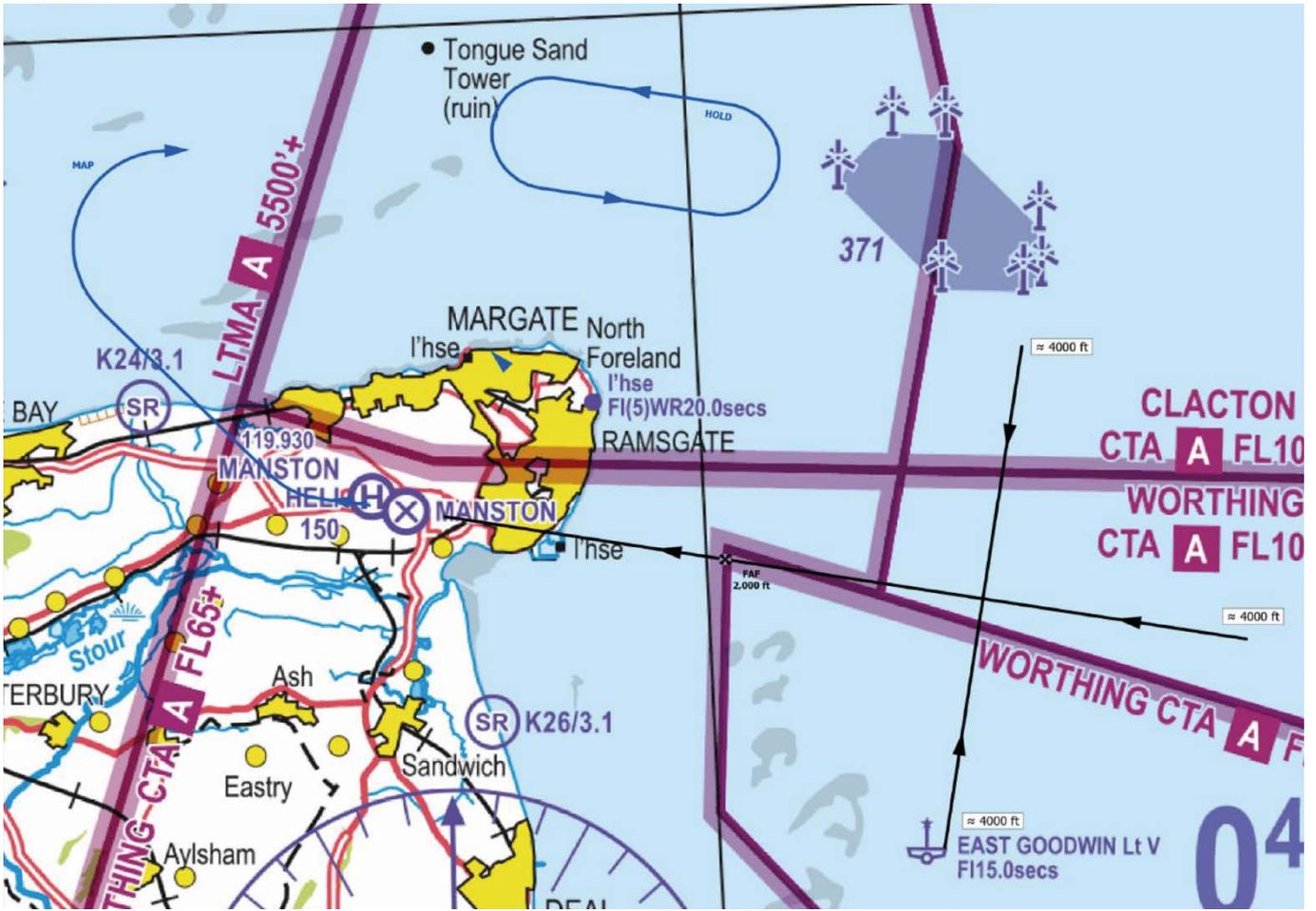


Figure 47 - Runway 28 Approach – Aeronautical (VFR) Chart

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Figure 48 - Runway 10 Approach 2,500 ft FAF – Ordnance Survey Map

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Figure 49 - Runway 10 Approach 2,500 ft FAF – Ordnance Survey Map

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Figure 50 - Runway 10 Approach 2,500 ft FAF – Aeronautical (VFR) Chart

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Figure 51 - Runway 10 Approach 3,000 ft FAF – Ordnance Survey Map

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Figure 52 - Runway 10 Approach 3,000 ft FAF – Ordnance Survey Map

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Figure 53 - Runway 10 Approach 3,000 ft FAF – Aeronautical (VFR) Chart

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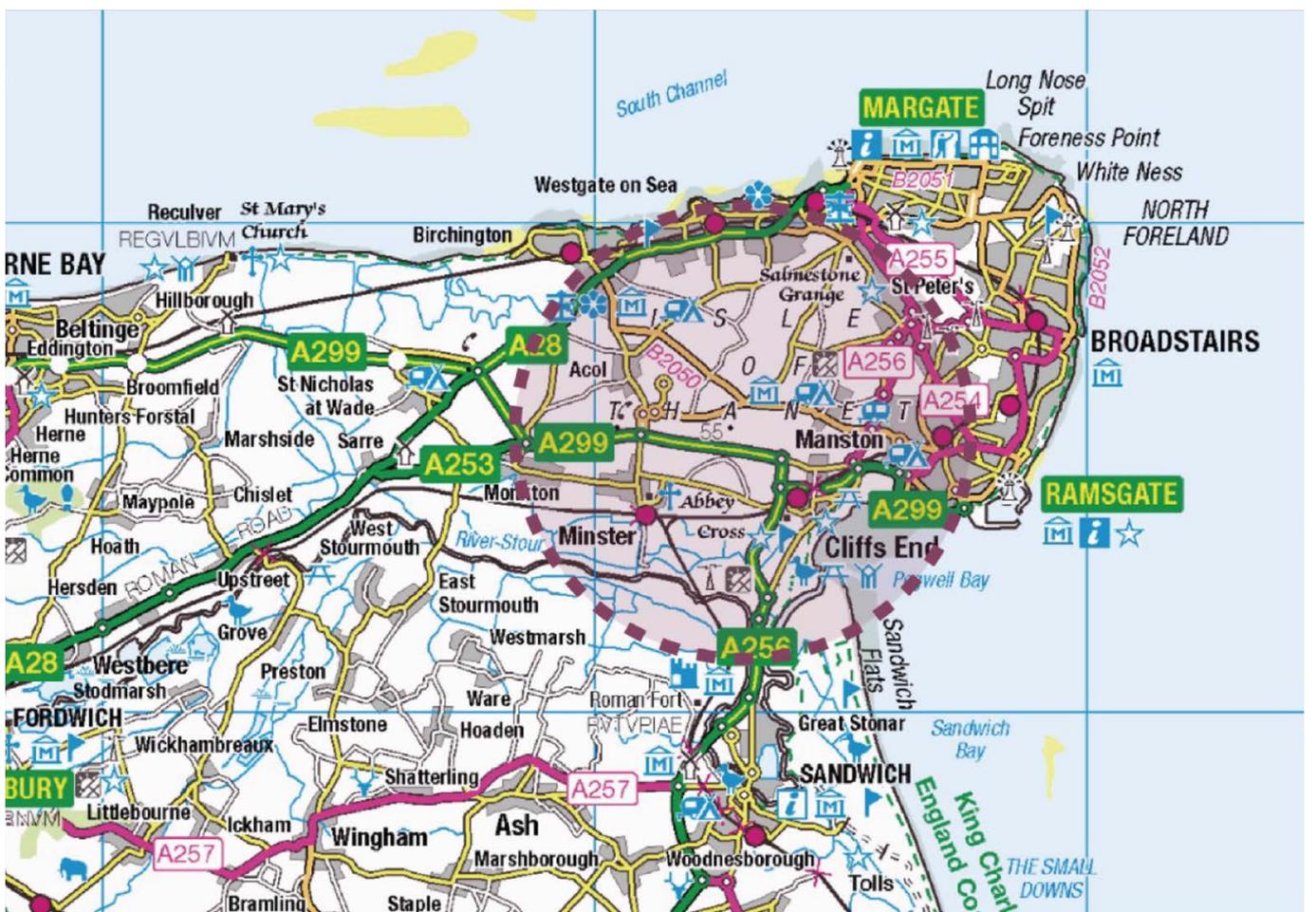


Figure 54 - Aerodrome Traffic Zone – Ordnance Survey Map

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Figure 55 - Aerodrome Traffic Zone – Ordnance Survey Map

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Figure 56 - Aerodrome Traffic Zone – Aeronautical (VFR) Chart

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Appendix B – Procedure Combination Images

B.1 Introduction

The images in this section are the same images on an Ordnance Survey (OS) background map as used in the main text of the document but enlarged for greater clarity. See Section B.2 for illustrative images of the IFPs overlaid on an aviation chart (Visual Flight Rules chart) for the benefit of pilots and other aviation stakeholders who may be interested in these maps.



Figure 57 - Combination A – OS Roadmap

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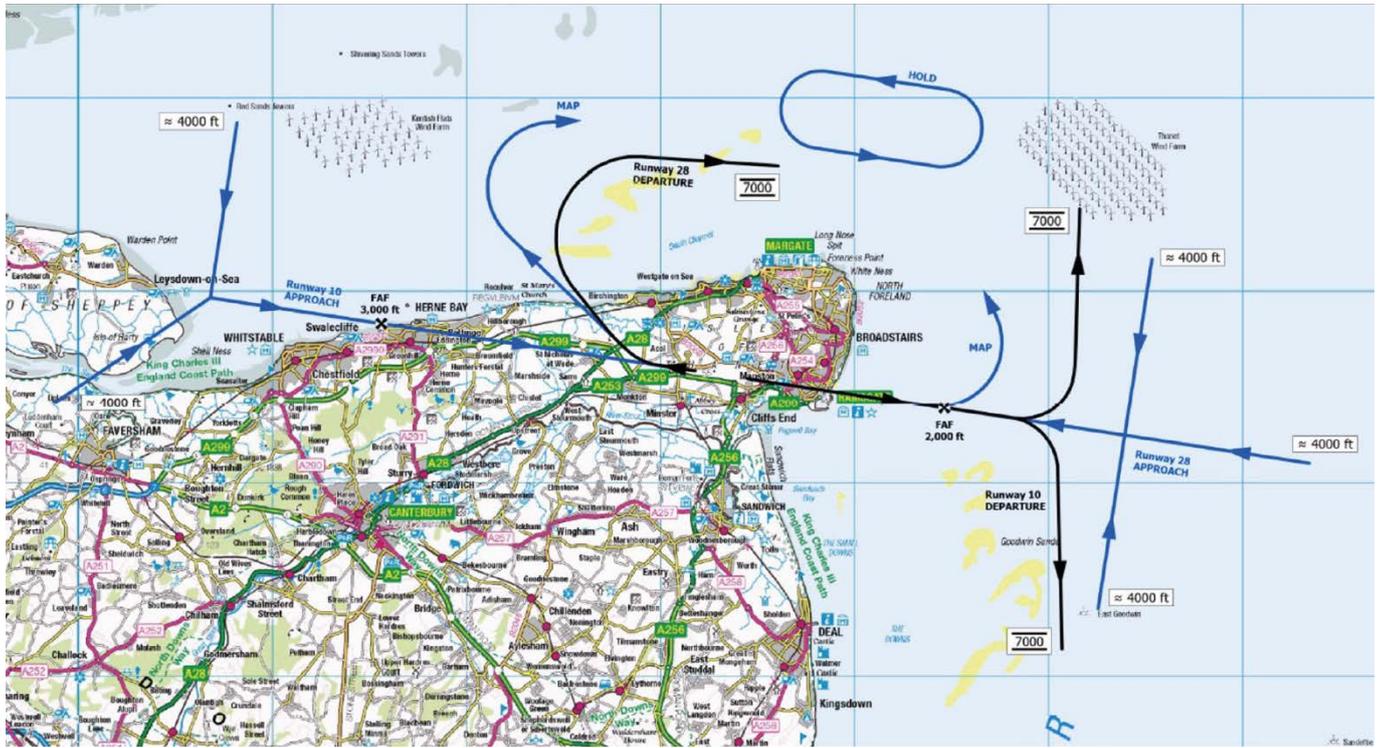


Figure 58 - Combination B – OS Roadmap

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B.2 Aeronautical Chart Images

The following images show the options overlaid onto an aeronautical chart suitable for General Aviation and other aviation stakeholders to orient the options.



Figure 59 - Combination A – Aeronautical (VFR) Chart

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Figure 60 - Combination B – Aeronautical (VFR) Chart

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Appendix C – Consultation Feedback Questionnaire

C.1 Feedback Form for Postal Responses

Stakeholders without internet access are able to complete the form below and send by post to the address detailed in Section 8 – How to Participate.

1. What is your name?

Name (Required)

2. What is your email address?

If you enter your email address then you will automatically receive an acknowledgement email when you submit your response.

Email (Required)

3. Please enter your postcode (most relevant to your response e.g. home / work / organisation etc).

Postcode (Required)

4. Are you responding as an individual or do you represent an organisation?

Please select one item (Required)

I am responding as an individual I am responding on behalf of an organisation

5. If you are responding on behalf of an organisation, what is the organisation name?

Organisation

6. In accordance with the UK Civil Aviation Authority's CAP 1616 airspace change process, consultation responses will be published on Citizen Space via the Airspace Change Portal. Responses will be subject to moderation by the Civil Aviation Authority (CAA). If you wish your response to be published anonymously your personal details (Name, Address & Position) will be redacted and only be seen by the CAA.

Yes - I want my response to be published with my details. No - I want my response to be published anonymously.

Our Proposals for Consultation

7. Do you support the proposed Airspace Change Proposal?

Please select one item (Required)

SUPPORT –
I support the proposed changes

NEUTRAL –
I neither support nor object

OBJECT –
I object to the proposed changes

NO COMMENT –
I have no comment to make on the proposed changes

8. Response Rationale -

Please provide any additional comments to allow us to understand why you have responded as above:

9. Consultation Options – Please indicate which is your preferred option:

Please select one item (Required)

Option A **Option B** **Do not support either option** **No preference**

Further Feedback

10. Do you have any further feedback on this airspace change proposal?

If you require any additional space to provide your response, please feel free to write your feedback on additional blank sheets of paper and include with these response sheets

Appendix D Glossary of Terms

Term	Definition
Airspace	Airspace is the invisible infrastructure in the sky which helps aircraft navigate safely. This includes the flight paths that aircraft use when taking-off, flying and landing, as well as the holding patterns used by aircraft before landing.
Airspace Change Proposal (ACP)	Airspace change proposals are requests from a 'change sponsor', usually an airport or a provider of air navigation services (including Air Traffic Control), to change the notified airspace design. Airspace change proposals must follow the CAA's airspace change process, known as CAP 1616. The process is structured, comprising of different stages and gateways depending on the type of airspace change proposal that has been requested. Both change sponsors and the CAA are involved in the airspace change process, resulting in a final decision by the CAA to approve or reject the airspace change proposal.
Above Mean Sea Level (AMSL)	Above Mean Sea Level is a measurement of the height of an object from the average level of the ocean's surface.
Baseline	The 'baseline' acts as a starting point or reference point which is used to compare the different airspace change options proposed as part of the airspace change proposal. In the context of airspace change, the baseline is a scenario that represents what the airspace would look like without any proposed changes. It is important because it helps decision-makers, key stakeholders and local communities understand how the proposed changes differ from the current-day situation. The baseline scenario assumes that the airspace stays the same as it is now.
Change Sponsor	A change sponsor is the applicant bringing forward an Airspace Change Proposal. Change sponsors are typically an airport or provider of air navigation services. However, in this case, the change sponsor is RiverOak Strategic Partners Ltd, who own the airport and are redeveloping and reopening it.
Civil Aviation Authority (CAA)	The Civil Aviation Authority (CAA) is the statutory organisation responsible for the regulation of civil aviation in the United Kingdom. Its responsibilities include airspace regulation, air safety, economic regulation and consumer protection. The CAA is a public corporation of the Department for Transport.
Controlled Airspace	Controlled airspace is airspace of defined dimensions within which air traffic control (ATC) services are provided in accordance with the airspace classification. Its purpose is to create a known traffic environment to achieve the objectives of the ATC service to prevent collisions between aircraft and to expedite and maintain an orderly flow of air traffic. The level of control varies with different classes of airspace.
Design Principles	At the first stage of an airspace change proposal, a change sponsor needs to set Design Principles. These Design Principles encompass the objectives that the airport seeks to achieve through the airspace change, and they help the airspace designers to create and compare different flight path options. Design Principles include policy, safety, environmental and operational factors. The Design Principles must also consider the local context for the airspace change to take account of priorities within the affected area. They are developed in collaboration with representatives from local communities and other key stakeholders, as required by the CAA's airspace change process.

Term	Definition
Development Consent Order (DCO)	A Development Consent Order (DCO) is an application for consent to undertake a Nationally Significant Infrastructure Project (NSIP). An NSIP is a major infrastructure development in England or Wales. NSIPs include projects such as power plants, large renewable energy projects, new airports, airport extensions, and major road projects. A DCO is submitted to the Planning Inspectorate, who will consider the application and make a recommendation to the Secretary of State, who will then decide on whether development consent should be granted for the proposed scheme.
Future Airspace Strategy Implementation (FASI)	The Future Airspace Strategy Implementation (FASI) Airspace Change programme is a delivery element of the Airspace Modernisation Strategy (AMS). FASI is the programme to modernise air traffic services in the UK.
Full Options Appraisal	The Full Options Appraisal is carried out in Stage 3 of the airspace change process. The options appraisal evolves through three phases: the Initial Options Appraisal, the Full Options Appraisal, and the Final Options Appraisal. The Full Options Appraisal requires the change sponsor to develop more rigorous evidence for the design options they plan to consult on. The change sponsor may undertake further work as part of the design process to improve and refine design options before completing the full options appraisal.
Gateway	During the airspace change process, airspace change proposals must pass a series of gateways. The gateway stages act as checkpoints where the Civil Aviation Authority reviews and signs off documentation showing that specific criteria to proceed to the next stage have been met. If the airspace change proposal passes the gateway, it will progress onto the next stage of the process.
Initial Options Appraisal	CAP 1616 requires sponsors to complete a formal Options Appraisal process that assesses the benefits of various options that are developed at Stage 2A of the airspace change process using the fixed constraints identified at Stage 1A and the Design Principles established in Stage 1B. The initial list of all possible options is tested with stakeholders and then refined into a comprehensive list of options which is carried forward for an initial appraisal at Stage 2B. The Initial Options Appraisal is carried out by comparing all the options side by side against the CAP 1616 costs and benefits criteria. A shortlist of options is then compiled which are carried forward to Stage 3 to be assessed in a Full Options Appraisal.
Instrument Approach Procedure (IAP)	An Instrument Approach Procedure (IAP) is an Instrument Flight Procedure (see below) with a series of predetermined manoeuvres, by reference to flight instruments with specified protection from obstacles, for the orderly transfer of an aircraft under instrument flight conditions from the beginning of the initial approach to a landing or to a point from which a landing may be made visually.
Instrument Flight Procedure (IFP)	An Instrument Flight Procedure (IFP) is a published procedure used by aircraft flying in accordance with the instrument flight rules and are designed to facilitate safe and efficient aircraft operations. IFPs include an instrument approach procedure, a standard instrument departure, a planned departure route and a standard instrument arrival. These procedures are an essential component of the aviation system. Every day, thousands of aircraft are flying instrument departure, arrival or approach procedures to airports across the world.

Term	Definition
Instrument Landing System (ILS)	<p>An Instrument Landing System (ILS) is a precision runway approach aid employing two radio beams to provide pilots with vertical and horizontal guidance during the landing approach. The localiser provides horizontal guidance, while the glideslope defines the correct vertical descent profile.</p> <p>The ILS uses two directional radio signals from ground-based aerials. The relationship between the aircraft's position and these signals is displayed on an aircraft instruments in the aircraft's cockpit. The pilot attempts to manoeuvre the aircraft to keep the indicators centred while they approach the runway to the decision height. This is the height at which the pilot must have achieved the required visual references to continue the landing. If the visual references are not achieved, the pilot must initiate the Missed Approach Procedure and set up for a further approach to land.</p>
Missed Approach Procedure (MAP)	<p>When, for any reason, it is judged that an approach or landing cannot be continued to a successful landing, a Missed Approach Procedure (MAP) is flown. A MAP is specified as part of the Instrument Approach Procedure.</p> <p>The MAP normally includes an initial heading or track to follow, and altitude to climb to, typically followed by holding instructions at a nearby navigation fix. ATC will subsequently clear the flight for another approach to the runway.</p>
NATS	<p>NATS formerly known as National Air Traffic Services. NATS is a major air navigation service provider in the UK, responsible for managing air traffic control services and airspace in the UK and certain international regions. NATS provides a range of services including air traffic control, airspace management, navigation assistance, communication services, and aviation data services. They ensure the safe and efficient movement of aircraft in UK airspace and provide support to airlines, pilots, and other aviation stakeholders.</p>
Nautical Miles	<p>A nautical mile is a unit of measurement for distance in air navigation. One nautical mile is equivalent to 1.1508 land-measured (statute) miles or 1.852 kilometres.</p>
Omnidirectional Departure	<p>The purpose of an omnidirectional departure is to ensure obstacle clearance for IFR departing aircraft where there are obstacles in the vicinity of an aerodrome which could affect IFR departures. An omnidirectional departure procedure is designed on the basis that an aircraft maintains runway direction to a minimum height of 500 ft above aerodrome level before commencing a turn, at which point a turn in any direction may be made to join the en-route phase of flight.</p>
Required Navigation Performance	<p>Required Navigation Performance (RNP) is a family of navigation specifications which permit the operation of aircraft along a precise flight path with a high level of accuracy and the ability to determine aircraft position with both accuracy and integrity. RNP offers safety benefits by means of its precision and accuracy. A critical component of Required Navigation Performance (RNP) is the ability of the aircraft navigation system to monitor its achieved navigation performance, and to identify for the pilot whether the operational requirement is, or is not, being met during an operation.</p>

Term	Definition
Standard Instrument Departure (SID)	A SID is a predetermined flight path that aircraft follow after taking off from an airport. SIDs are designed to efficiently and safely guide aircraft from the runway to their en-route phase of flight. They typically include specific instructions regarding altitude, headings, and waypoints to follow. SIDs are established at busy airports or in areas where there is a complex airspace structure to ensure orderly and predictable departures. In practice, the choice of SID used is allocated based on a flight plan submitted by the airline.
Waypoint	A waypoint is a specified geographical location used to define an Area Navigation route or the flight path of an aircraft employing Area Navigation. Waypoints serve as reference points along an aircraft's flight route. They are identified as either Fly-by or Flyover. A Fly-by waypoint requires the aircraft to start turning early to smoothly follow the next segment of its route or flight. A Flyover waypoint is a point at which the aircraft starts to turn to connect with the next part of its route or flight path.

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