

**Environmental Impact Assessment**

**ID Number**  
EA-0001239

**Type**  
Aircraft Operations as per AA-NOS-ENV-2.100

**Title of Assessment**  
New SIDs and STARs at YMHB

**Proponent (The proponent is the person proposing the change, and does not need to be the person accountable to accept the Screening, Assessment or change.)**

s47F

**Proponent's Business Group / Branch / Unit**  
Airservices Australia\Chief Service Delivery Officer\Airspace Services\High Density Services\Bass

**Project**  
-

**Describe the Current Process or Structure in Detail**  
Due to a perceived large increase in RPT and GA movements into and out of Hobart and Cambridge, the current route structure now lacks in efficiency and inbuilt separation assurance requiring delays on the ground and in the air, putting a high workload on both Enroute and Tower controllers.

**Describe the Proposed Change**  
Introduction of RNP1 SIDs and STARs at YMHB to provide consistent and predictable tracking and separation, regardless of the runway in use.

**Describe the Reasoning for the Proposed Change**  
The introduction of new technologies such as performance based navigation and new onboard systems have meant that new terminal procedures are able to be developed to provide ATM efficiencies and benefits for the aviation industry.  
Benefits include  
- Greater predictability in tracking irrespective of runway in use, leading to lower workload in the cockpit because of reduced manipulation of onboard systems at high workload times.  
- Continuous climb and descent capability wherever possible  
- Better integration of traffic from ports within Tasmania to Hobart  
- Introduction of a racetrack pattern between Hobart and other Tasmanian ports.  
- Development of an integrated SID/STAR package for Hobart, designed using advancements in PBN technology to provide separation assurance between arriving and departing traffic

**Supporting Documents**



YMHB update - 5NM SEC UNCLASSIFIED .msg



HB SID STAR DRAFT 2.0.pdf



YMHB.KMZ

*Suggested Schedule for the Proposed Change*

**Date Environmental Assessment Required**  
-

**If Temporary, Removal Date**  
-

# Legacy Environmental Assessment : EA-0001239

## Affected Group Branch Unit

### Group/Branch(SDL)/Unit

Bass

Hobart Tower

## Affected Locations

### Location

HOBART AIRPORT

## Submission History

### Submission History

**Status**

Assessment Accepted

**Date**

18/07/2017

**Status Updated by**

s47F

**Comments**

Accepted on behalf of s47F Project Lead.

### Submission History

**Status**

Submitted for ATC Manager Acceptance

**Date**

29/06/2017

**Status Updated by**

s47F

**Comments**

Reviewed and endorsed - see signed EA document attached

### Submission History

**Status**

Submitted for Environment Manager Review

**Date**

29/06/2017

**Status Updated by**

s47F

**Comments**

-

### Submission History

**Status**

Submitted Environment Review

**Date**

21/06/2017

**Status Updated by**

s47F

## Comments

-

## Submission History

### Status

Submitted for ATC Manager Review

### Date

06/06/2017

### Status Updated by

s47F

## Comments

-

## Submission History

### Status

Raised

### Date

06/06/2017

### Status Updated by

s47F

## Comments

-

## ANS Environmental Change Screening Stage A

*Note: AA-NOS-ENV-2.100 v15 is effective 29 June 2019. This update includes a number of process changes which are not currently supported by CIRRIIS. Until CIRRIIS is amended, please follow the notes and prompts to adapt the NOS requirements to this version of CIRRIIS.*

*CRITERION A1: Change to Aircraft Operations A change to an air route that is entirely:*

### **Above 20,000 ft, or**

False

### **Over water and > 5 nm from land, or**

False

### **Over non-residential areas and above 2000ft**

False

*AA-NOS-ENV-2.100 v12 and v15 have added the following criteria at A1 Is the proposed change: - Related to a missed approach procedure only (excluding training airports); or - Related to a holding pattern (excluding training airports and capital city main airports) - A change at a remote aerodrome where: The number of IFR movements is 2 or less per day, or There are no scheduled flights - A change that is only temporary (less than 30 days duration). If this change proposal relates to these types of changes, proceed to Screening Section B. (Note that a temporary change (<30 days) does not require an EIA, however if TRUE, ANS Group and Community Engagement must be notified of the change to determine any Social Impact Analysis (SIA) and Community Engagement Plan (CEP) requirements. Ensure they are notified by email and attach their advice before this record is closed.)*

### **Criteria A1 Selection Justification:**

SIDs and STARs are below FL200 and over land. The start of the SIDs would be below A020.

## ANS Environmental Change Screening Stage B

*CRITERION B1: New Air Route, Approach or Departure Procedure Until CIRRIS is amended, users can answer FALSE to relevant questions at Screening Section B where the proposal is a missed approach (excluding training airports), related to a holding pattern (excluding training airports and capital city main airports), a change at a remote aerodrome, or a temporary change (<30 days) as defined AA-NOS-ENV-2.100 v15. Users must make a comment in the "justification" text box to describe how the proposal meets the screening criteria at Appendix A Table 1 of NOS v15.*

**The Proposal is entirely new, and not a change to anything pre-existing.**

True

### Criteria B1 Selection Justification:

No STARs currently exist and the SIDs are being completely redesigned.

*CRITERION B2: Lateral change to an approach, a departure procedure, or an air route*

**At an airport with an air traffic control tower: any change below 3,000 ft**

True

**All locations: > 100m below 1,000 ft > 200m at 1,000 ft to below 2,000 ft > 300m at 2,000 ft to below 3,000 ft > 600m at 3,000 ft to below 6,000 ft > 2,000m at 6,000 ft to 20,000 ft**

Unknown

### Criteria B2 Selection Justification:

Specific measurements are unknown as aircraft currently are not consistently tracked via one route; tracking is amended tactically depending on the traffic mix and weather conditions.

*CRITERION B3: Change resulting in a decrease in altitude*

**Decrease > 100 ft at: Below 10,000 ft ? jets Below 6,000 ft ? non-jets**

Unknown

### Criteria B3 Selection Justification:

Unlikely to be a major decrease in altitude but there will be some new height requirements on SIDs/STARs to provide separation assurance.

*CRITERION B4: Change directly resulting in an increase in movements*

**Increase > 5 movements per day at: Below 10,000 ft - jets Below 6,000 ft ? non-jets**

False

### Criteria B4 Selection Justification:

Change will not affect number of aircraft movements.

*CRITERION B5: Change in hours of operation*

**A change directly allowing a departure or arrival time within the hours between 10pm - 7am.**

False

### Criteria B5 Selection Justification:

No change to operating hours.

*CRITERION B6: Change in aircraft type*

**A change directly allowing a different type or category of aircraft to use a given route.**

False

**Criteria B6 Selection Justification:**

No change to aircraft types operating on the routes.

## ANS Environmental Change Screening Stage C

*CRITERION C1: Change in distance flown*

**>20% increase in flight path (within 20NM radius from the aerodrome reference point) (This is now Criterion B7 in AA-NOS-ENV-2.1000 v15)**

False

**Criteria C1 Selection Justification:**

There may be a small increase in distance flown but likely to be less than 10NM.

*Outcome for ANS Environmental Change Screening*

**Outcome**

Environmental Impact Assessment Required

**Ready for Review>**

Yes

**ANS Manager to Review (This can only be Northern Operations Manager or Southern Operations Manager, or EGM ANS, for a High risk location or a proposal with a High Environmental Change Risk Assessment)**

s47F

*Note: Where the proposed change at a High risk location (as currently recorded in a CIRRIIS airport noise risk assessment), the Screening outcome must be reviewed by EGM ANS. Additionally, ANS Group and Community Engagement Manager shall also be notified of the proposal by email (email to be attached to this record at "Supporting Documents")*

## Accountable ANS Review Manager

**Reviewing Manager (This can only be Northern Operations Manager or Southern Operations Manager, or EGM ANS for a High risk location)**

s47F

**Review Date**

21/06/2017

**Agree with Outcome?**

Yes

**Comments**

Environmental assessment completed, community engagement completed, cleared to proceed to implementation

## Submit Environmental Impact Assessment Notification

### Submission Date

21/06/2017

### Submit Environmental Impact Assessment Notification to ANS Airport & Environmental Change Assurance Team Leader

s47F

### Additional People to Notify (Must include ANS Change Manager - Environment by Design)

-

## ANS Environmental Impact Assessment

*ANS Environmental Impact Assessment Outcome*

### Environmental Summary including EPBC Act Compliance

Some environmental impact but not significant

*(The Environmental Impact Assessment Report, Social Impact Analysis and Community Engagement Plan must be attached in Supporting Document below)*

## Supporting Documents

### File Storage

#### Attached File



SES Hobart SIDs and  
STARs 7 July 2017 update  
18 October 2017.docm

#### Date Loaded (generated on save)

19/10/2017

#### File Uploaded By - User (generated on save)

s47F

#### File Description

Added as requested by s47F

### File Storage

**Attached File**



SES signed page.pdf

**Date Loaded (generated on save)**  
19/10/2017

**File Uploaded By - User (generated on save)**  
s47F

**File Description**  
Added as requested by s47F

**File Storage**

**Attached File**



YMHB\_NewSIDS-  
STARS\_CIRRIS-EA  
1239\_SIGNED.pdf

**Date Loaded (generated on save)**  
29/06/2017

**File Uploaded By - User (generated on save)**  
s47F

**File Description**  
Signed Environmental Assessment

**Related ANS Environmental Impact Assessment (if relevant)**

-

*Environmental Change Risk Assessment*

**Environmental Change Risk Assessment or Related Risks**

-

**Comments on Environmental Change Risk Assessment**

SES required

**Ready for review?**

Yes

**ANS Airport and Environmental Change Assurance  
Team Leader Review**

s47F

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**ANS Airport and Environmental Change Assurance Team Leader Review**

**Reviewing Manager (This must be ANS Airport and Environmental Change Assurance Team Leader)**

**Review Date**

29/06/2017

s47F

**Agree, proceed to "Accept Assessment by Accountable ANS Manager"?**

Yes

**Submit Assessment for Acceptance to (This can only be Northern Operations Manager or Southern Operations Manager, or EGM ANS for a High risk location or a proposal with a High risk Environmental Change Risk Assessment)**

s47F

**Comments**

Reviewed and endorsed - see signed EA document attached

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**Accept Assessment by Accountable ANS Manager**

**Reviewing Manager (This can only be Northern Operations Manager or Southern Operations Manager, or EGM ANS for a High risk location or a proposal with a High risk Environmental Change Risk Assessment)**

**Review Date**

18/07/2017

s47F

*(Comments below must explicitly address whether a Community Engagement Plan, Community Engagement Plan Addendum, and Community Engagement Report have been signed and attached to this record, and a change-specific risk assessment has been undertaken. If a Community Engagement Report has not yet been prepared, create an Agreed Action below.)*

**Comments**

Accepted on behalf of s47F Project Lead.

**Actions**

-

*Examples for Agreed Action above: e.g. specific Community Engagement activity, Community Engagement Report, PIR, EPBC Referral, proposal redesign.*

**Accept Environmental Impact Assessment?**

Yes

**Is a PIR Required?**

No





# Environment Assessment of Hobart Airport – Proposed SIDs & STARs

**CIRRIS EA 1239**

**Version 1**

**Effective 28 June 2017**

Prepared:

s47F and s47F  
Environment & Noise Specialists

s47F

29/6/17

Reviewed:

s47F  
Airport & Environment Manager

s47F

s47F

29.6.17

Noted:

s47F  
ATM Data Services Manager

s47F

29/6/17

## Change summary

Version	Date	Change description
1	28 June 2017	Initial Issue

This document was created using Generic Document Template C-TEMP0047 Version 8.

## Table of contents

<b>1</b>	<b>Introduction</b> .....	<b>4</b>
<b>2</b>	<b>The Proposal</b> .....	<b>5</b>
<b>3</b>	<b>Methodology</b> .....	<b>8</b>
3.1	Assumptions .....	8
3.2	Procedures .....	8
<b>4</b>	<b>Assessment criteria</b> .....	<b>8</b>
4.1	Noise metrics.....	9
4.2	Night and Day Criteria .....	9
4.3	Matters of Natural Environmental Significance (NES) .....	10
<b>5</b>	<b>Data</b> .....	<b>10</b>
5.1	Traffic levels .....	10
<b>6</b>	<b>Analysis</b> .....	<b>11</b>
6.1	Altitude and Noise Levels.....	11
6.2	Matters of National Environmental Significance (NES).....	16
6.3	Matters of indigenous heritage and cultural significance .....	16
<b>7</b>	<b>Findings</b> .....	<b>17</b>
7.1	Noise analysis .....	17
7.2	Natural environment analysis.....	17
7.3	Cultural and heritage values analysis .....	17
7.4	Emissions analysis.....	17
<b>8</b>	<b>Conclusion</b> .....	<b>18</b>
<b>9</b>	<b>Appendixes</b> .....	<b>18</b>
<b>Appendix A</b>	<b>Assessment criteria</b> .....	<b>19</b>
<b>Appendix B</b>	<b>Draft DAP Plates</b> .....	<b>20</b>
<b>Appendix C</b>	<b>Wind roses – Hobart</b> .....	<b>23</b>

## List of tables

Table 1: Operation data for Hobart Airport extracted from ODAS, for the 24hrs UTC of 03 May 2016 .....	11
Table 2: Modelled altitude and noise levels based on INM model Version 7b.....	12
Table 3 Analysis of proposed procedures by segment.....	13
Table 4 Summary of NES .....	16
Table 5 Summary of identified Heritage locations, identified in the NES .....	16

## List of figures

Figure 1 Hobart Airport .....	4
Figure 2 Proposed SIDs (magenta) and STARs (blue) at Hobart Airport.....	6
Figure 3 Proposed SIDs (magenta) and STARs (blue) at Hobart Airport, with arrival (red) and departure (green) operations for 1-7 February 2017. ....	7
Figure 4 Aircraft movements at Hobart Airport for 2016 calendar year.....	10
Figure 5 Proposed SIDs (magenta) and STARs (blue) at Hobart Airport, with arrival (red) and departure (green) operations for 1-7 February 2017, zoomed to focus on Connellys Marsh and Campania. ....	15

# 1 Introduction

Hobart International Airport (YMHB) is an airport located in Cambridge, 17 km northeast of Hobart. It is the major passenger airport in Tasmania. The major airlines servicing the airport are Qantas, Jetstar, Virgin Australia and Tiger Airways Australia operating domestic flights predominantly to Melbourne airport and Sydney airport.

The airport is situated on a narrow peninsula with take-offs and landings directed over bodies of water regardless of approach or departure direction. The region immediately surrounding the airport remains largely unpopulated, which enables the airport to operate curfew-free services.

The airport has one runway, 12/30 which is 2,251 metres long and 45 metres wide. Hobart Airport is equipped with approach, runway and taxiway lighting for day and night time operations. The Hobart Air Traffic Control Tower's opening hours are between 6am and 10:30pm local time. Figure 1 shows a satellite image of Hobart Airport.



**Figure 1 Hobart Airport**

## 2 The Proposal

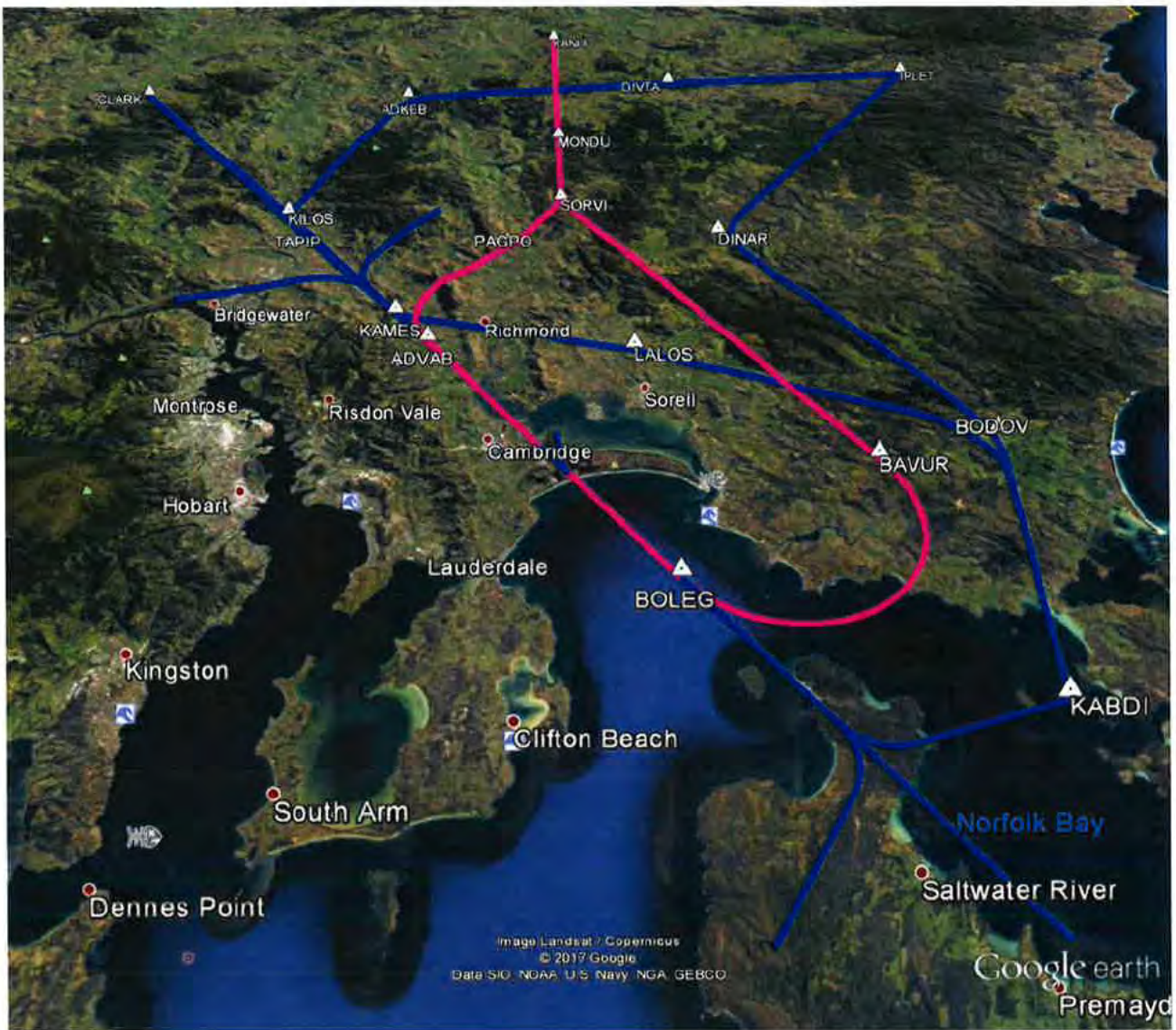
The purpose of this document is to conduct an environmental assessment (EA) of a proposal to introduce new SIDs and STARs at Hobart Airport. Due to an increase in traffic for both Regular Passenger Transport and General Aviation movements into and out of Hobart, the current route structure now lacks in efficiency and inbuilt separation assurance causing delays on the ground and in the air, and putting a high workload on both Enroute and Tower controllers. There are currently no STARs at Hobart Airport. There is no consistency in aircraft movement; tracking is amended tactically depending on the traffic mix and weather conditions.

The proposal is development of an integrated SID/STAR package for Hobart, designed using advancements in PBN technology to provide separation assurance between arriving and departing traffic. The introduction of new technologies such as performance based navigation and new on board systems have meant that new terminal procedures are able to be developed to provide air traffic management (ATM) efficiencies and benefits for the aviation industry. Other benefits include:

- Greater predictability in tracking irrespective of runway in use, leading to lower workload in the cockpit because of reduced manipulation of on board systems at high workload times.
- Continuous climb and descent capability wherever possible
- Better integration of traffic from ports within Tasmania
- Introduction of a racetrack pattern between Hobart and other Tasmanian ports.

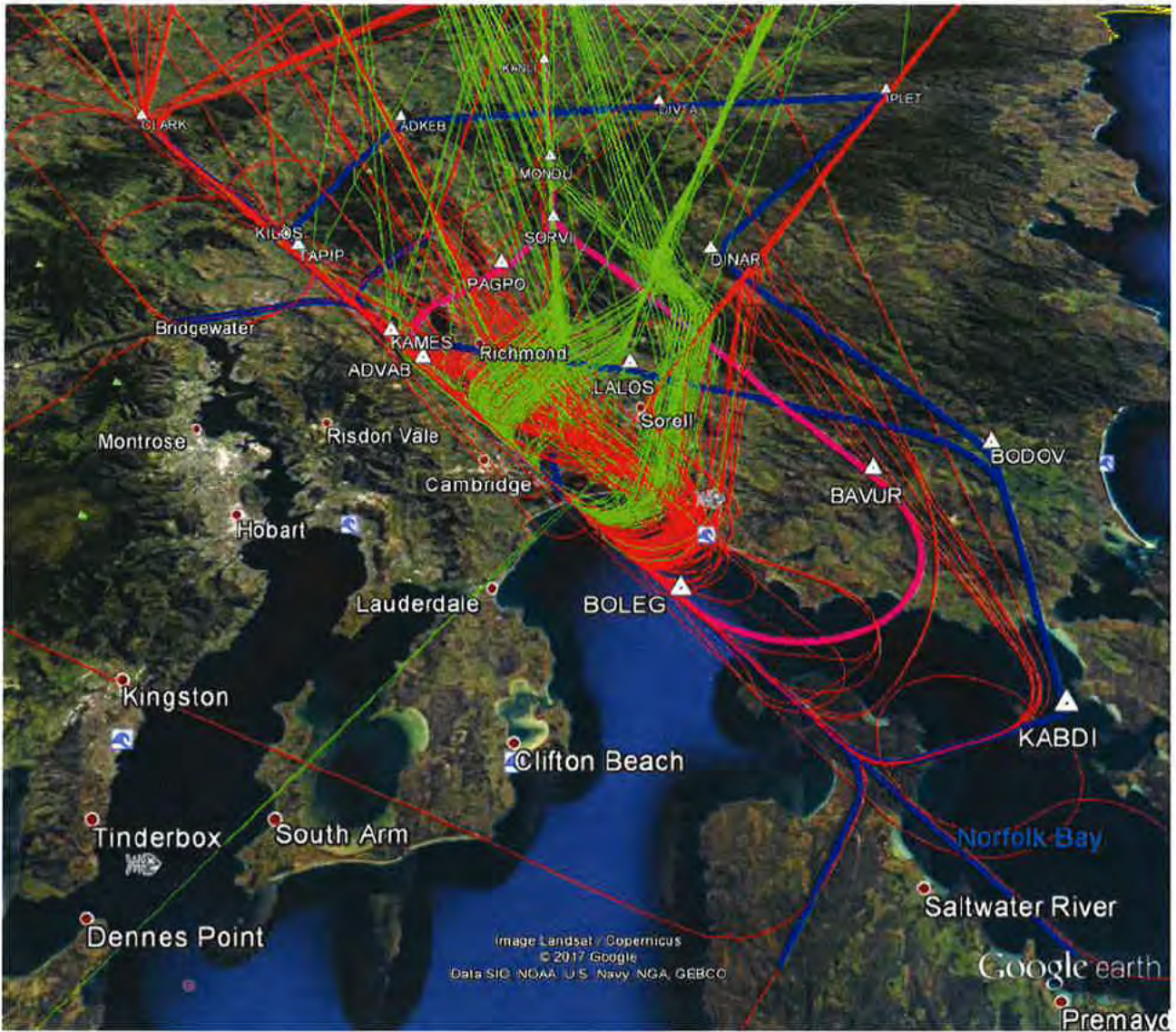
The SIDs and STARs are below FL200 (20,000ft AMSL) and over land. The proposed change will not affect the number of aircraft movements nor change to operating hours. There may be a small increase in distance flown but likely to be less than 10NM.

The proposed SIDs (magenta) and STARs (blue) are shown in Figure 2.



**Figure 2 Proposed SIDs (magenta) and STARs (blue) at Hobart Airport**

The most current draft DAP plate (as of the date of preparation of this EA) is provided as Appendix B.



**Figure 3 Proposed SIDs (magenta) and STARs (blue) at Hobart Airport, with arrival (red) and departure (green) operations for 1-7 February 2017.**

## 3 Methodology

This EA examines the potential environmental impact of the proposed flight path realignment through examination of air traffic movements on the existing and proposed flight paths, in order to assess the potential for increased aircraft noise and potential impacts on matters of Natural Environmental Significance (NES) or on matters of cultural or heritage value.

### 3.1 Assumptions

This assessment is based on the following:

- INM modelling
- DAP for procedure changes
- Traffic movements data from Airservices Publication Unit
- Operational Data Analysis Suite (ODAS)

### 3.2 Procedures

Three procedures are assessed in this analysis:

- Kanli One SID
- Iplet One Alpha STAR
- Clarke One Alpha STAR.

## 4 Assessment criteria

A number of criteria were considered as part of this environmental assessment, including:

- potential aircraft noise impact on communities
- potential impact on matters of national environmental significance
- potential impact on heritage and cultural matters, including indigenous heritage.

The assessment criteria adopted by Airservices Australia (Appendix A) to determine potential environmental impact of proposed ATM system changes with respect to changed aircraft noise. The assessment criteria were developed giving consideration to relevant Australian Standards, World Health Organisation (WHO) guidance and to the National Safeguarding Airports Guidelines (NASAG). Stakeholder consultation was undertaken throughout the assessment criteria development.

Relevant metrics as set out in 4.1 below, have been applied in this assessment focussing on those that provide analytical insight to best represent the potential impacts of the proposed flight path changes.



## 4.1 Noise metrics

### 4.1.1 LA<sub>max</sub> – indicative noise levels

The LA<sub>max</sub> is a noise metric that shows the maximum noise level of a single noise event associated with a particular flight path. The LA<sub>max</sub> noise metric is useful for determining the potential noise change associated with geographical movement of a flight path.

### 4.1.2 Noise Modelling

INM version 7d was used to model noise impacts. The INM is a software tool developed by the United States of America Federal Aviation Administration (FAA) for the purpose of modelling aircraft noise. The INM is an average noise model, designed to determine aircraft noise based upon an entire airport's operations, with movement information averaged over time. INM modelling only considers noise from aircraft movements. The INM has no capability to calculate results with reference to ambient noise. Noise modelling requires input of assumptions in order to reflect the variability in conditions. These include:

- Weather conditions – a single set of standard weather conditions based on Bureau of Meteorology average data have been modelled. In reality, weather conditions will vary.
- Standard aircraft operation – an assumption that each aircraft type will be operated according to a standard Noise, Power Distance (NPD) curve is used. In reality, each airline and pilot may operate the aircraft differently, such as using different engine power settings, or retracting landing gear at different times.
- Standard arrival and departure profile – an assumption is made that every aircraft will operate according to a standard approach and departure profile; essentially operating at the same rate of climb or descent. In reality, arrival and departure profile may be varied on an individual basis for a number of reasons including:
  - Traffic
  - Weather and cloud conditions
  - Pilot requirements
  - Separation and sequencing requirements for Air Traffic Control (ATC)

## 4.2 Night and Day Criteria

The usage of the terms day (6:00am to 11:00pm) and night (11:00pm to 6:00am) is as per the definition of night (11:00pm to 6:00am) utilised for the purposes of Australian curfew airports. This definition is applied consistently for all environmental assessments, whether or not a curfew is in place at the specific airport and applies to the Assessment criteria, as provided in Appendix A.

## 4.3 Matters of Natural Environmental Significance (NES)


The Protected Matters Search Tool was used to determine the presence of matters of national environmental significance below the current and proposed flight path. The potential impact of aircraft over flights was assessed on an individual basis where matters of NES were identified.

## 5 Data

### 5.1 Traffic levels

Data from Aircservices Publication Unit for the 2016 calendar year show that there was a total of 26,300 movements for Hobart Airport, 22,184 excluding helicopters which will not utilise the proposed procedures.

For the purpose of this assessment it is assumed that there were approximately 11,090 departures and 11,090 arrivals (an average 30 arrivals and departures) at Hobart Airport across all runways.



**Movements at Australian Airports - Cal YTD**  
Data sourced from the Operational Data Warehouse  
**2016 Calendar Year Totals**  
As at DEC 2016

Arrival Port Name	Arrival Port Code	Over 136 tonnes	Between 7 tonnes and 136 tonnes	Under 7 tonnes	Helicopter	Military	Total
HOBART	YMH/B	2	18,966	2,696	4,116	490	26,300

**Report Notes:**

1. Movements are the sum of Arrivals and Departures multiplied by 2 (i.e. (A + D) x 2)
2. Arrival data is only recorded during hours of tower operation, therefore actual movements at non-TOT locations may be higher than published
3. Movements at each Port reflect movements at times local to that Port or a conversion from UTC time may have taken place on production of the report
4. Data Source: Eyrical air traffic control system, Tower light signals and Tower routing sheets
5. Data is correct as at "Report run date". Changes to data after this time may occur as a series of checks and verifications occur
6. Aircservices Australia takes no responsibility for the accuracy of the information contained in this Report and excludes all liability arising from any reliance placed upon it
7. All data is provided for informational purposes only and independent expert advice should be obtained before relying on such data
8. Services for Hobart and Cambridge airports are provided by the one-Air Traffic Services facility therefore when considering statistics for ATIS purposes movements at both airports should be considered

**Figure 4 Aircraft movements at Hobart Airport for 2016 calendar year**

Further data for Hobart Airport were sourced from ODAS and is shown in Table 1. The data shows that there was a total of 24 arrivals and 23 departures on the selected day. The A320 was the most common aircraft type for the chosen period.

**Table 1: Operation data for Hobart Airport extracted from ODAS, for the 24hrs UTC of 03 May 2016**

<b>Aircraft Type</b>	<b>Number of Arrivals</b>	<b>Number of Departures</b>
<b>A320</b>	6	6
<b>A321</b>	2	2
<b>B712</b>	6	6
<b>B733</b>	1	1
<b>B738</b>	5	5
<b>E190</b>	2	2
<b>F50</b>	1	
<b>SW4</b>	1	1
<b>Total</b>	<b>24</b>	<b>23</b>

## 6 Analysis

### 6.1 Altitude and Noise Levels

Table 2 shows modelled altitude and noise levels for aircraft at various distances. The modelled noise levels were used to estimate the noise levels on the ground for different segments of STARs and SIDs for Hobart Airport. The L<sub>Amax</sub> noise levels for departures for the most common aircraft at Hobart (A320-232) is estimated at 61dB(A) at 20km. The noise levels falls to below 60dB(A) at 25 km or more from SOT, which is below the Airservices threshold for potential. For arrivals, at 20km from landing threshold, the noise levels for most aircraft types would be below 60dB(A) except for the B737s. However the noise levels for the 737s falls below 60dBA at 25 km or more

**Table 2: Modelled altitude and noise levels based on INM model Version 7b**

LAmox Noise levels based on INM model Version 7b.										
Distance from SOT (km)- Departures										
Aircraft Type	20		25		30		35		40	
	Altitude (ft)	LAmox (dB(A))	Altitude (ft)	LAmox (dB(A))	Altitude (ft)	LAmox (dB(A))	Altitude (ft)	LAmox (dB(A))	Altitude (ft)	LAmox (dB(A))
A320232	5600	61	7200	58	8500	55	10000	53	>10000	42
A321232	5000	64	6400	61	7700	59	8800	57	>10000	56
B737300	5900	65	7500	62	9200	60	>10000	56	>10000	44
B737400	4700	67	7700	64	9300	62	>10000	57	>10000	46
B737800	5900	67	7500	64	9200	62	>10000	58	>10000	46
EMB14L	5300	58	6800	55	8100	53	9400	51	>10000	44
Emb 190 & Emb 170	8700	57	>10000	52	>10000	37	>10000	28	>10000	19
F10065	5000	65	6300	63	7700	61	8700	59	9800	58
DO228	7600	50	9000	48	>10000	45	>10000	33	>10000	25
DHC8	7300	46	8900	44	>10000	42	>10000	33	>10000	27
DHC830	5500	49	7100	47	7700	45	8800	44	9800	43
SF340	8400	55	>10000	53	>10000	42	>10000	33	>10000	26
Distance from Landing Threshold (km)- Arrivals										
Aircraft Type	20		25		30		35		40	
	Altitude (ft)	LAmox (dB(A))	Altitude (ft)	LAmox (dB(A))	Altitude (ft)	LAmox (dB(A))	Altitude (ft)	LAmox (dB(A))	Altitude (ft)	LAmox (dB(A))
A320211	3000	58	3200	58	4300	56	5200	53		50
A320232	3000	59	3000	59	3800	57	4600	55	5400	53
A321232	3000	58	3200	58	4000	55	5000	52	5800	50
B737300	3400	62	4300	59	5200	56	6000	53		44
B737400	3400	63	4300	59	5200	56	6000	53		44
B737800	3000	62	3000	62	3600	61	4400	58	5400	55
EMB14L	3400	55	4300	51	5200	47	6000	44		35
Emb 190 & Emb 170	3400	56	4300	56	5200	33	6000	30		40
F10065	3400	61	4300	58	5200	55	6000	53		44
DHC8	3400	53	4300	50	5200	48	6000	46		40
DHC830	3400	53	4300	50	5200	48	6000	46		40
DO228	3400	57	4300	54	5200	51	6000	49		41
SF340	3400	60	4300	58	5200	55	6000	53		45

Using available data from ODAS, the Airservices Publication Unit and modelled altitude and noise levels, an analysis of potential impacts associated with each segment (as per Figure 3) is provided in Table 3. Where indicated a more detailed analysis is then provided in Section 6.1.1.

**Table 3 Analysis of proposed procedures by segment**

Segment	Description	Procedure Type	Analysis of Segment
CLARK WPT – Rwy 14	No change to existing flight path	STAR	No change to existing flight path – no detailed assessment of the segment required
IPILET-ADKEB-KILOS	New STAR segment	STAR	<p>KILOS is 32 km from Runway threshold INM modelling shows that at such distance arrival aircraft are between approximately 4000 -6000ft with noise levels further away from KILOS likely to be less than 60dB(A)</p> <p>Note: low density rural residential population area under the segment.</p> <p>Low movement numbers forecast (approximately 3-5 per day (based on limited data sample) indicate low/minor environmental impact.</p>
3 LALOS-BODOV-KABDI-RWY30	Lateral change to flight path NEWLY OVERFLOWN SEGMENT	STAR	<p>Dunalley at the coastline is 35km from the runway landing threshold and Copping is 44km. As shown in Table 2, the altitude of arriving aircraft and noise levels likely to be below 60dB(A).</p> <p>Noticeable change in tracking of aircraft over Copping and Dunalley</p>
IPILET – DINAR – BODOV – KABDI RWY 30	New STAR segment	STAR	<p>IPILET – DINAR – BODOV – KABDI RWY 30Arrival track joins the 3 LALOS-BODOV-KABDI-RWY30 STAR at Copping which is 44km from the runway. As for 3 LALOS-BODOV-KABDI-RWY30 STAR above, the altitude of arriving aircraft and noise levels likely to be below 60dB(A).</p> <p>Noticeable change in tracking of aircraft over Copping and Dunalley</p>

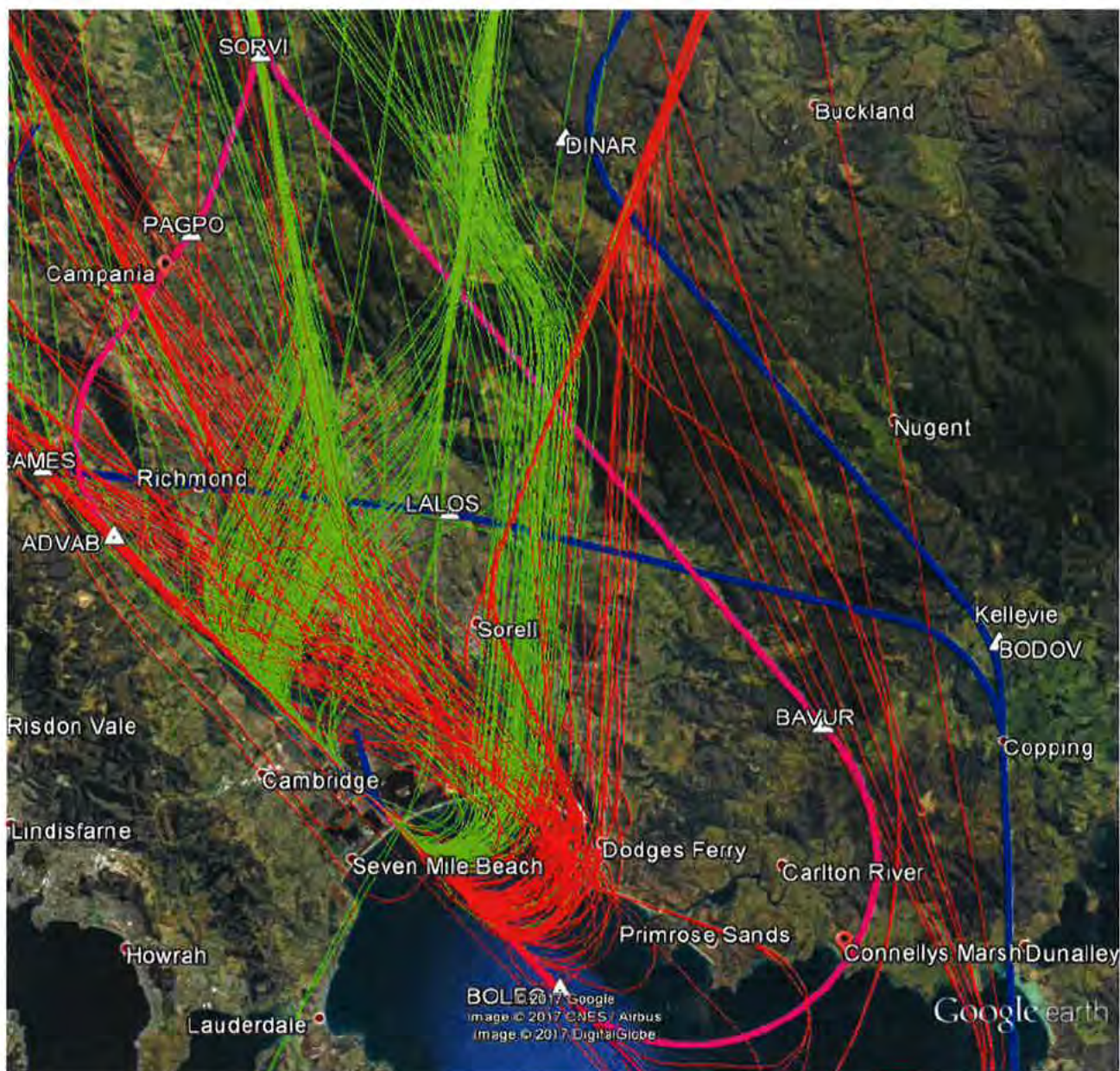
Segment	Description	Procedure Type	Analysis of Segment
Rwy 30- ADVAB- - PAGPO - SORVI	No change between runway and ADVAB. Newly overflown area is between ADVAB & SORVI. The area is sparsely populated except for the township of Campania near PAGPO wpt	SID	Campania is 25km from SOT. INM Noise modelling show that the noise level for the larger jets would be above 60dB(A) but below 65dB(A)
Rwy 12-BOLEG- BAVUR-SORVI	No change between runway and BOLEG. Newly overflown area is between BOLEG & SORVI. The area is sparsely populated except for the suburb of Connellys Marsh between BOLEG and BAVUR wpts.	SID	Connellys Marsh is 20km from SOT. INM Noise modelling show that the noise level for the larger jets would be above 60dB(A) but below 70dB(A).

### 6.1.1 Communities overflown by Kanli One SID

As identified in Table 3, the proposed Kanli One SID is expected to result in potential overflights above 60dB(A) for larger jets over the suburb of Connellys Marsh from Runway 12 and over Campania township from Runway 30.

Due to limitations in track data for this location, an estimate of the likely distribution of departures for each runway was made using Wind Roses from the Bureau of Meteorology. Using these Wind Roses which identify average wind directions at 9AM and 3PM daily for the period from 1958 to 2016 (Appendix C), approximately 50% of wind is from the west, north-west or north indicating departures off Runway 30, with wind directions from the south, south-east and east approximately 20% of the time indicating Runway 12 departures. The Wind Roses indicate that it is calm 4.5% of the time.

For the purposes of this environment assessment, runway distribution is assumed to be an approximate 5:2 ratio. Based on the average of 30 departures per day (Section 5.1), this indicates an average of 9 departures from Runway 12 and 21 departures from Runway 30 per day.



**Figure 5 Proposed SIDs (magenta) and STARs (blue) at Hobart Airport, with arrival (red) and departure (green) operations for 1-7 February 2017, zoomed to focus on Connellys Marsh and Campania.**

As shown in Figure 5, Campania is currently exposed to some arrival and departure flights with some concentration approximately 1km east of the town. Analysis of these flights show that they are predominately arrivals to Runway 30, which is approximately 30km from Campania along the flight track. At 30km from the landing threshold, larger jets are expected to have noise levels below 60dB(A) (Table 2).

Based on the sample flights, shown in Figure 5, Connellys Marsh had two Runway 30 arrival operations approximately 1.5km south-east from the suburb. These operations were approximately 27km from the landing threshold along the flight track. If these were larger jets, they may have caused N60 noise levels directly underneath the flight track (Table 2).

Based on [www.iplan.tas.gov.au](http://www.iplan.tas.gov.au), Campania is defined as a village for zoning purposes and Connellys Marsh as low density residential - under the Assessment Criteria (Appendix A), both are considered as rural residential.

Campania is anticipated to get an average of 21 overflights, of which some larger jets will cause N60 noise levels. For a rural residential area, the N60 threshold is 33 day-time flights so the proposed Kanli One SID from Runway 30 will not trigger the threshold for potential significance.

Connellys Marsh is expected to have an average of 9 overflights per day with larger jets causing N60 and N65 noise levels. As a rural residential area, the average number of overflights is below the N65 threshold of 17.

## 6.2 Matters of National Environmental Significance (NES)

Identified matters of National Environmental Significance (NES) are provided below.

**Table 4 Summary of NES**

	Number of NES that may occur in area of flightpath change
<b>Wetlands of International Importance:</b>	1
<b>Great Barrier Reef Marine Park:</b>	-
<b>Commonwealth Marine Area:</b>	-
<b>Listed Threatened Ecological Communities</b>	4
<b>Listed Threatened Species:</b>	83
<b>Listed Migratory Species:</b>	43
<b>Commonwealth Heritage Places:</b>	2

As identified in Table 4 above, the areas of the proposed new STARs and SIDs include the Pitt water-orienton lagoon, a wetland of international importance, four threatened ecological communities and 83 threatened species.

## 6.3 Matters of indigenous heritage and cultural significance

The Mouheneenner people are acknowledged as the traditional owners of the areas of the proposed changes.

**Table 5 Summary of identified Heritage locations, identified in the NES**

	Number of NES that may occur in area of flightpath change
<b>World Heritage Properties:</b>	2
<b>National Heritage Places:</b>	3
<b>Commonwealth Heritage Places:</b>	2

Of the identified heritage places, the Jordan River levee site is a listed indigenous National Heritage Place. Based on the place details from the Department of the Environment and Energy Australian Heritage Database, this site has indigenous



cultural significance. The location is currently exposed to existing overflights, as well as on ground disturbances associated with the Brighton Bypass and ongoing agricultural activities.

## **7 Findings**

### **7.1 Noise analysis**

Analysis for Iplet One Alpha STAR and Clarke One Alpha STAR identify that for newly overflown areas, noise levels are expected to be below 60dB(A) and will not trigger the thresholds identified in Appendix A. Noticeable change in tracking of overflights is likely at Copping and Dunalley.

Kanli One SID will result in overflights of newly overflown areas, both from Runway 12 and Runway 30 departure operations. Both paths overfly generally sparsely populated areas however, the town of Campania from Runway 30 and the suburb of Connellys Marsh from Runway 12 will experience noise levels for the larger jets above 60dB(A). At both locations, the average number of flights expected is below the relevant threshold for potential significance. It is likely that an increase in overflights and noise levels will be noticed by residents in both these locations.

### **7.2 Natural environment analysis**

Matters of the natural environment were duly considered during the design phase of the proposed new flight paths by matching as closely as possible the proposed flight paths to the existing movements. There is no likely environmental impact on identified threatened species and ecological communities as a direct result of implementing the proposed new flight paths, due to the area being exposed to existing overflights.

Details of the NES are available for review at: [Matters of NES\PMST\\_6PTJPO.pdf](#)

### **7.3 Cultural and heritage values analysis**

The Mouheneenner people are acknowledged as the traditional owners of the Hobart region. The proposed SIDs and STARs were designed to match the existing paths as close as possible.

There is no likely environmental impact on areas of indigenous heritage and cultural significance as a direct result of implementing the proposed new flight paths, due to the area being exposed to existing overflights and on-ground disturbances to the identified site of heritage significance.

### **7.4 Emissions analysis**

There is no material difference anticipated as a result of the proposed flight path change. This is due to minimal change in track miles.

## **8 Conclusion**

The proposed new STARs and SIDs at Hobart Airport are not likely to result in any significant environmental impact within the meaning of the Environment Protection and Biodiversity Conservation Act, 1999 (Cth).

The proposed changes may result in a visual change to aircraft tracking and /or noise levels. It is recommended that there be consideration given to establishing a stakeholder engagement strategy to manage any risks associated with the proposed change. Particular note of the changes implemented over Campania and Connellys Marsh should be taken.

There are no impacts expected on areas of Natural Environmental Significance, or on sites of cultural and heritage value as a direct result of implementing the proposed flight paths.

## **9 Appendixes**

Appendix A - Assessment criteria

Appendix B - Draft DAP Plates

Appendix C - Wind roses – Hobart

## Appendix A Assessment criteria

	N70		N65		N60		LAmax		Leq	
	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night
<b>Urban Residential</b>										
High level (1) of existing flight (increase)	> 25%	> 10%	> 25%	> 10%	> 25%	> 10%	>5dB(A)	>3dB(A)	>2dB(A)	>2dB(A)
Low level (2) of existing flight (total)	10	1	25	2	50	3	>5dB(A)	>3dB(A)	>2dB(A)	>2dB(A)
<b>Rural Residential</b>										
High level (3) of existing flight (increase)	> 25%	> 10%	> 25%	> 10%	> 25%	> 10%	>5dB(A)	>3dB(A)	>2dB(A)	>2dB(A)
Low level (4) of existing flight (total)	7	1	17	1	33	2	>5dB(A)	>3dB(A)	>2dB(A)	>2dB(A)
<b>Sensitive Sites</b>										
Schools (5)	10 / LAeq 35	n/a	25 / LAeq 35	n/a	50 / LAeq 35	n/a	>5dB(A)	n/a	>5dB(A)	n/a
Hospitals (5)	LAeq 30	LAeq 30	LAeq 30	LAeq 30	LAeq 30	LAeq 30	LAeq 30	LAeq 30	LAeq 30	LAeq 30
NES Sites	Case by Case									
Industrial / open spaces / parks (total)	20	n/a	50	n/a	100	n/a				
Population Exposed	Increase or newly exposed	Increase or newly exposed	Increase without decrease in N70 exposure		Increase without decrease in N65 exposure					

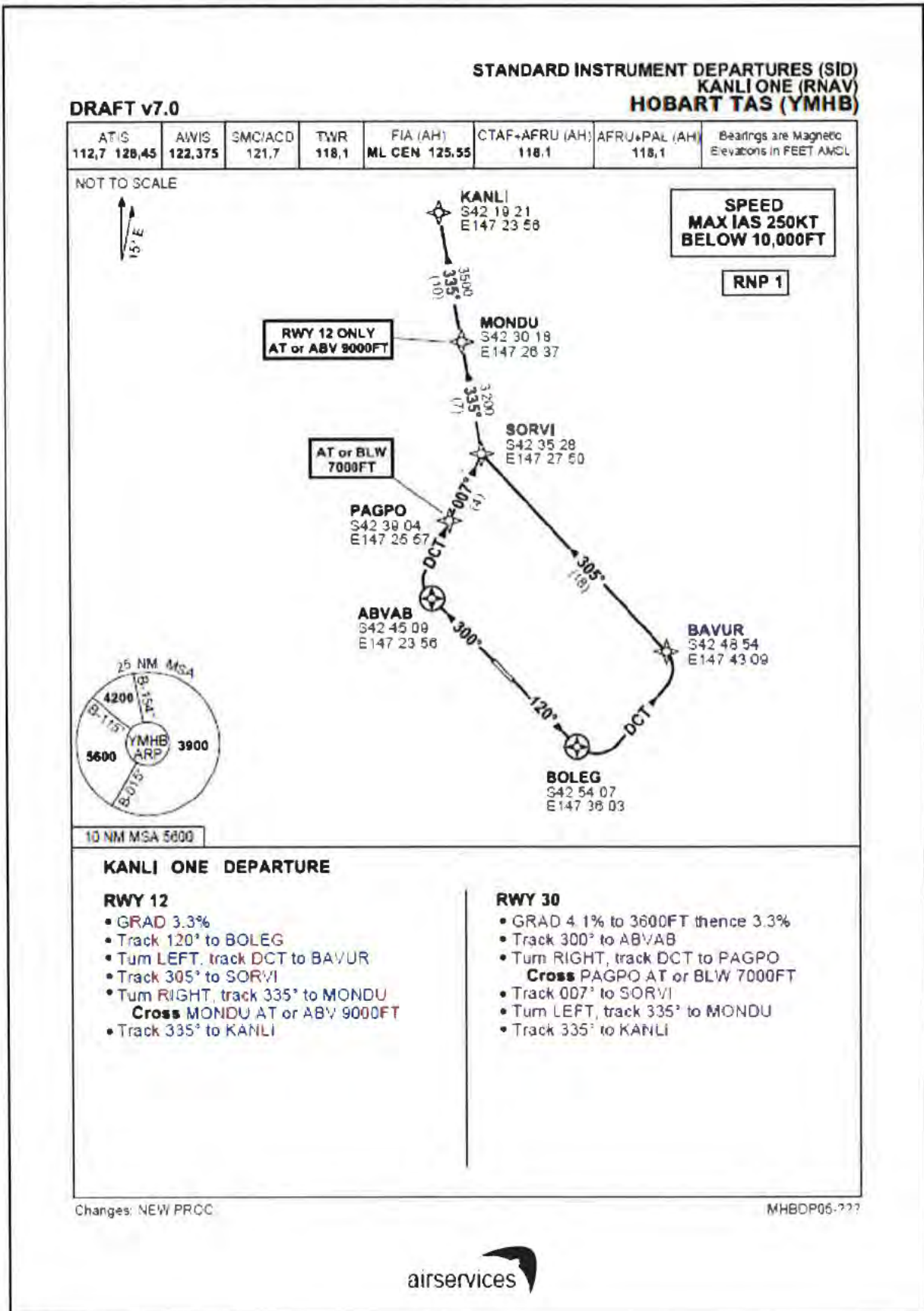
### Notes

- (1) Existing flights exceed 10 at 70dB(A) or 25 @ 65 dB(A) or 50 @ 60 dB(A) (6am to 11pm) or 6 @ 60dB(A) (11pm to 6am)
- (2) Existing flights less than 10 at 70dB(A) and 25 @ 65 dB(A) and 50 @ 60 dB(A) (6am to 11pm) and 6 @ 60dB(A) (11pm to 6am)
- (3) Existing flights exceed 7 at 70dB(A) or 16 @ 65 dB(A) or 35 @ 60 dB(A) (6am to 11pm) or 6 @ 60dB(A) (11pm to 6am)
- (4) Existing flights less than 7 at 70dB(A) and 16 @ 65 dB(A) and 35 @ 60 dB(A) (6am to 11pm) and 6 @ 60dB(A) (11pm to 6am)
- (5) Unless noise insulated

Traffic numbers based on 90th percentile busy day

Change in carbon emissions also calculated and a comparison made

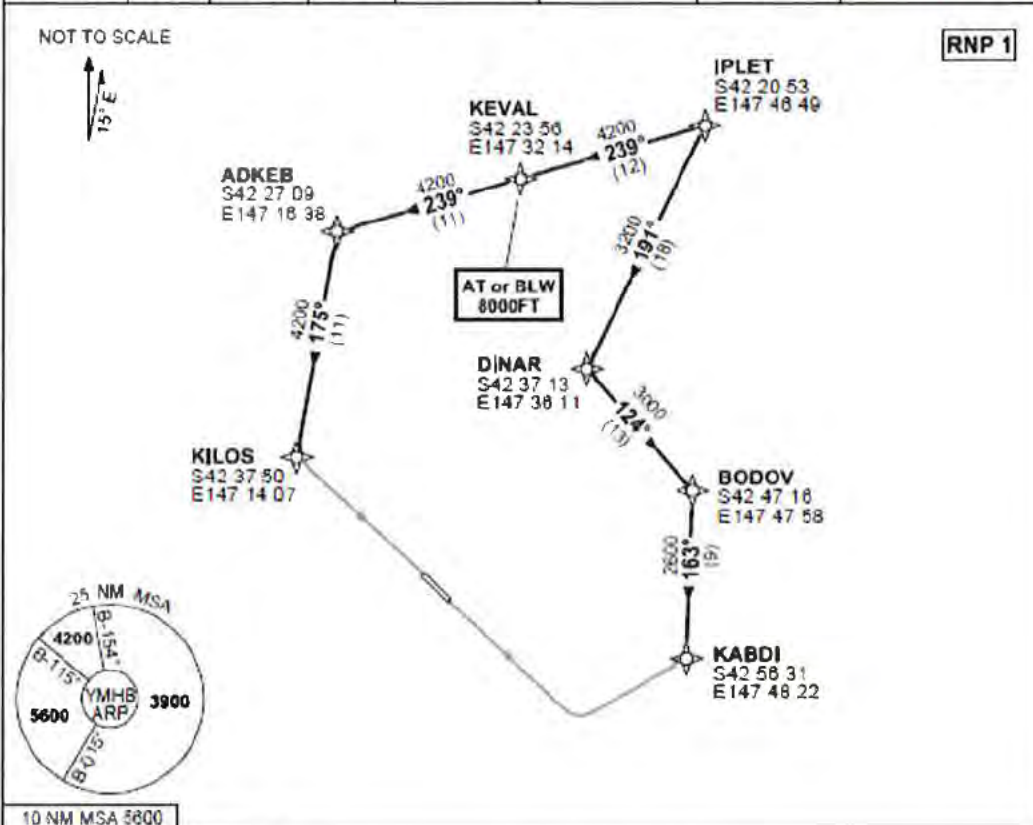
# Appendix B Draft DAP Plates



DRAFT v6.0

**STANDARD ARRIVAL ROUTE (STAR)  
IPLET ONE ALPHA ARRIVAL (RNA)  
HOBART, TAS (YMHB)**

ATIS 112.7 128.45	AWIS 122.375	SMC/ACD 121.7	TWR 118.1	FIA (AH) ML CEN 125.55	CTAF+AFRU (AH) 118.1	AFRU+PAL (AH) 118.1	Bearings are Magnetic Elevations in FEET AMSL
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**ARRIVAL: IPLET ONE**

**RWY 30 ALPHA:**

- From IPLET track 191° to DINAR
- Turn LEFT, track 124° to BODOV
- Turn RIGHT, track 163° to KABDI
- Track via RNAV-Z (GNSS) to RWY 30

**RWY 12 ALPHA:**

- From IPLET track 239° to KEVAL
- **Cross** KEVAL AT or BLW 8000FT
- Track 239° to ADKEB
- Turn LEFT, track 175° to KILOS
- Turn LEFT, track via RNAV-Z (GNSS) RWY 12

**COMMUNICATIONS FAILURE: PROCEDURE IN IMC**

- Squawk 7600, comply with vertical navigation requirements, but not below MSA.
- Track via the latest STAR clearance to the nominated runway, then fly the most suitable approach in accordance with ERSA EMERG Section 1.5.

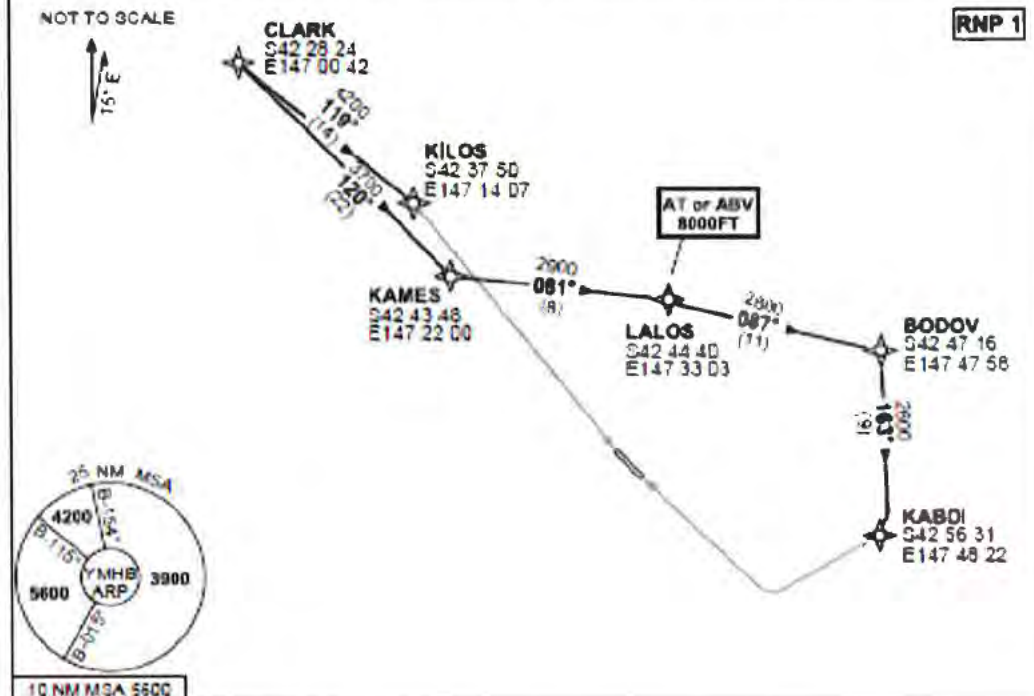
Changes: NEW PROC. MHBSR02-???



**STANDARD ARRIVAL ROUTE (STAR)  
CLARK ONE ALPHA ARRIVAL (RNAV)  
HOBART, TAS (YMHB)**

DRAFT v6.0

ATIS 112,7 128,45	AW/G 122,375	SMC/AGO 121,7	TWR 118,1	FIA (AH) ML GEN 125,55	CTAF+AFRU (AH) 118,1	AFRU+PAL (AH) 118,1	Obstructions Magnetic Elevations in FEET AMSL
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**ARRIVAL: CLARK ONE**

**RWY 30 ALPHA:**

- From CLARK track 120° to KAMES
- Turn LEFT, track 081° to LALOS
- Cross LALOS AT or ABV 8000FT
- Track 087° to BODOV
- Turn RIGHT, track 163° to KABDI
- Track via RNAV-Z (GNSS) RWY 30

**RWY 12 ALPHA:**

- From CLARK track 119° to KILOS
- Track via RNAV-Z (GNSS) RWY 12

**COMMUNICATIONS FAILURE: PROCEDURE IN IMC**

- Squawk 7600, comply with vertical navigation requirements, but not below MSA.
- Track via the latest STAR clearance to the nominated runway, then fly the most suitable approach in accordance with ERSA EMERG Section 1.5.

Changes: NEW PROC.

MHBOR01-???



# Appendix C Wind roses – Hobart

## Rose of Wind direction versus Wind speed in km/h (01 Jun 1958 to 05 Apr 2016)

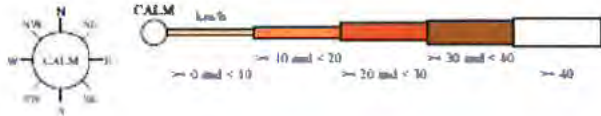
Custom times selected, refer to attached note for details

### HOBBART AIRPORT

Site No: 094008 • Opened Jan 1958 • 365 Open • Latitude -42.8339° • Longitude 147.5033° • Elevation 4m

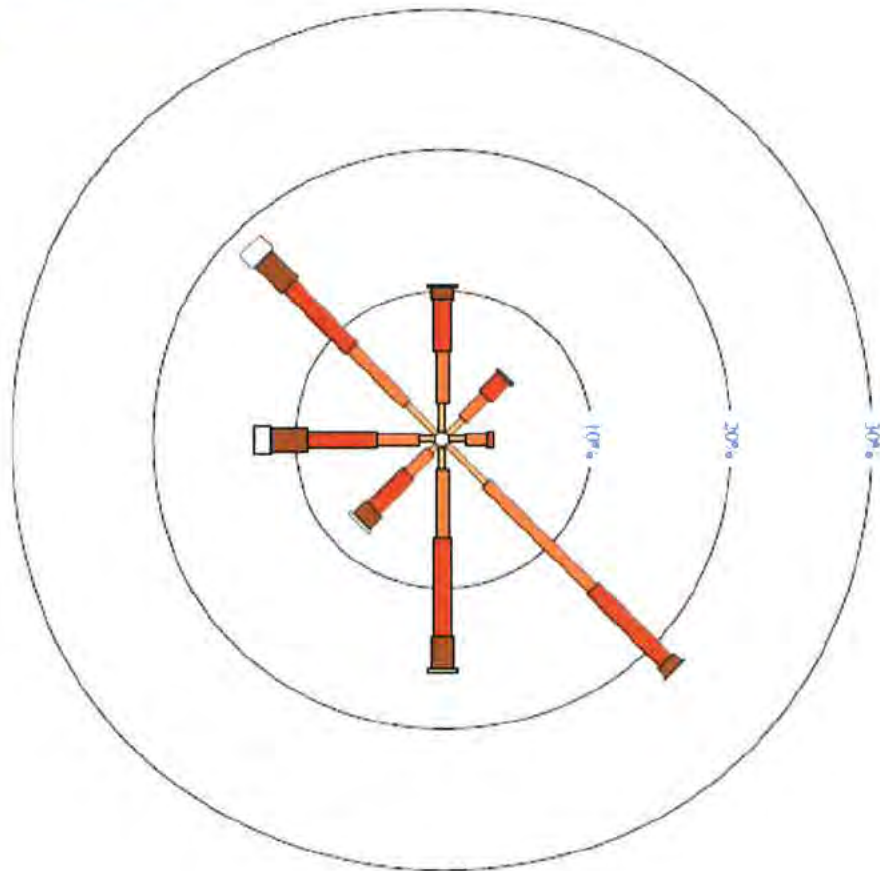
An asterisk (\*) indicates that calm is less than 0.5%.

Other important info about this analysis is available in the accompanying notes.



3 pm  
20352 Total Observations

Calm 2%



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 Prepared by the Bureau of Meteorology.  
 Contact us by phone on (03) 9609 4082, by fax on (03) 9609 4515, or by email on [climatedata@bom.gov.au](mailto:climatedata@bom.gov.au)  
 We have taken all due care but cannot provide any warranty nor accept any liability for this information.

**Rose of Wind direction versus Wind speed in km/h (01 Jun 1958 to 05 Apr 2016)**

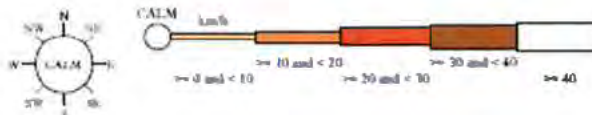
Custom times selected, refer to attached note for details

**HOBART AIRPORT**

Site No: 094008 • Opened Jan 1958 • Still Open • Latitude: -42.8333° • Longitude: 147.5033° • Elevation 4m

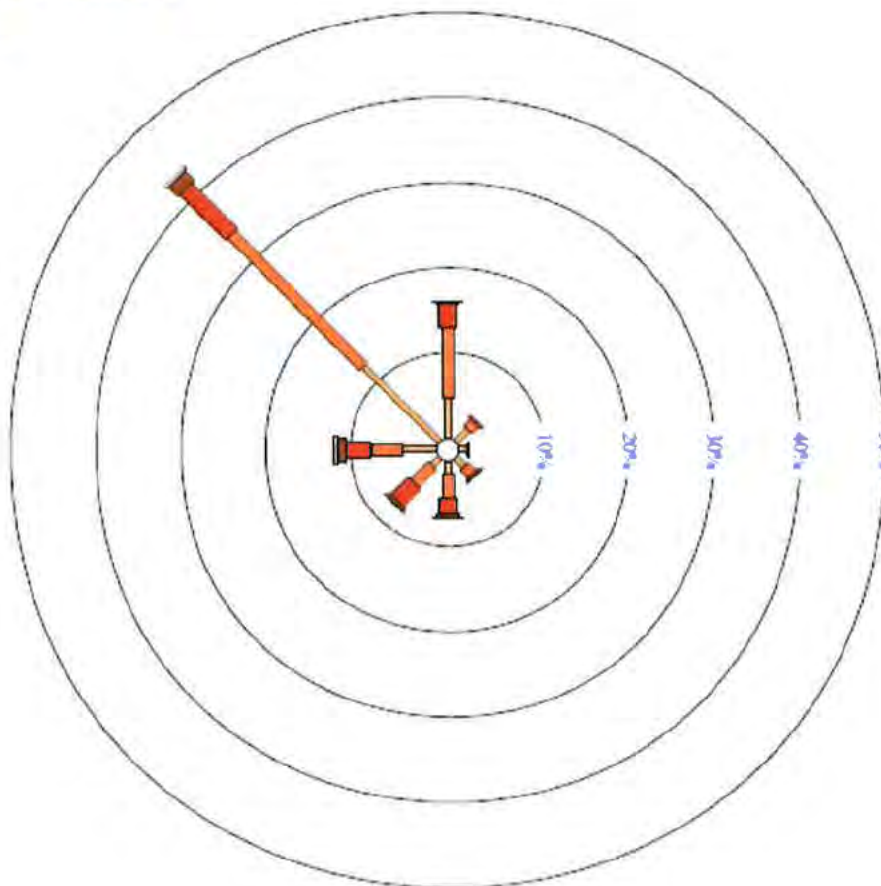
An asterisk (\*) indicates that calm is less than 0.5%.

Other important info about this analysis is available in the accompanying notes.



9 am  
20354 Total Observations

Calm 7%



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s22

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**From:** s47F  
**Sent:** Tuesday, 20 June 2017 3:06 PM  
**To:** s47F  
**Subject:** YMHB update - 5NM. [SEC=UNCLASSIFIED]  
**Attachments:** YMHBSIDSTARS-5nm.kmz; MHBSR1-DRAFT6.pdf; MHBDP5-DRAFT7.pdf; MHBSR2-DRAFT6.pdf; HB5NM Change.PNG

Hi s47F

I have attached the updated information for the Hobart SID STAR change, current at 20/06/2017  
The only lateral tracking change has happened on the SR1 plate, LALOS has been moved slightly as shown in the attached .png image.

Thanks,

s47F  
**CNS/ATM Airspace & Air Routes Design Specialist**  
Brisbane Airport | Airservices Australia  
t s47F

**DRAFT v7.0**

ATIS 112.7 128.45	AWIS 122.375	SMC/ACD 121.7	TWR 118.1	FIA (AH) ML CEN 125.55	CTAF+AFRU (AH) 118.1	AFRU+PAL (AH) 118.1	Bearings are Magnetic Elevations in FEET AMSL
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NOT TO SCALE

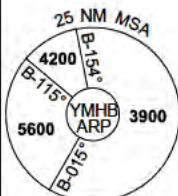


**SPEED**  
**MAX IAS 250KT**  
**BELOW 10,000FT**

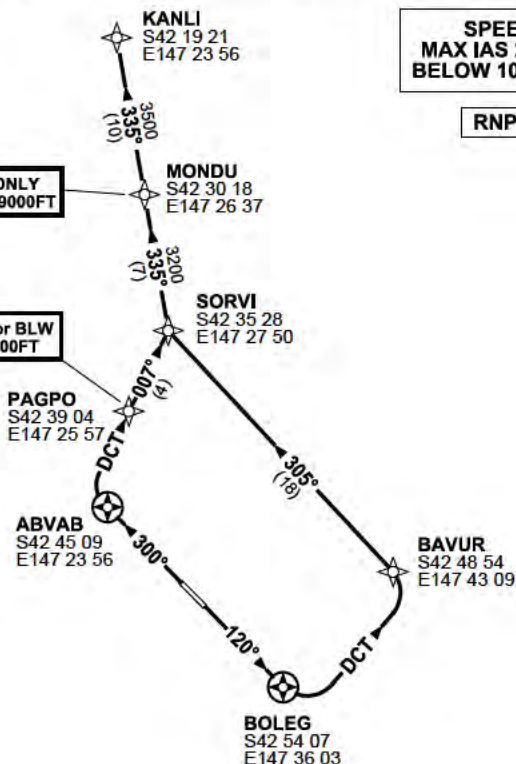
**RNP 1**

**RWY 12 ONLY**  
**AT or ABV 9000FT**

**AT or BLW**  
**7000FT**



10 NM MSA 5600



**KANLI ONE DEPARTURE**

**RWY 12**

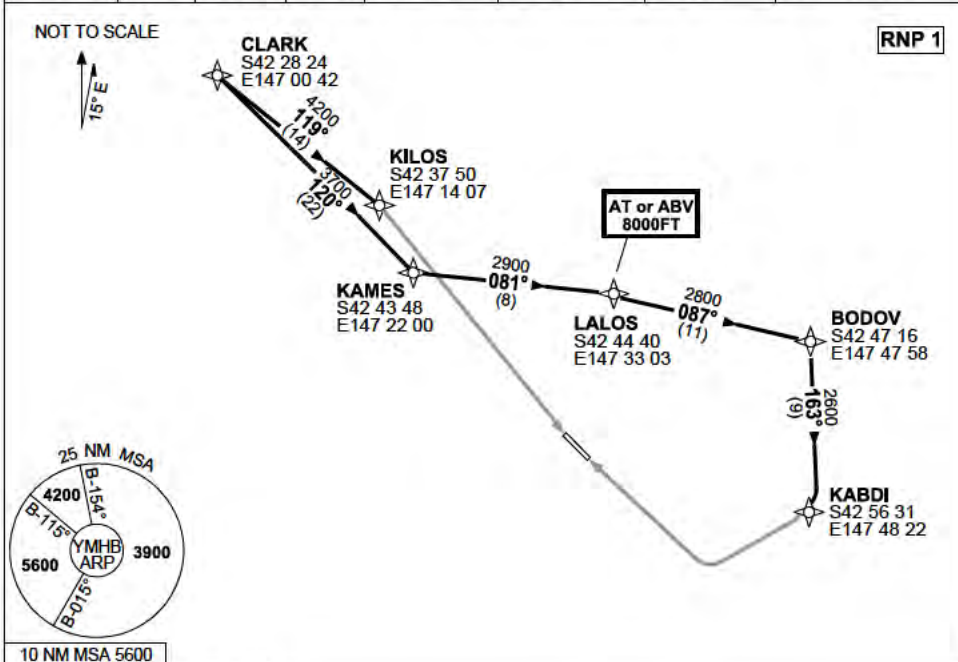
- GRAD 3.3%
- Track 120° to BOLEG
- Turn LEFT, track DCT to BAVUR
- Track 305° to SORVI
- Turn RIGHT, track 335° to MONDU
- **Cross MONDU AT or ABV 9000FT**
- Track 335° to KANLI

**RWY 30**

- GRAD 4.1% to 3600FT thence 3.3%
- Track 300° to ABVAB
- Turn RIGHT, track DCT to PAGPO
- **Cross PAGPO AT or BLW 7000FT**
- Track 007° to SORVI
- Turn LEFT, track 335° to MONDU
- Track 335° to KANLI

**DRAFT v6.0**

ATIS 112.7 128.45	AWIS 122.375	SMC/ACD 121.7	TWR 118.1	FIA (AH) ML CEN 125.55	CTAF+AFRU (AH) 118.1	AFRU+PAL (AH) 118.1	Bearings are Magnetic Elevations in FEET AMSL
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**ARRIVAL: CLARK ONE**

**RWY 30 ALPHA:**

- From CLARK track 120° to KAMES
- Turn LEFT, track 081° to LALOS
- **Cross** LALOS AT or ABV 8000FT
- Track 087° to BODOV
- Turn RIGHT, track 163° to KABDI
- Track via RNAV-Z (GNSS) RWY 30

**RWY 12 ALPHA:**

- From CLARK track 119° to KILOS
- Track via RNAV-Z (GNSS) RWY 12

**COMMUNICATIONS FAILURE: PROCEDURE IN IMC**

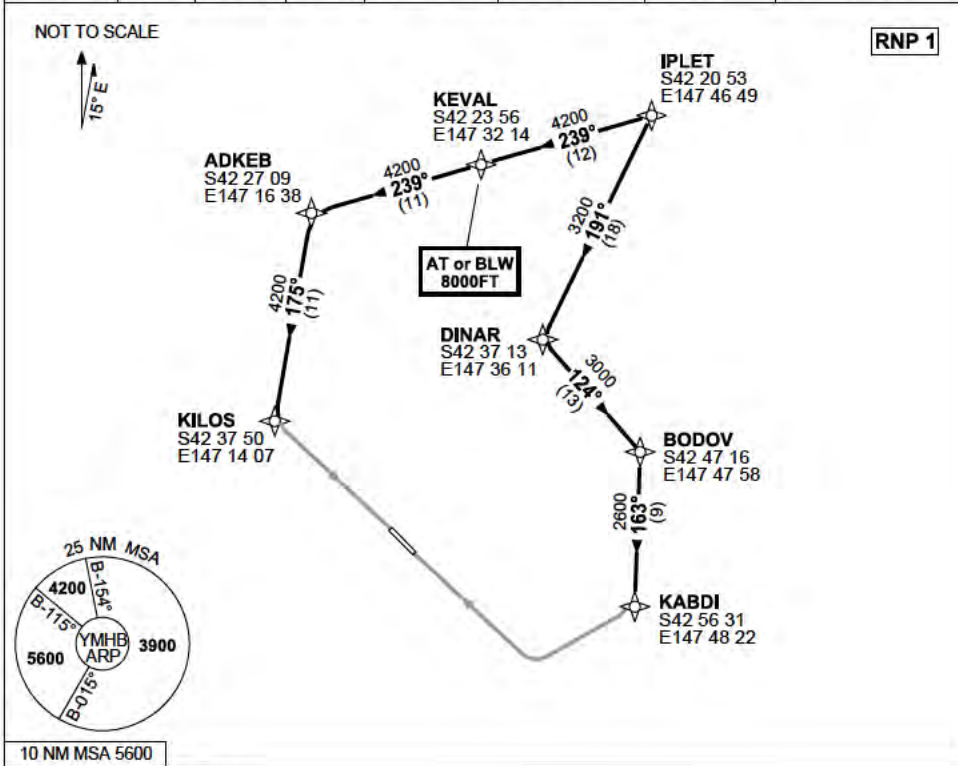
- Squawk 7600, comply with vertical navigation requirements, but not below MSA.
- Track via the latest STAR clearance to the nominated runway, then fly the most suitable approach in accordance with ERS A EMERG Section 1.5.

Changes: NEW PROC.

MHBSR01-???

**DRAFT v6.0**

ATIS 112.7 128.45	AWIS 122.375	SMC/ACD 121.7	TWR 118.1	FIA (AH) ML CEN 125.55	CTAF+AFRU (AH) 118.1	AFRU+PAL (AH) 118.1	Bearings are Magnetic Elevations in FEET AMSL
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**ARRIVAL: IPILET ONE**

**RWY 30 ALPHA:**

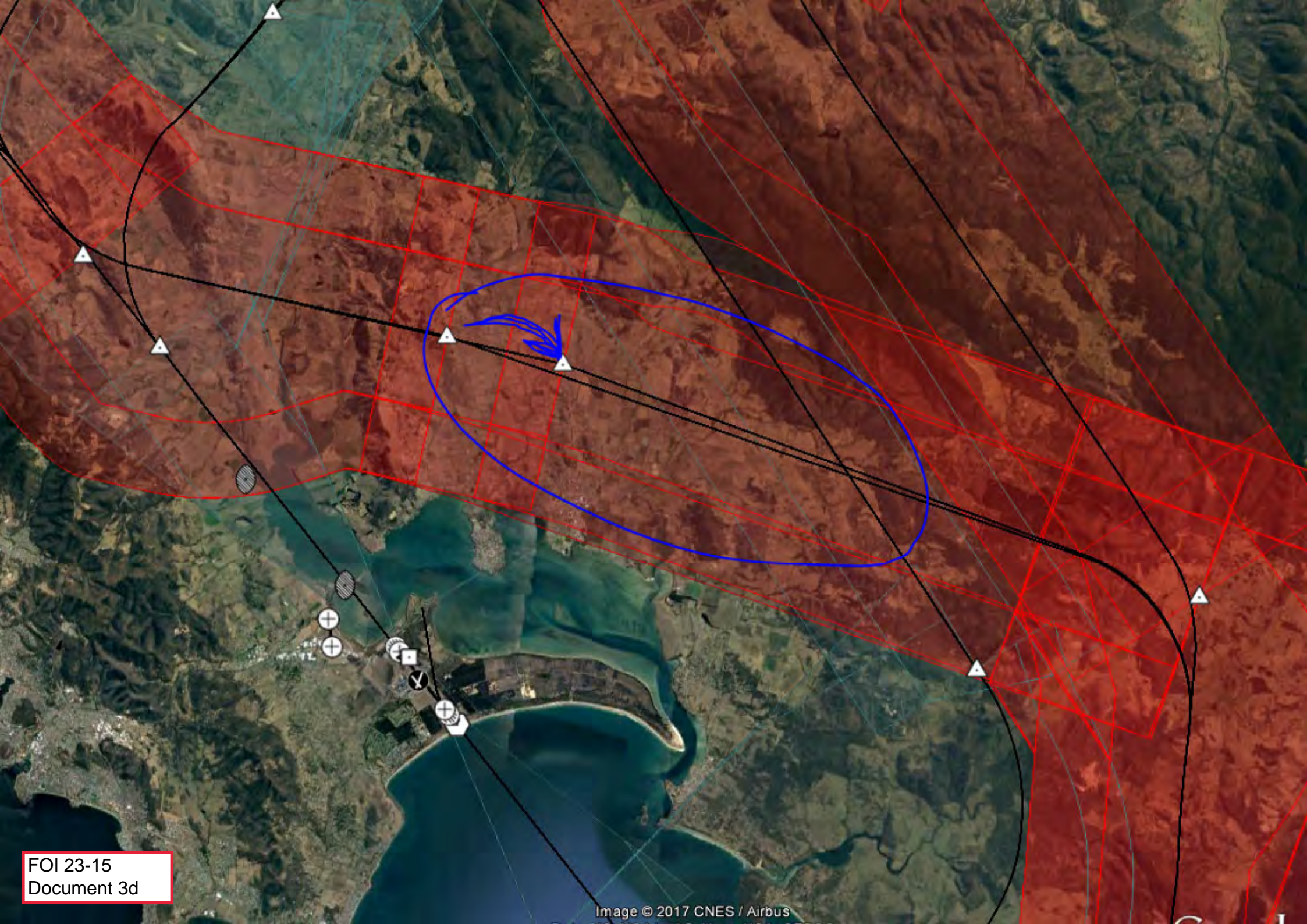
- From IPILET track 191° to DINAR
- Turn LEFT, track 124° to BODOV
- Turn RIGHT, track 163° to KABDI
- Track via RNAV-Z (GNSS) to RWY 30

**RWY 12 ALPHA:**

- From IPILET track 239° to KEVAL
- **Cross** KEVAL AT or BLW 8000FT
- Track 239° to ADKEB
- Turn LEFT, track 175° to KILOS
- Turn LEFT, track via RNAV-Z (GNSS) RWY 12

**COMMUNICATIONS FAILURE: PROCEDURE IN IMC**

- Squawk 7600, comply with vertical navigation requirements, but not below MSA.
- Track via the latest STAR clearance to the nominated runway, then fly the most suitable approach in accordance with ERSA EMERG Section 1.5.

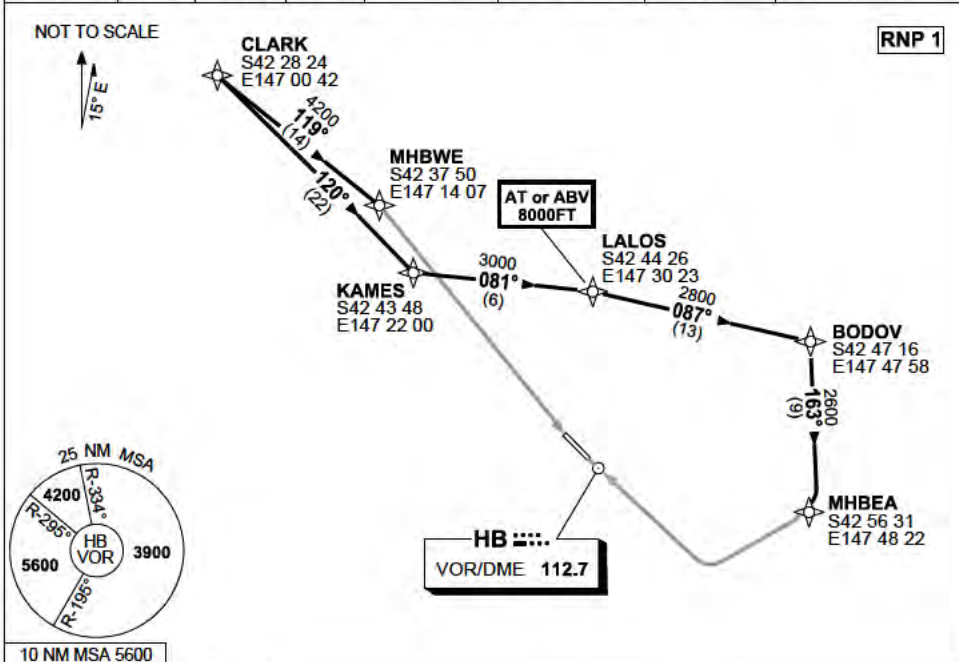


FOI 23-15  
Document 3d

**STANDARD ARRIVAL ROUTE (STAR)  
CLARK ONE ALPHA ARRIVAL (RNAV)  
HOBART, TAS (YMHB)**

**DRAFT v4.0**

ATIS 112.7 128.45	AWIS 122.375	SMC/ACD 121.7	TWR 118.1	FIA (AH) ML CEN 125.55	CTAF+AFRU (AH) 118.1	AFRU+PAL (AH) 118.1	Bearings are Magnetic Elevations in FEET AMSL
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**ARRIVAL: CLARK ONE**

**RWY 30 ALPHA:**

- From CLARK track 120° to KAMES
- Turn LEFT, track 081° to LALOS
- **Cross** LALOS AT or ABV 8000FT
- Track 087° to BODOV
- Turn RIGHT, track 163° to MHBEA
- Track via RNAV-Z (GNSS) RWY 30

**RWY 12 ALPHA:**

- From CLARK track 119° to MHBWE
- Track via RNAV-Z (GNSS) RWY 12

**COMMUNICATIONS FAILURE: PROCEDURE IN IMC**

- Squawk 7600, comply with vertical navigation requirements, but not below MSA.
- Track via the latest STAR clearance to the nominated runway, then fly the most suitable approach in accordance with ERSA EMERG Section 1.5.

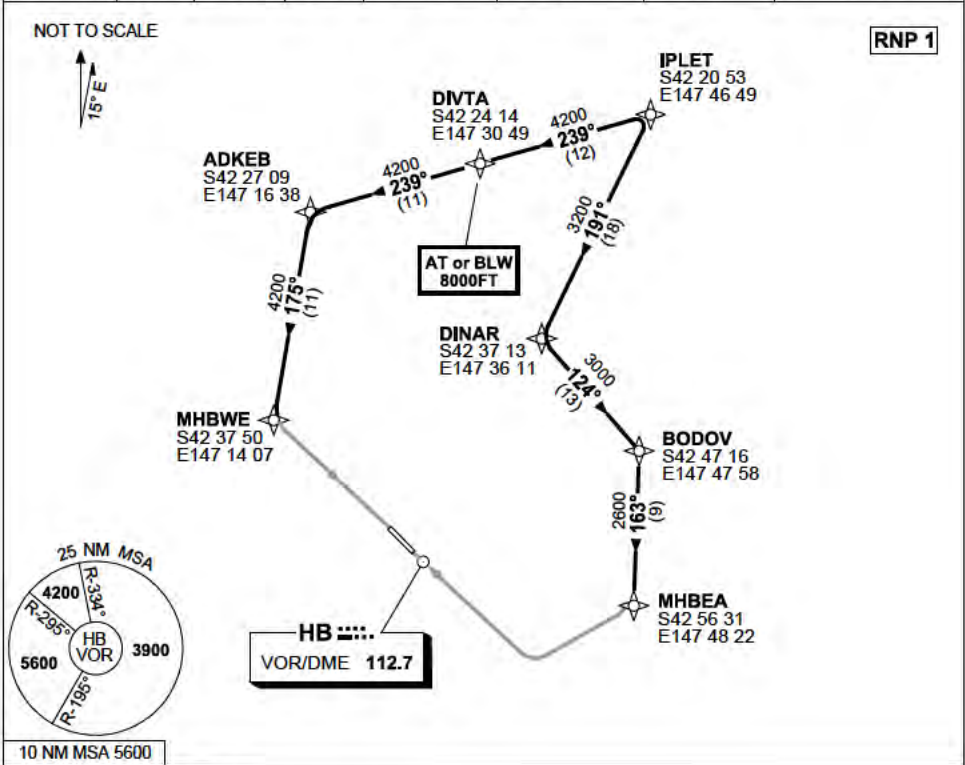
Changes: NEW PROC.

MHBSR01-???

**STANDARD ARRIVAL ROUTE (STAR)  
IPLET ONE ALPHA ARRIVAL (RNA)  
HOBART, TAS (YMHB)**

**DRAFT v3.0**

ATIS	AWIS	SMC/ACD	TWR	FIA (AH)	CTAF+AFRU (AH)	AFRU+PAL (AH)	Bearings are Magnetic Elevations in FEET AMSL
112.7 128.45	122.375	121.7	118.1	ML CEN 125.55	118.1	118.1	



**ARRIVAL: IPLET ONE**

**RWY 30 ALPHA:**

- From IPLET track 191° to DINAR
- Turn LEFT, track 124° to BODOV
- Turn RIGHT, track 163° to MHBEA
- Track via RNAV-Z (GNSS) to RWY 30

**RWY 12 ALPHA:**

- From IPLET track 239° to DIVTA
- **Cross** DIVTA AT or BLW 8000FT
- Track 239° to ADKEB
- Turn LEFT, track 175° to MHBWE
- Turn LEFT, track via RNAV-Z (GNSS) RWY 12

**COMMUNICATIONS FAILURE: PROCEDURE IN IMC**

- Squawk 7600, comply with vertical navigation requirements, but not below MSA.
- Track via the latest STAR clearance to the nominated runway, then fly the most suitable approach in accordance with ERSA EMERG Section 1.5.

Changes: NEW PROC.

MHBSR02-???

**STANDARD INSTRUMENT DEPARTURES (SID)  
KANLI ONE (RNAV)  
HOBART TAS (YMHB)**

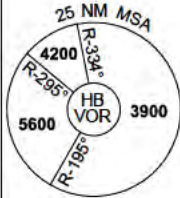
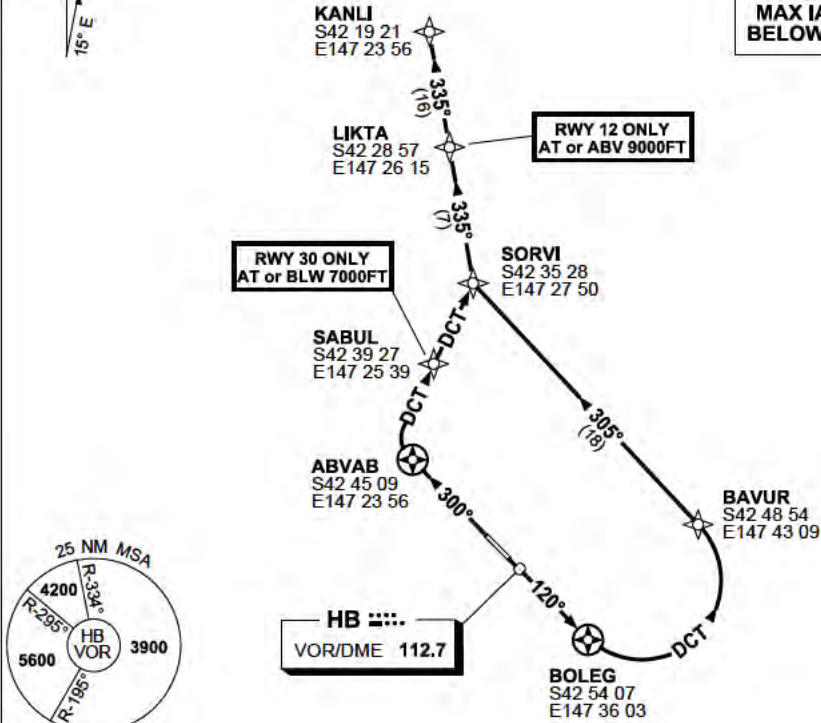
**DRAFT v5.0**

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NOT TO SCALE



**SPEED  
MAX IAS 250KT  
BELOW 10,000FT**



10 NM MSA 5600

**KANLI ONE DEPARTURE**

**RWY 12**

- GRAD 3.3%
- Track 120° to BOLEG
- Turn LEFT, track DCT to BAVUR
- Track 305° to SORVI
- Turn RIGHT, track 335° to LIKTA
- **Cross LIKTA AT or ABV 9000FT**
- Track 335° to KANLI

**RWY 30**

- GRAD 4.1% to 3600FT thence 3.3%
- Track 300° to ABVAB
- Turn RIGHT, track DCT to SABUL
- **Cross SABUL AT or BLW 7000FT**
- Track DCT to SORVI
- Turn LEFT, track 335° to KANLI

Changes: NEW PROC.

MHBDP05-???



# Stakeholder Engagement Strategy

## Hobart SIDs and STARs

**Document Type - Reference Document**

**Version 1**

**Effective 1st June 2017**

Proposed:	s47F Community Engagement Specialist	4 <sup>th</sup> June 2017
Reviewed:	s47F Southern Operations ATC Line Manager	5 <sup>th</sup> June 2017
Class D risk accepted – Controls adequate	s47F Southern Operations ATC Line Manager	7 <sup>th</sup> July 2017

## Change Summary

Version	Date	Change Description	Amended by
1	22 May 2017	New document	Neil Hall
2	18 Oct 2017	Update to include information to MP's	Neil Hall

## Purpose and Scope

This document provides the framework for how Airservices will undertake stakeholder engagement and community consultation as a result of a proposal to implement Standard Instrument Departures and Standard Terminal Arrival Routes in the Hobart Airport terminal airspace.

It is based on Airservices requirements under the communication and consultation protocol.

The proposal is to implement SIDs and STARs as part of the Tasmanian Airspace Review to improve safety and predictability at Hobart and Launceston.

The proposed procedures allow aircraft to navigate on predictable FMS managed tracks using performance based navigation (RNP 1), provide separation assurance for air traffic control, and reduce complexity and workload for pilots and air traffic controllers.

## Objectives

This Stakeholder Engagement Strategy will focus on the following objectives:

Project objective	Engagement objective
1. Implementation of Hobart SIDs and STARs.	1. Ensure affected stakeholders are aware of the benefits and impacts of SID and STAR implementation in Hobart.

## Name of Project

This Stakeholder Engagement Strategy is for implementation of Hobart SIDs and STARs. This project may be internally referred to as Hobart SIDs and STARs.

The public name of this project will be: Implementation of Hobart Airport Standard Arrivals and Departures.

## Proposal

### 1. Context and summary of benefits and impacts

**Drivers of change:** Tasmanian Airspace Route review and Performance Based Navigation implementation.

Aircraft operating under Instrument Flight Rules at Hobart are not currently on standard arrival and departure routes. Aircraft tracking varies depending on the disposition of the traffic and dynamic pilot and air traffic control requirements.

Implementation of the latest performance based navigation SIDs and STARs provides pilots with improved predictability and fuel management using on board systems, and air traffic control with separation standards built into the airspace design for departing and arriving aircraft. This improves safety by reducing complexity and workload for air traffic controllers and pilots, and reduces fuel burn and emissions.

The proposed flight paths overfly areas that are currently overflowed.

#### **Summary of impacts:**

Arriving aircraft.

Residents in Dunalley and Copping may notice changes to aircraft tracking with noise levels based on the largest jets (A320 and B738) expected to be below the levels considered to provide night time sleep disturbance (below 60dBA).

Departing aircraft.

Residents in the Campania area will be overflowed by Runway 30 departures and may notice concentration of aircraft tracking for up to 23 departures on a single day with noise levels based on largest jets (A320 and B738) between 60 and 70 dBA which may interrupt sleep at night.

Residents in the Connelly's Marsh area may notice concentration of departing aircraft with noise levels based on the largest jets of between 60 and 70 dBA.

Note from ATC that there are occasional C17 operations and B767 freight operations may commence from August and these have not been included in the noise impact assessment.

### 2. Relevant Considerations

In many instances, changing a flight path or air traffic management procedure will result in moving an amount of aircraft noise away from one residential area to another - including to areas that currently receive nil or few regular over flights. This means the decision-making process to progress or reject a change proposal needs to be clear, inclusive and robust as the respective costs and benefits are considered and balanced.

According to requirements established by the International Civil Aviation Organisation (ICAO) and Australian Government legislation, Airlines must regard a series of ‘relevant considerations’ when considering a change to flight paths or aircraft management operations. These are the potential impacts on: **safety** (always the primary consideration), **efficiency** (airports and airlines), the **environment** (noise, emissions and the natural environment) and **consultation** (industry and community).

This process may be considered in the following way: after safety has first been assured, judgement about the impact on efficiency and the environment is informed through technical analysis and consultation and as a result an ‘on balance’ decision can then be made as to whether a change should go ahead.

### 3. The Proposal

Implement Hobart SIDs and STARs as illustrated below:

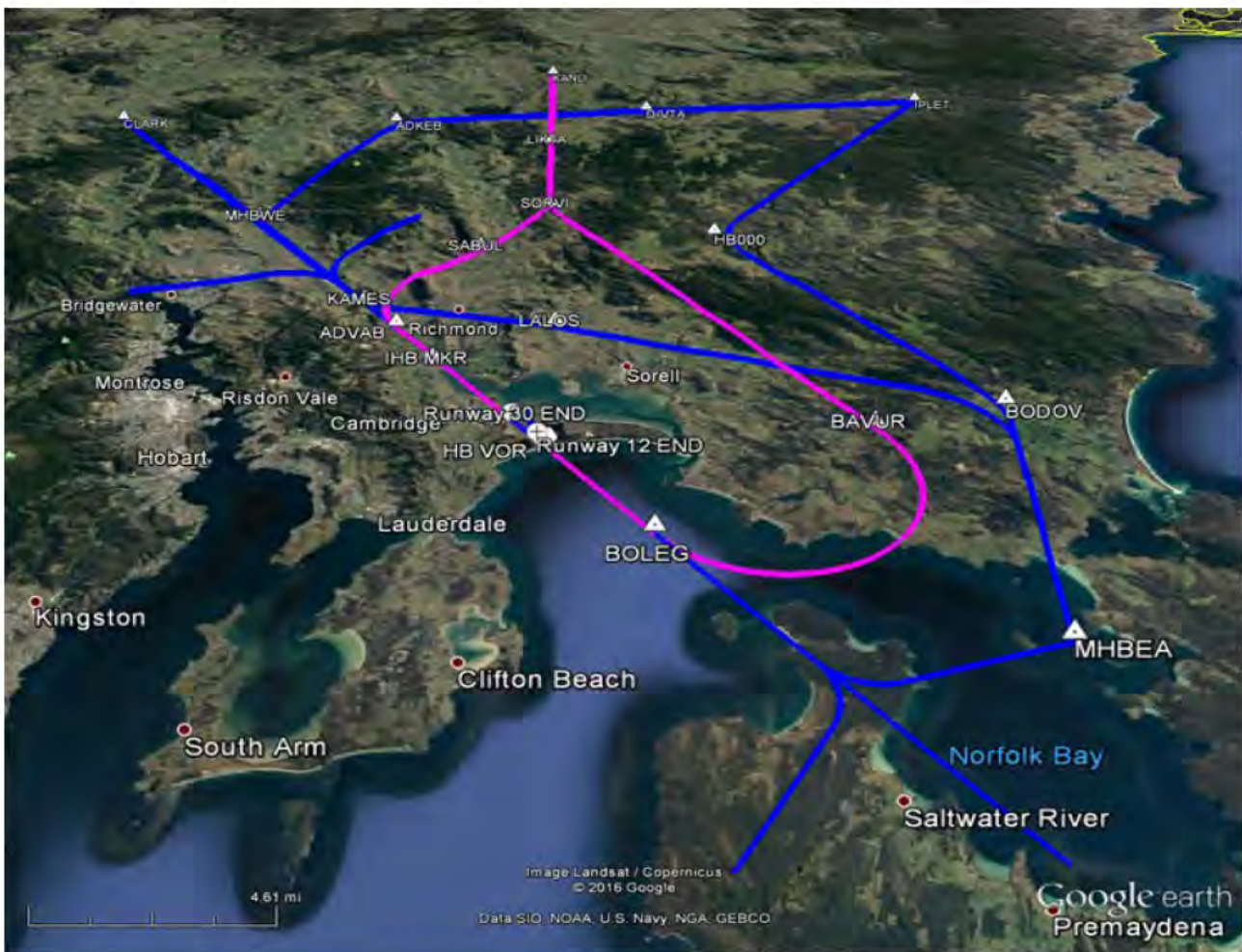


Figure 1: Hobart SIDs (magenta) and STARs (blue)

## Impacts

### 4. Areas Impacted

Proposal	Suburbs – Benefit	Suburbs - Impacted
Implement Hobart SIDs and STARS	Nil	Runway 30 departures –Campania Runway 30 arrivals – Dunalley, Copping Runway 12 departures – Connelly’s Marsh

### 5. Potential Impacts

#### a) Safety

The changes will result in improved safety assurance between departing and arriving aircraft.

#### b) Efficiency

Coded paths into the FMS ensures reduced fuel burn and improved predictability. SID, STAR design removes possible level restrictions on departure.

#### c) Environment

**CIRRIS reference:** EA 1226

**Date of Technical Environment Assessment:** 20 May 2017

**Implementation:** 14 September 17

An Environmental Assessment was undertaken to identify affected communities and determine the likely noise impact associated with the implementation of the proposed change. The assessment considered:

- Aircraft movement data for the 2016 period
- Aircraft types and numbers
- Noise modelling using INM
- Overflight relative to existing
- Noise levels relative to existing

#### Noise

Noise levels are expected to be below the Airservices thresholds for potential significance under section 160 of the *Environment Protection and Biodiversity Conservation Act 1999* (Cth).

When Runway 30 is in use:

Residents in the Campania area may notice changes and concentration to tracking of departing aircraft, with increased frequency of noise events between 60 and 70 dBA.

Residents in the Dunalley and Copping areas may notice a change in tracking for arriving aircraft.

An update to the environmental assessment also indicated:

Residents in the Connelly’s Marsh area may notice changes to tracking of departing aircraft with noise levels based on the largest jets of between 60 and 70 dBA and an average of 9 departing flights over this area per day.

**Aircraft Emissions**

There will be no increase in aircraft emissions. Fuel burn should be reduced through the use of FMS managed climb and descent.

**Natural Environment**

There is no anticipated impact on the natural environment.

**Culture and Heritage**

The Mouheneenner people are the traditional owners in the Hobart Region. There is no likely environmental impact on areas of indigenous heritage and cultural significance as a direct result of implementing the proposed new flight paths, due to the area being exposed to existing overflights and minimal lateral change in flightpaths.

**Risk Profile**

**6. Airport Risk Profile**

Hobart Airport is currently considered a ‘D Class Environmental (Noise) Risk’ Airport.

**7. Project risk and mitigators**

Risk analysis of proposed change (based on reputational risk)

Threat	Consequence	Control	Stakeholder and Influence
Not providing sufficient public information about the proposal	Community backlash about the change	Provide clear explanation about the reason for the change and minimal impacts	CACG members, affected MP’s and airport.

**8. Executive/CEO consultation required**

Nil.

**9. Decision points**

Decision	Lead / Responsible
SES final risk acceptance	s47F
Decision to implement change	s47F

## **Budget and Resourcing**

### **10. Budget**

Required collateral will be produced within Airservices and does not require additional expenditure.

### **11. Resourcing**

No additional requirements.

## Stakeholder Consultation

Airservices will seek to make it clear that the implementation of the Hobart SIDs and STARs are to provide improved safety assurance for departing and arriving aircraft at Hobart Airport and will not overfly new residents. There will be greater consistency in aircraft tracking.

When Runway 30 is in use:

Residents in the Campania area may notice changes and concentration to tracking of departing aircraft, with increased frequency of noise events between 60 and 70 dBA.

Residents in the Dunalley and Copping areas may notice a change in tracking for arriving aircraft.

### 12. Key Messages

- The proposed Hobart Airport standard arrivals and departures flight paths will provide pilots with improved predictability and fuel management using on board systems, and air traffic control with separation standards built into the airspace design for departing and arriving aircraft. This improves safety by reducing complexity and workload for air traffic controllers and pilots, and reduces fuel burn and emissions.
- The proposed flight paths will not overfly new residents. Aircraft will track with greater consistency and some residents may notice a change in where departing and arriving aircraft are tracking.
- Residents in the Campania area may notice changes to, and increased consistency of, departing aircraft tracking. There will be increased frequency of noise events between 60 and 70 dBA over the Campania area.
- Residents in the Connelly’s Marsh area may notice changes to tracking of departing aircraft with noise levels based on the largest jets of between 60 and 70 dBA and an average of 9 departing flights over this area per day.
- Residents in the Dunalley and Copping areas may notice a change to, and greater consistency of, arriving aircraft tracking.
- Larger aircraft such as B767 freighters may use these flight paths in the future which may increase noise levels.

### 13. Airport Consultation

Airport Representative	Position	Key Messages / Actions Required
		<ul style="list-style-type: none"> <li>• The proposed Hobart Airport standard arrivals and departures flight paths will provide pilots with improved predictability and fuel management using on board systems, and air traffic control with separation standards built into the airspace design for departing and arriving aircraft. This improves safety by reducing complexity and workload for air traffic controllers and pilots, and reduces fuel burn and emissions.</li> <li>• The proposed flight paths will not overfly new residents. Aircraft will</li> </ul>



		<p>track with greater consistency and some residents may notice a change in where departing and arriving aircraft are tracking.</p> <ul style="list-style-type: none"> <li>• Residents in the Campania area may notice changes to, and increased consistency of, departing aircraft tracking. There will be increased frequency of noise events between 60 and 70 dBA over the Campania area.</li> <li>• Residents in the Connelly’s Marsh area may notice changes to tracking of departing aircraft with noise levels based on the largest jets of between 60 and 70 dBA and an average of 9 departing flights over this area per day.</li> <li>• Residents in the Dunalley and Copping areas may notice a change to, and greater consistency of, arriving aircraft tracking.</li> <li>• Larger aircraft such as B767 freighters may use these flight paths in the future which may increase noise levels.</li> </ul>
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**14. Federal MPs, State MPs, State Government and Local Government consultation**

Stakeholder	Interest/Concern/Potential Impact	Key Messages / Actions Required
<p>Federal MP’s: Julie Collins MP Franklin</p>	<ul style="list-style-type: none"> <li>• Potential impact on constituents</li> </ul>	<ul style="list-style-type: none"> <li>• The proposed Hobart Airport standard arrivals and departures flight paths will provide pilots with improved predictability and fuel management using on board systems, and air traffic control with separation standards built into the airspace design for departing and arriving aircraft. This improves safety by reducing complexity and workload for air traffic controllers and pilots, and reduces fuel burn and emissions.</li> </ul>

		<ul style="list-style-type: none"> <li>• The proposed flight paths will not overfly new residents. Aircraft will track with greater consistency and some residents may notice a change in where departing and arriving aircraft are tracking.</li> <li>• Residents in the Campania area may notice changes to, and increased consistency of, departing aircraft tracking. There will be increased frequency of noise events between 60 and 70 dBA over the Campania area.</li> <li>• Residents in the Connelly's Marsh area may notice changes to tracking of departing aircraft with noise levels based on the largest jets of between 60 and 70 dBA and an average of 9 departing flights over this area per day.</li> <li>• Residents in the Dunalley and Copping areas may notice a change to, and greater consistency of, arriving aircraft tracking.</li> <li>• Larger aircraft such as B767 freighters may use these flight paths in the future which may increase noise levels.</li> </ul>

### 15. Other Industry Consultation

Stakeholder	Interest/Concern/ Potential Impact	Key Messages / Actions Required
Aircraft Noise Ombudsman	<ul style="list-style-type: none"> <li>• Interest in Airservices commitment to engage on noise.</li> <li>• Concerns may be raised directly with ANO</li> </ul>	<ul style="list-style-type: none"> <li>• The proposed Hobart Airport standard arrivals and departures flight paths will provide pilots with improved predictability and fuel management using on board systems, and air traffic control with separation standards built into the airspace design for departing and</li> </ul>

		<p>arriving aircraft. This improves safety by reducing complexity and workload for air traffic controllers and pilots, and reduces fuel burn and emissions.</p> <ul style="list-style-type: none"> <li>• The proposed flight paths will not overfly new residents. Aircraft will track with greater consistency and some residents may notice a change in where departing and arriving aircraft are tracking.</li> <li>• Residents in the Campania area may notice changes to, and increased consistency of, departing aircraft tracking. There will be increased frequency of noise events between 60 and 70 dBA over the Campania area.</li> <li>• Residents in the Connelly’s Marsh area may notice changes to tracking of departing aircraft with noise levels based on the largest jets of between 60 and 70 dBA and an average of 9 departing flights over this area per day.</li> <li>• Residents in the Dunalley and Copping areas may notice a change to, and greater consistency of, arriving aircraft tracking.</li> <li>• Larger aircraft such as B767 freighters may use these flight paths in the future which may increase noise levels.</li> </ul>
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## 16. Community and Public Consultation

Community Group/ stakeholder	Area Representing	Interest/ Concern/ Potential Impact	Key Messages
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CACG	Hobart community	Interest in impacts on residents	<ul style="list-style-type: none"> <li>• The proposed Hobart Airport standard arrivals and departures flight paths will provide pilots with improved predictability and fuel management using on board systems, and air traffic control with separation standards built into the airspace design for departing and arriving aircraft. This improves safety by reducing complexity and workload for air traffic controllers and pilots, and reduces fuel burn and emissions.</li> <li>• The proposed flight paths will not overfly new residents. Aircraft will track with greater consistency and some residents may notice a change in where departing and arriving aircraft are tracking.</li> <li>• Residents in the Campania area may notice changes to, and increased consistency of, departing aircraft tracking. There will be increased frequency of noise events between 60 and 70 dBA over the Campania area.</li> <li>• Residents in the Connelly's Marsh area may notice changes to tracking of departing aircraft with noise levels based on the largest jets of between 60 and 70 dBA and an average of 9 departing flights over this area per day.</li> <li>• </li> <li>• Residents in the Dunalley and Copping areas may notice a change to, and greater consistency of, arriving aircraft tracking.</li> <li>• Larger aircraft such as B767 freighters may use these flight paths in the future which may increase noise levels.</li> </ul>
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## External Stakeholder Engagement Strategy Consultation and Activity Timeline based on 14 September implementation

Collateral Required	Responsibility	Deadline	Completed
Map + Web Text drafted	Strategic Stakeholder	20 August 2017	20 August 2017
Information provided to Hobart Airport	Strategic Stakeholder	7 June 2017	7 June 2017
Information provided to CACG	Southern Operations	7 June 2017	7 June 2017
Update provided to CACG prior to implementation	Southern Operations	5 September 2017	5 September 2017
Information provided to MP's	Strategic Stakeholder	30 August 2017	26 September 2017
Information provided to ANO	Strategic Stakeholder	30 August 2017	
Information provided to NCIS	Strategic Stakeholder	7 June 2017	7 June 2017
Information published on Airservices website	Strategic Stakeholder	30 August 2017	1 September 2017

**Post Implementation Review:** Under consideration.

## **Addendum**

*Record of progress as strategy is implemented*



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