



F/A -18F Super Hornet Noise Management Plan V3.0

AMENDMENT CERTIFICATE

It is certified that the amendments promulgated in the list below have been incorporated in this version of the Noise Management Plan.

Version	Date	Comments
1.0	09 Mar 2010	
2.0	22 Mar 2010	Incorporating changes requested by DEWHA.
2.1	16 Apr 2012	Annual review
3.0	Dec 2015	Re-issue. - Incorporates required changes evident after five years of Air Force operational experience and data analysis. - Considers recommendations from the Compliance Report by the Aircraft Noise Ombudsman conducted in August 2015.

Proposals for amendment to this document are to be forwarded to the Executive Officer of 82 Wing, RAAF Base Amberley, Queensland.

ENDORSEMENTS/APPROVAL

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INTRODUCTION

PURPOSE

1. The purpose of F/A-18F Super Hornet Noise Management Plan (NMP) is to describe, in non-technical terms understandable by the general public, how Air Force will manage Super Hornet flying operations at RAAF Base Amberley to meet both the Conditions of Approval requirements of Government, and the expectations of the community at large.

BACKGROUND

2. The Australian Government announced in March 2007 the acquisition of 24 F/A-18F Super Hornets to replace the capability delivered by the F-111 weapons system based at RAAF Base Amberley, Queensland. As part of the introduction of the Super Hornet, Air Force conducted a staged environmental assessment process. The key element of this process was the 2009 Australian Super Hornet Public Environment Report (2009 PER), completed in accordance with the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999*. The 2009 PER addressed potential environmental impacts as a result of Super Hornet flying operations at RAAF Base Amberley. The 2009 PER was completed in December 2009. In March 2010, after considering the 2009 PER, the Minister for Environment Protection, Heritage and the Arts (The Environment Minister) approved Super Hornet flying operations at Amberley subject to ten conditions. The drafting of the first Super Hornet Noise Management Plan (NMP) for approval by Government was Condition 1.

3. In Apr 2014, the Department of Environment issued a Variation to the Approval which required amendment of the extant NMP Version 2.1, for presentation to Government for approval by 31 December 2015.¹ Condition Five of the Variation to the Approval directed Air Force to facilitate an independent audit of compliance with the Government's Conditions of Approval. The Australian Aircraft Noise Ombudsman (ANO) conducted this audit in August 2015 and issued a report in September 2015.² The ANO found that Defence was compliant with six of the seven aircraft noise related Conditions of Approval, with an inconclusive finding against the seventh. The ANO found that '...Defence was meeting the intent of the Conditions of Approval and is managing aircraft noise issues effectively.'

4. The ANO report listed a series of recommendations to improve Air Force management of aircraft noise from the Super Hornet. These recommendations have been used in the development of NMP Version 3.0. The ANO Audit report can be viewed online through the ADF Aircraft Noise website:

<http://www.defence.gov.au/AirCraftNoise/Environment/PublicEnvironmentReport.asp>

¹ Variation to Conditions Attached to Approval, Australian Super Hornet Flying Operations, RAAF Base Amberley QLD (EPBC 2008/4410), filed as DRMS: AB17775451

² Review of Australian Super Hornet Flying Operations at RAAF Base Amberley August 2015, Aircraft Noise Ombudsman, 12 Aug 2015, filed as DRMS: AB23867379

NOISE MANAGEMENT PLAN SCOPE

5. The scope of this Plan is defined by the requirements of Condition 1 of Government's 2014 Variation of Approval of Super Hornet flying operations at RAAF Base Amberley. A table of NMP Version 3 compliance versus the Variation of Approval is provided at Annex A.
6. The NMP Version 3 addresses the following areas:
 - a. rationale for changes to the extant NMP;
 - b. a description of standard Super Hornet flying operations from RAAF Base Amberley, including the number and timing of aircraft movements and design of flight paths and flight procedures to reduce aircraft noise effects;
 - c. a description of how deviations from standard Super Hornet flying operations are managed;
 - d. the continuing Air Force plan to address impacts from aircraft noise to non-work related activities on the Base;
 - e. a communication strategy; and
 - f. the review and update process.



RATIONALE FOR CHANGES TO THE EXTANT NMP

7. NMP Version 3.0 seeks to combine documented aircraft noise outcomes generated by the Super Hornet from Amberley to date, with predictions of future Air Force fast-jet activity in order to produce an environmentally compliant and auditable aircraft noise management plan. NMP Version 3.0 will also incorporate recommendations from the 2015 ANO Audit and internally from Air Force operators to ensure the plan remains compliant, while concurrently remaining implementable by Air Force.
8. For the period of NMP Version 3.0, Air Force will continue to conduct Super Hornet flying operations at RAAF Base Amberley to achieve the preparedness directives of Government. These operations will continue to include both day and night flying training activities. It is anticipated that the E/A-18G Growler will be included in a future version of the NMP that will be presented for Government approval prior to the first Australian based Growler operations.
9. The Super Hornet NMP is compiled to meet the Department of Environment - Conditions of Approval for the operation of the Super Hornet at Amberley. Notwithstanding this specific requirement, Air Force acknowledges there is little difference in the effect of aircraft noise on the community from a Super Hornet as compared to any other fast-jet type. Thus, Air Force does not manage Super Hornet generated aircraft noise in isolation from all other noise actors operating at Amberley.
10. In order to maintain aircraft noise levels within those predicted in the 2009 PER, Air Force applies a holistic approach to all fast-jet operations at Amberley. Therefore, in addition to the specific temporal and flight-path restrictions placed on Super Hornets in this and

previous versions of the NMP, Air Force will continue to manage the total number of fast-jet movements at Amberley and align other fast-jet operations with the flight-path and temporal restrictions described in NMP Version 3.0 where practical to do so.

11. NMP Version 3.0 retains the intent of existing temporal restrictions for Super Hornet operations at Amberley, including restrictions on maintenance engine running and all current periods of community respite. However, there is some alignment of this NMP with the specific operational requirements for engine maintenance that Air Force requires. NMP Version 3.0 does not direct changes to the way in which Air Force operates the F/A-18F or to any existing flight-paths.

12. The 2014 Annual Super Hornet Noise Report (2014 ANR) described the favourable noise outcomes achieved in comparison to the predictions made in the 2009 PER.³ These were due to flight-path restrictions introduced in previous versions of the NMP and better than predicted aircraft performance on take-off. Notwithstanding these results, Air Force will continue to review and refine the effectiveness of existing measures as part of the NMP review cycle outlined in paragraph 67.

13. This NMP will deviate from previous versions in relation to annual Super Hornet movements. The 2014 ANR showed the total number of Super Hornet movements in 2014 exceeded predictions made in the 2009 PER without a commensurate increase in measured noise around the Base. Changes to the conduct of Super Hornet aircrew training to meet Government preparedness over time and a decreased percentage of deployed time away from Amberley have combined to drive this increase in annual Super Hornet movements.

14. Although the increases recorded in 2013/2014 are predicted to taper off in 2015 and 2016, Super Hornet movements are expected to remain above the 2009 PER estimate of 4648 movements per annum for the foreseeable future. This unavoidable, but modest increase in annual Super Hornet movements is offset through the planned reduction in concentrated circuit operations by 30%, historic and planned reduction of night flying movement rates by 20% and planned total annual fast-jet movements below the maximum predicted by the 2009 PER. Annual Super Hornet noise reporting and analysis indicates that these significant noise offsets will result in a better environmental outcome than predicted in the 2009 PER throughout the duration of this plan.

15. Despite the increase in specific Super Hornet movements, the total annual fast-jet movements from Amberley have remained below the 2009 PER predicted maximum of 6948. Although upward pressure exists on this total fast-jet movement number at Amberley, Air Force will continue to manage total fast-jet operations at Amberley to remain below this predicted maximum out to 2019/2020. Air Force reiterates that the local community benefits more through a comprehensive, holistic approach to managing fast-jet noise than through an approach that manages Super Hornet noise in isolation. For this reason NMP Version 3 will focus on the management of all fast-jet movements at Amberley, while continuing to meet the 2009 PER intent. NMP Version 3 therefore becomes the foundation for evolving future aircraft noise management frameworks at Amberley into a single-source, more all-

³ Australian Super Hornet Annual Super Hornet Noise Report 2014, filed as DRMS: AB19215763

encompassing aircraft NMP of the future. Air Force expects to conduct further analysis between now and the end of the decade and will work closely with the Department of Environment and the Community to further develop effective management strategies for all aircraft noise at Amberley beyond 2020.

16. One of the main drivers for the increase in Super Hornet movements over predictions made in 2009 is a reduction in the number of Super Hornet deployments away from Amberley. The 2009 PER predicted up to 40% of Super Hornet operations would be conducted at deployed locations. The 2014 ANR showed the Super Hornet had deployed approximately 30% of the time since introduction to service.⁴ Explanation for the variation in deployment ratio is complex and beyond the scope of this NMP. Future plans will use a figure of 30% for deployed operations in planning annual Super Hornet movements at Amberley.

17. The 2009 PER predicted up to 2300 visiting fast-jet movements annually at Amberley. This figure was a combination of additional visiting Royal Australian Air Force fast-jet movements, as well as fast-jets operated by invited foreign Air Forces. Since the Super Hornet entered Australian service, visiting fast-jet movements have largely remained well below 400 per annum. NMP Version 3 and future NMP versions will use a figure of 200 visiting fast-jet movement for planning.

18. The 2014 ANR described the difficulty the Noise and Flight Path Monitoring System (NFPMS) has in differentiating Australian Super Hornet movements from other fast-jet movements at Amberley. The NFPMS was designed to measure the aircraft noise and flight-paths of civilian airliners operating at large civilian airfields. Although the accuracy levels of the system employed at Amberley have evolved to become acceptable, the level of ongoing data analysis required to separate Super Hornet from other fast-jet types is significant. The NFPMS can easily count all fast-jet movements without the analysis requirement outlined above. This aligns with the Air Force intent to holistically manage all fast-jet aircraft noise at Amberley.

19. The current Super Hornet fleet of 24 F/A-18F Super Hornet aircraft will be joined by 12 EA-18G Growler aircraft progressively from February 2017. From an engines, airframe and aircraft noise perspective, the EA-18G can be considered as identical to the already in-service Super Hornet. For this reason, aircraft noise management of Growler operations is expected to be included in a future version of the Super Hornet NMP. This future version of the NMP, including Growler operations, will be provided to Government for consideration in late 2016, with the aim of Ministerial approval in advance of planned Australian Growler operations in early 2017. Current planning indicates the introduction of Growler at Amberley is not expected to increase total fast-jet movements above the 2009 PER predicted totals before 2020.

20. In summary, the changes to NMP Version 3.0 are predicated on:

- a. The continued effectiveness of existing aircraft noise minimisation measures in use;

⁴ *Australian Super Hornet Annual Super Hornet Noise Report 2014*, filed as DRMS: AB19215763

- b. Five years of Air Force practical Super Hornet experience has shown Super Hornet noise predictions made in 2009 were pessimistic;
- c. Air Force will continue to apply a comprehensive management strategy to manage the noise made by all aircraft operated at Amberley;
- d. Fewer visiting fast-jets will operate from Amberley out to 2020 than were predicted in the 2009 PER;
- e. The Super Hornet deploys approximately 25% less often than predicted in the 2009 PER;
- f. Annual Super Hornet movements at Amberley are expected to remain above the numbers estimated in 2009 by a modest amount for the foreseeable future;
- g. Night flying and circuit training rates are expected to continue to be well below the rates predicted in 2009;
- h. Air Force will manage total fast-jet movements from Amberley to be below 6948 annually out to 2019/2020; and
- i. Air Force acknowledges that further analysis and evolution of a more holistic strategy for the management of all aircraft noise at Amberley will be required by the end of this decade.

COMPLIANCE WITH THIS PLAN

21. Compliance with NMP Version 3.0 is required in accordance with the varied Conditions of Approval for the Super Hornet. Once approved by Government, NMP Version 3.0 will remain as the extant aircraft noise framework for Super Hornet until further amendment is approved by the Minister.

RELATIONSHIP TO OTHER PLANS

22. The NMP is one of four aircraft noise related plans required by Government as a condition of approval for Super Hornet flying operations at RAAF Base Amberley. The other three plans, and their relationship to this Plan, are:

- a. ***Noise Monitoring and Complaints Handling Strategy***⁵. This plan:
 - (1) details how Air Force will monitor Super Hornet flights and aircraft noise,
 - (2) compares actual measured noise levels against those predicted in the PER,
 - (3) compares actual flight paths and procedures against those described in this Plan, and
 - (4) details a process for the handling of noise complaints.

⁵ Document marked as DRMS ID: AB5765491, however signed and converted to PDF as DRMS ID: AB7810530

- b. ***Super Hornet Noise Mitigation and Complaint Resolution Strategy***⁶. This strategy outlines how Air Force established an independent body to resolve complaints about aircraft noise and assess compliance with this NMP.
- c. ***Air Quality Monitoring Plan***⁷. This plan describes how Air Force will monitor the air quality in the RAAF Base Amberley environs.

23. The Variation of Approval (Conditions 1, 2, 3 and 4), requires that Air Force implement and maintain the Noise Monitoring and Complaints Handling Strategy, the Noise Mitigation and Complaint Resolution Strategy, and the Air Quality Monitoring Plan. These documents are sponsored, maintained and executed by the Senior ADF Officer (SADFO) – Amberley. It is expected the annual review of the above plans will incorporate necessary noise management changes introduced in NMP Version 3.

PUBLISHING REQUIREMENTS OF THIS AND RELATED PLANS

24. To meet the requirement of Condition 6 of the Variation of Approval, the Senior ADF Officer (SADFO) – Amberley, will publish and maintain on the internet, all related plans and strategies within three months of their individual Approval. These documents can be viewed at:

<http://www.defence.gov.au/AirCraftNoise/Environment/PublicEnvironmentReport.asp>

⁶ Document DRMS ID: AB7867951

⁷ Document DRMS ID: AB8384848

DESCRIPTION OF STANDARD SUPER HORNET FLYING OPERATIONS

GENERAL OPERATIONS

25. For the period of NMP Version 3.0, Air Force will continue to conduct Super Hornet flying operations at RAAF Base Amberley to achieve the Security and Defence preparedness directives of the Australian Government.

26. Approximately % of Super Hornet flights will be conducted at RAAF Base Amberley, its Main Operating Base. Operations will also occur at other RAAF Bases around Australia for transits or exercises. Although this Plan relates only to Super Hornet flying operations at RAAF Base Amberley, it is Air Force intent to apply the restrictions in this NMP to all fast-jet operations at Amberley where practical and safe to do so.

27. Super Hornet operations will be conducted on Runway 15/33. Runway 04/22 will only be used by Super Hornet in exceptional circumstances, such as in an emergency, or when Runway 15/33 is obstructed. The runway layout at RAAF Base Amberley is shown at Annex C.

PLANNED RESPITE PERIODS

28. In general, Super Hornet operations will occur on weekdays and night flying, when scheduled, will typically occur on Monday to Thursday nights. Weekend flying day or night, will occur in circumstances detailed in the 'Variations' section, detailed from paragraph 52 to 56.

29. Air Force generally operates Super Hornets at RAAF Base Amberley for approximately 46 weeks of the year, with scheduled breaks from flying through the year.



TRAINING AIRSPACE

30. The training airspace utilised by Super Hornets operating from RAAF Base Amberley was jointly constructed by Defence and the Civil Aviation Safety Authority (CASA). The majority of the airspace used by the Super Hornet for aircrew training is over the sparsely populated land to the west of Amberley and over-water east of Moreton Bay and the Gold Coast. These training areas were specifically designed to mitigate aircraft noise impacts on the large population centres in South-East Queensland.

31. Amberley based Super Hornets utilise reserved military training areas for air combat training in order to meet Government directed preparedness. The airspace closer to the airfield is used for practice and actual instrument and visual arrivals, and for circuit training. Additionally, Air Force makes extensive use of simulation capabilities at Amberley to ensure Super Hornet flying training is minimised as much as is practical.

FLIGHT PATHS

32. Super Hornet aircraft generally follow standard flight paths and altitudes when operating within the vicinity of Amberley. Instrument approach and departures are required to be performed in accordance with published aeronautical navigation procedures that are

subject to change. When a change occurs, the Super Hornet will operate in accordance with the new published procedure, and this NMP will be updated at the next review with the new flight profile. As detailed in the Variations section, there are also a small number of specific circumstances where these standard profiles may not be followed.

33.  The Amberley military training areas are constructed specifically to facilitate unencumbered civilian operations (by airlines such as Qantas, Virgin, etc) to and from Brisbane airport, and to minimise noise to the major population centres of South East Queensland. However, utilising these distant training areas comes at the cost of increased flight duration and hence fuel loads required by Super Hornets at take off from RAAF Base Amberley. These heavy aircraft configurations at take-off from Amberley require the use of afterburner for most Super Hornet departures. The transit routes for Super Hornet to the eastern training areas have been constructed to minimise the noise impact on the civilian population of Brisbane. The transit route to the training area to the west of Amberley is based on the 'fly neighbourly' concept and most departures are conducted above 15,000 ft above mean sea-level.

Planned Runway Use

34. Super Hornet operations will be conducted on Runway 15/33. Runway 04/22 will only be used by Super Hornet in exceptional circumstances, such as in an emergency, or when Runway 15/33 is obstructed. The runway layout at RAAF Base Amberley is shown at Annex C.

Altitude limitations

35. Super Hornet aircraft will not normally fly below 1,500 ft (450 m) within 10 nm (18.5 km) of RAAF Base Amberley, except when landing, taking off or in the circuit.

Departures

36. Standard Super Hornet departure flight paths (that is, aircraft flying away from the Base), are illustrated in Annex D.

37. **Runway 15 Operations.**  For departures to the east of runway centre-line, Super Hornets will not make a left-hand turn, to the east, after take-off from Runway 15 before climbing towards Brisbane. Super Hornets will instead turn right and climb to altitude to the west of Amberley before transiting east at high altitude.

38. **Runway 33 Operations.** For departures to the east of runway centre-line, Super Hornets may climb straight ahead until reaching an approved transit altitude to the east. When unable to achieve this altitude in accordance with published procedures, Super Hornets will turn left and climb to the west of Amberley before transiting east at high altitude. For Runway 33 visual departures, Super Hornets will delay all turns to the west until 4nm (7.4 kms) after take-off to avoid overflying Walloon and Thagoo  Instrument departures for Runway 33 will be in accordance with the published instrument departure procedure that requires aircraft to reach 1,100 ft before commencing a left-hand turn to their Air Traffic Control assigned heading.

39. The use of afterburner by the Super Hornet is permitted to ensure aircraft safety but with due consideration to the additional noise generated and in-line with Air Force *Fly Neighbourly Policy*.

Arrivals

40. Planned Super Hornet arrival flight paths (that is, aircraft returning to land at the Base) for visual procedures (in good weather) are illustrated at Annex E. The majority of arrivals will be via an Initial and Pitch procedure, which is illustrated at Annex F. Initial and Pitch procedures are conducted at Amberley as the preferred arrival method as they provide the most efficient and safe mechanism for recovery. Approximately 5% of arrivals in good weather will be via straight-in approaches.

41. During poor weather, or for training, Super Hornets will recover via published instrument arrival flight paths, which connect with published instrument approach procedures to the active runway. These published procedures are used in poor weather when the runway cannot be seen from the air until close to landing and are illustrated at Annex G.

Circuits

42. All Super Hornet landing circuits are planned to be flown to the west of Runway 15/33. Circuits will only be flown over Ipswich in exceptional circumstances. Circuits will be flown at 1,500 ft (450 m) unless required for training or under stress of weather. Circuit flight paths are illustrated at Annex H.

NIGHT FLYING

43. The Super Hornet is effective in all weather, day or night. Aircrew practice at night is an essential requirement for maintaining Australia's air combat edge. Australian Super Hornet operations will continue to include both day and night flying training activities. As indicated in Table 1 - the number of night flying movements as a fraction of total movements has historically been less than 15% since the Australian Super Hornet introduction to service. The 2009 PER predicted up to 20%, however Air Force currently has no plan to deviate from the historic status quo out to 2019/2020.

44. Super Hornet flying operations at RAAF Base Amberley will be planned to comply with the following limits:

- a. no continuous practice circuits will be flown between 10:00 pm and 7:00 am, and
- b. no flights will depart from or arrive at the Base between 11:00 pm and 7:00 am unless in exceptional circumstances.

MOVEMENTS

45. A 'movement' is a single take-off or landing by a single aircraft at an airfield. Generally, each aircraft flight involves two movements, although this number may increase for missions which include practice take-off and landing circuits around the airfield.

46. An average Super Hornet flying day will involve around 20 movements, though the actual number of movements per day may vary considerably. On some days, there will be no Super Hornet flights; on others, the number of movements may increase to 50 or more.

47. The number of circuits per annum predicted over the next five years will be approximately 60% of the 600 (1200 movements) total used in the 2009 Australian Super Hornet PER. This is indicated below in Table 1.

Super Hornet Annual Movement Estimate 2016-2019	2009 PER	NMP V3.0	
Basic Super Hornet movements (Departures and Arrivals) ⁸	3,448	4,561	32% over PER
<i>plus</i> practice circuit movements (2 movements per Circuit) ⁹	1,200	700	42% below PER
Total Super Hornet movements	4,648	5,261	13% over PER
Indicative day/night movements per year 2016			
7.00 am – 7.00 pm	3,718	4,541	22% over PER
7.00 pm – 10.00 pm ¹⁰	837	700	23% below PER
10.00 pm – 11.00 pm ¹¹	93	20	79% below PER
11.00 pm – 7.00 am	0	0	-
Planned Super Hornet movements Day/Night 2016	-	5,261	-
<i>plus</i> Planned visiting fast-jets	2,300¹²	200	-
Total Planned Fast-Jet Movements 2016	6,948	5,461	20% below PER
Historic and Planned Total Fast-Jet Movements 2014-2019			
2014 Measured Total Fast-Jet Movements ¹³	-	6,620	5% below PER
2015 Estimated Total Fast-Jet Movements ¹⁴	-	5,384	21% below PER
2016 Planned Total Fast-jet Movements	-	5,461	20% below PER
2017 Planned Total fast-jet movements (including Growler intro) ¹⁵	-	6,103	12% below PER
2018 As above	-	6,695	4% below PER
2019 As above	-	6,948	As per PER

Table 1: Annual movement prediction from RAAF Base Amberley 2016-2019

⁸ Basic movements refer to the addition of departures and arrivals.

⁹ Each practice circuit is two movements – one departure and one arrival.

¹⁰ Night flying movements have been historically less than 15% of total movements.

¹¹ Historically very late (after 10pm) movements have been less than 10 since 2010.

¹² This figure was a combination of foreign and other Royal Australian Air Force fast-jet visits

¹³ As indicated in the 2014 Annual Super Hornet Noise Report

¹⁴ Based on preliminary data at end of flying 2015. Source: 82 WG.

¹⁵ Total planned fast-jet movements in 2017,18 and 19 will include Growler and 200 visiting fast-jets.

ENGINE TESTING AND RUNNING

Routine Flight-line engine running

48. Routinely, Super Hornet engines will be required to be started in order to support trouble-shooting and maintenance checks. Using Number 82 Wing data and experience, Super Hornet engine running involves power set to an average of idle power for periods up to 30 minutes with very few short duration power increases (less than 3 minutes) to 80% power settings. Almost all aircraft trouble-shooting is conducted at idle power on a routine basis, with flight-line engine running above 80% power restricted between 10:00 pm and 6:00 am.

High power engine running

49. Sometimes, trouble-shooting of engine problems will require high power engine runs, up to full afterburner. These runs are conducted on RAAF Base Amberley at Engine Test Cell Three (ETC 3) (identified at Annex C). Fortunately, the engines of the F/A-18F Super Hornet have proven to be highly reliable. Number 82 Wing in-service experience is that high power engine runs are required infrequently, and an engine run at ETC 3 required less than once per month.

50. High power engine running at ETC 3 involves the running of engines at an average of 95% power for up to 30 minutes and are limited to:

- a. A maximum of ten events per year unless approved by SADFO Amberley as a foreseeable variation; and
- b. High power engine running will not take place between 10:00 pm and 6:00 am.

VARIATION FROM PLANNED SUPER HORNET FLYING OPERATIONS

GENERAL

51. Variations from the description of Super Hornet flying operations presented above fall into two categories:

- a. foreseeable variations; and
- b. unforeseeable variations.

FORESEEABLE VARIATIONS

52. From time to time variations from the planned Super Hornet flying operations described previously will be necessary for a variety of legitimate reasons. These foreseeable variations are:

- a. planned use of Runway 04/22;
- b. weekend flying;
- c. planned flight below 1,500 ft (450 m) within 10 nm (18.5 km) of the Base, except when landing or taking off;
- d. changes in flight paths, including circuit directions;
- e. planned practice circuits between 10:00 pm and 7:00 am;
- f. departures from or arrivals at Amberley between 11:00 pm and 7:00 am;
- g. greater than 6,948 planned annual fast jet movements;
- h. flight line engine running to 80% power between 11:00 pm and 6:00 am;
- i. high power engine running at ETC 3 between 10 pm and 6 am; and
- j. greater than ten high power engine runs per year at ECT 3.

53. Foreseeable variations to the planned Super Hornet flying operations described previously will require approval of the Senior Australian Defence Force Officer (SADFO)–Amberley or a promulgated delegate. In deciding whether to approve a foreseeable variation, the SADFO–Amberley will consider the potential environmental effects against the operational need.

54. In the event that variations are to become longstanding practices, in accordance with the Variation of Approval (Condition 8), Air Force is to seek approval for the changes to this NMP from Government.

UNFORESEEABLE VARIATIONS

55. Some divergences from the planned Super Hornet flying operation described previously cannot be predicted. Such variations are:

- a. one-off variations from planned flight paths, including altitudes, which have unavoidably occurred as a result of aircraft emergency or hazardous weather (such as a thunderstorm) or air traffic control direction;
- b. unavoidable use of Runway 04/22 for take-off or landing due to emergency or a blocking of Runway 15/33;
- c. unavoidable flights after 11:00 pm, where operations were planned to cease prior to that time, but unforeseen circumstances have delayed the flight; and
- d. Other deviations required to ensure the safety of people or that are deemed operationally essential by the Senior Australian Defence Force Officer (SADFO)–Amberley or delegate.

ON-BASE NOISE IMPACTS

56. Defence has completed a review of the effects of Super Hornet aircraft noise to activities on RAAF Base Amberley which are not covered by Workplace Health and Safety policies. A report of this review was published in 2011.

57. Defence has fully reviewed this report and implemented the recommended measures where it was reasonably practical to do so.¹⁶

58. Defence will conduct ongoing annual assessments of aircraft noise measures as part of normal Air Force Base management practice.

59. In the event measures are found to be ineffective, additional measures will be implemented and then reviewed. This process will continue until such time that the measures are found to be effective.

¹⁶ Document DRMS ID: L7534124 – 23SQN Review of 2011 Occupational Noise Survey Report - 4 Dec 2015

COMMUNICATION STRATEGY

PUBLISHING OF NOISE MANAGEMENT PLAN

60. The Super Hornet Noise Management Plan is available on the following website:

<http://www.defence.gov.au/AirCraftNoise/Environment/PublicEnvironmentReport.asp>

VARIATIONS FROM PLANNED SUPER HORNET OPERATIONS

61. Wherever possible, Air Force will advise the public when there will be significant events, which result in peak periods of aircraft noise, or when there are significant changes to the Super Hornet flying operations outlined above. Significant changes are those that are either permanent, or are temporary but result in noticeable, prolonged changes to noise profiles.

62. When significant events occur or significant changes are made, Air Force will inform the public, as time permits, through the following:

- a. the Amberley Consultative Working Group;
- b. media releases to all local media outlets, including local newspapers; and
- c. updates to the RAAF Base Amberley web page.

63. Wherever possible, advance notification will be provided of significant events. On occasion, security requirements may preclude advance notification. In this case, Air Force will endeavour to provide a subsequent explanation of the reason for the event.

64. Air Force will advise the public of known planned variations (except where security requirements preclude this) on the RAAF Base Amberley webpage.

65. Air Force will attempt to report all variations to planned Super Hornet flying operations (foreseeable and unforeseeable) on the RAAF Base Amberley webpage as soon as practical, but within one month of them occurring.

MAINTENANCE OF THIS PLAN

INTERNAL REVIEWS

66. The Super Hornet NMP will be reviewed annually. The review will consider:
- a. any foreseeable variations approved by the SADFO-Amberley, as outlined in paragraph 51-53;
 - b. any changes to Super Hornet flying operations limitations or planning assumptions, which occur as a result of the complaints process detailed in the Noise Monitoring and Complaints Handling Strategy; and
 - c. the results of audits of compliance with the 2009 PER conditions of approval.
67. Where a review of this Plan identifies a need to modify this Plan, a revised Plan will be submitted to Government for approval. Until such time the new Plan is approved flying operations should adhere to the most recently approved Plan.

EXTERNAL REVIEWS

68. In order to comply with the 2009 PER conditions of approval, Air Force will submit to Government revised versions of the Super Hornet NMP. The revised Plans will address issues arising from noise monitoring that is conducted, and the compliance audits directed by Government as part of the conditions of approval for Super Hornet flying operations.
69. In 2015, the Aircraft Noise Ombudsman (ANO) was invited to conduct an audit of Defence's compliance with the Conditions of Approval for Super Hornet Operations, RAAF Base Amberley. The recommendations are listed at Annex B and have been considered in the drafting of this NMP.
70. In accordance with Condition 5 of the Variation of Approval, a second independent audit of compliance of the conditions of the approval, including implementation of the requirements of the three approved subordinate plans is required at the end of the period from 1 Jan 2015 to 31 Dec 18.

DOCUMENT AND COMMUNICATIONS RECORD KEEPING

71. Condition 9 of the Variation of Approval requires Air Force to maintain a formal documentation trail to enable *the substantiation of activities associated with or relevant to the conditions of approval, including measures taken to implement the management plans required by the approval*. To satisfy the requirement of Condition 9, and Recommendation 1 of the 2015 ANO Review, Air Force will maintain the required documents and copies of relevant communications on the DRMS document management system.

ANNEX A—CROSS-REFERENCE TO PER CONDITIONS OF APPROVAL

Condition	Where addressed
1. The person taking the action must implement the approved Australian Super Hornet Noise Management Plan. The approved Australian Super Hornet Noise Management Plan must be revised to address any issues identified in the: a. Noise Monitoring Program, as outlined in the approved Noise Monitoring and Complaints Handling Strategy (condition 2); and b. Period 1 Independent Audit of Compliance with the Conditions of Approval (condition 5). The revised Australian Super Hornet Noise Management Plan must be submitted to the Minister for approval by 31 December 2015. The approved revised Australian Super Hornet Noise Management Plan must be implemented in place of the Australian Super Hornet Noise Management Plan previously approved.	Complete.
2. The person taking the action must implement the approved Noise Monitoring and Complaints Handling Strategy.	Extant. Air Force plan to update this plan in 2016.
3. The person taking the action must implement the approved Australian Super Hornet Noise Mitigation and Complaint Resolution Strategy.	Extant. Air Force plan to update this plan in 2016.
4. The person taking the action must implement the approved Air Quality Monitoring Plan.	Extant. The independent audit of compliance with Condition 4 is complete. The final report is yet to be provided to Air Force. The final report will be forwarded to Government in due course early in 2016.
5. The person taking the action must ensure that an Independent Audit of Compliance with the Conditions of Approval, including implementations of the requirements of approved plans, is conducted for each of the following periods: a. Period 1: from the date of the approval to 31 December 2014; b. Period 2: from 1 January 2015 to 31 December 2018. Each auditor's report must be submitted to the Minister within 6 months of the end of the period to which the report applies. Each auditor's report must be published on the web site of the person taking the action within 3 months of the report being submitted to the Minister.	a. Actioned as: <i>Review of Australian Super Hornet Flying Operations at RAAF Base Amberley August 2015</i>, Aircraft Noise Ombudsman (ANO), 12 Aug 2015, filed as DRMS: AB23867379 Report publically released. b. The follow up ANO review to be sought to cover Period 2 in late 2018.
6. The person taking the action must publish on their web site all plans and strategies within 3 months of each plan or strategy being approved.	Directed – NMP para 59.
7. If the Minister believes that it is necessary or convenient for the better protection of listed threatened species and communities (s18& s18A) to do so, the Minister may request that the person taking the action make specified revisions to the management plans specified in the conditions	N/A at this stage.

and submit the revised management plans for the Minister's written approval. The person taking the action must comply with any such request. The revised approved management plans must be implemented. Unless the Minister has approved the revised management plans, then the person taking the action must continue to implement the management plans originally approved, as specified in the conditions.	
8. If the person taking the action wishes to carry out any activity otherwise than in accordance with the management plans as specified in the conditions, the person taking the action must submit for the Minister's written approval a revised version of the management plan. The varied activity shall not commence until the Minister has approved the varied management plan/s in writing. The Minister will not approve a varied management plan unless the revised management plan would result in an equivalent or improved environmental outcome over time. If the Minister approves the revised management plan, that management plan must be implemented in place of the management plan originally approved.	Directed - NMP para 21.
9. The person taking the action must maintain accurate records substantiating all activities associated with or relevant to the conditions of approval, including measures taken to implement the management plans required by this approval, and make them available upon request to the Department. Such records may be subject to audit by the Department or an independent auditor in accordance with section 458 of the EPBC Act, or used to verify compliance with the conditions of approval. Summaries of audits will be posted on the Department's website. The results of audits may also be publicized through the general media.	Directed – NMP para 70. Correspondence and actions are recorded in the auditable quality, DRMS file management system.

Definitions applicable to this Variation of Approval, and this NMP:

Approved	A document approved in writing by the Minister.
Department	The Australian Government Department administering the <i>Environment Protection and Biodiversity Conservation Act 1999</i> .
Minister	The Minister responsible for administration of the <i>Environment Protection and Biodiversity Conservation Act 1999</i> .

ANNEX B—RECOMMENDATIONS FROM THE AUG 2015 ANO REVIEW

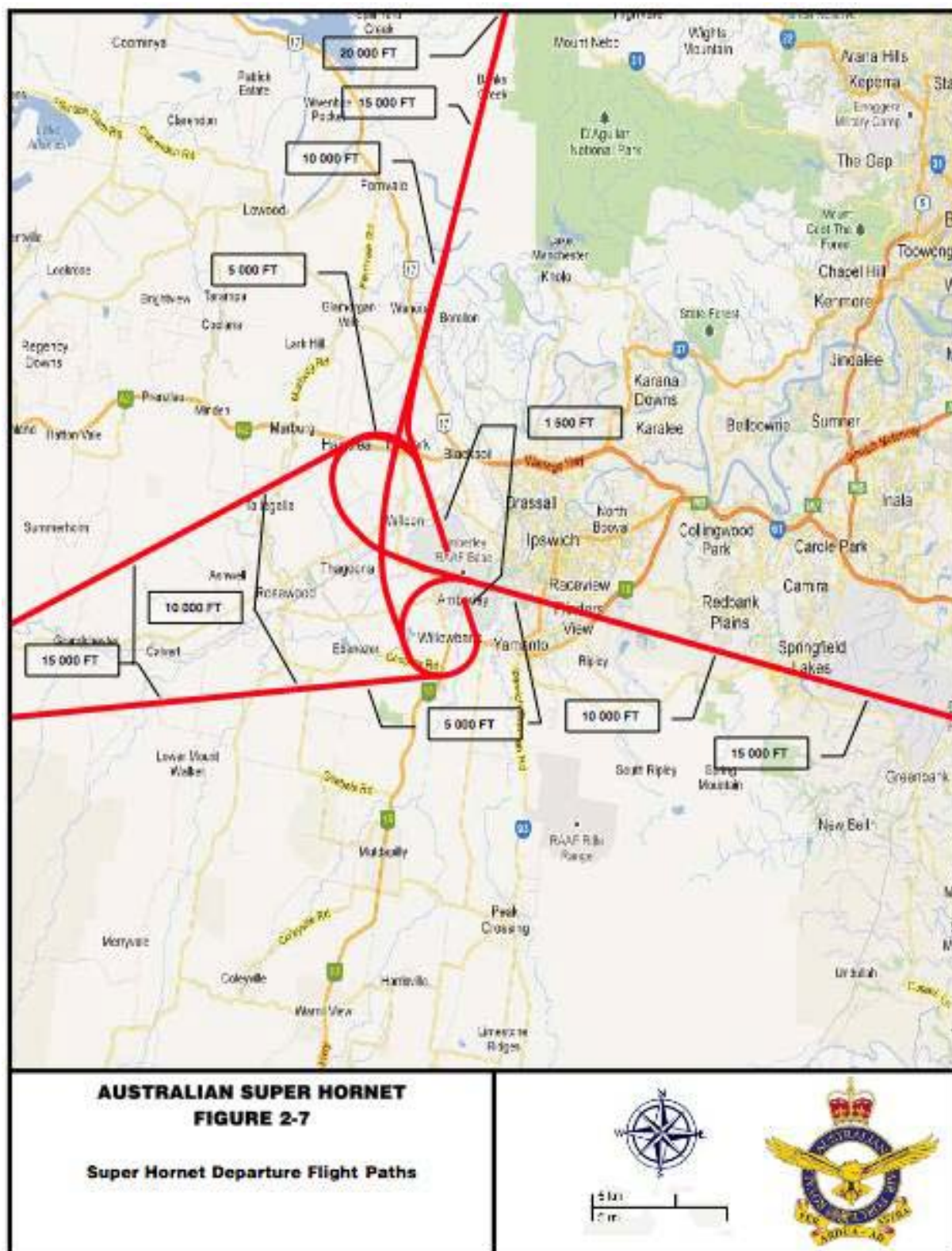
1. Defence should adopt appropriate record management practices to ensure identified gaps in record-keeping are addressed.	Directed. NMP Version 3 para 70. The document management system, DRMS will be utilised.
2. Defence should work with the NFPMS supplier to improve the accuracy and reliability of the data captured by the NFPMS and presented in reports.	Ongoing. Air Force is engaged with the NFPMS Contractor on this issue, however there are no technological improvements available at this time. Air Force intent to more holistically manage fast-jet noise at Amberley should largely negate this technical deficiency.
3. Defence should ensure that requirements in Standing Instructions and similar documents are aligned with the Super Hornet Conditions of Approval and associated plans and strategies.	Complete. NMP Version 3 re-issue.
4. Defence should as soon as possible: a. conduct a review of the state of implementation against the recommendations of the Vipac report completed in 2011. b. report the findings of this review to the Commonwealth Department of Environment in accordance with the Conditions of Approval.	Complete. DRMS ID: L7534124
5. Defence should: a. update the Noise Management Plan and delete the requirement for a copy to be provided to the Ipswich Library, or provide a copy to the library. b. update the Noise Management Plan to correct the telephone number for obtaining a copy of the Plan.	Complete. NMP to be available via the Internet only in future IAW para 59.
6. Defence should review the reporting requirements in the Noise Management Plan and establish systems to ensure adherence to the requirements.	Complete. Directed in para 52-56.
7. Defence should routinely review and update (as required) the Noise Management Plan in line with the documented requirements. Defence should document the review process and outcomes.	Complete. Directed in para 67.
8. Defence should ensure that future quarterly reports include information to support the requirements of the current version of Noise Monitoring and Complaints Handling Strategy.	Ongoing. Expected resolution Q3 2016
9. Defence should publish reports and meeting minutes in a reasonable timeframe.	Complete. Air Force acknowledges this is an ongoing challenge and is taking all steps feasible to improve performance in this area.
10. Defence should expedite establishment of an online complaint lodgment capability.	Ongoing. Expected resolution end 2016.

11. Defence should routinely review and update (as required) the Australian Super Hornet Noise Monitoring and Complaint Handling Strategy in line with the documented requirements. Defence should document the review process and outcomes.	Ongoing. Planned by Q2 2016 IAW reference document.
12. Defence should routinely review and update (as required) the Australian Super Hornet Mitigation and Complaint Resolution Strategy in line with the documented requirements. Defence should document the review process and outcomes.	Ongoing. Planned by Q2 2016 IAW reference document.
Suggestion 1. Defence should review the Noise Management Plan, Noise Monitoring and Complaints Handling Strategy and Noise Mitigation and Complaints Resolution Strategy to ensure all relevant website details are correct.	Complete. Updates to all subordinate plans will be issued in Q2 2016.
Suggestion 2. Defence should update the Noise Management Plan to delete reference to the Amberley Community Engagement Forum.	Complete.

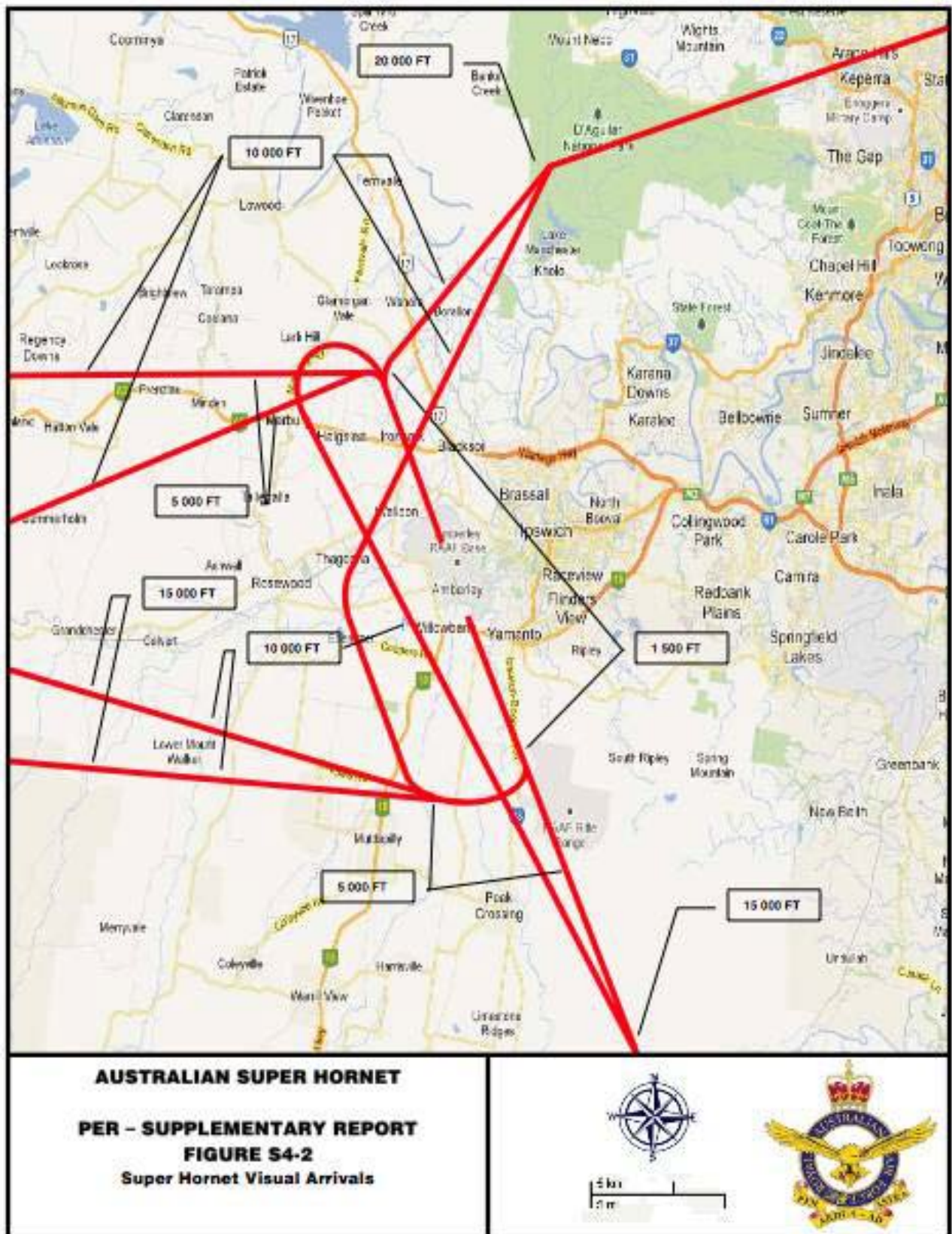
ANNEX C—RAAF BASE AMBERLEY LAYOUT

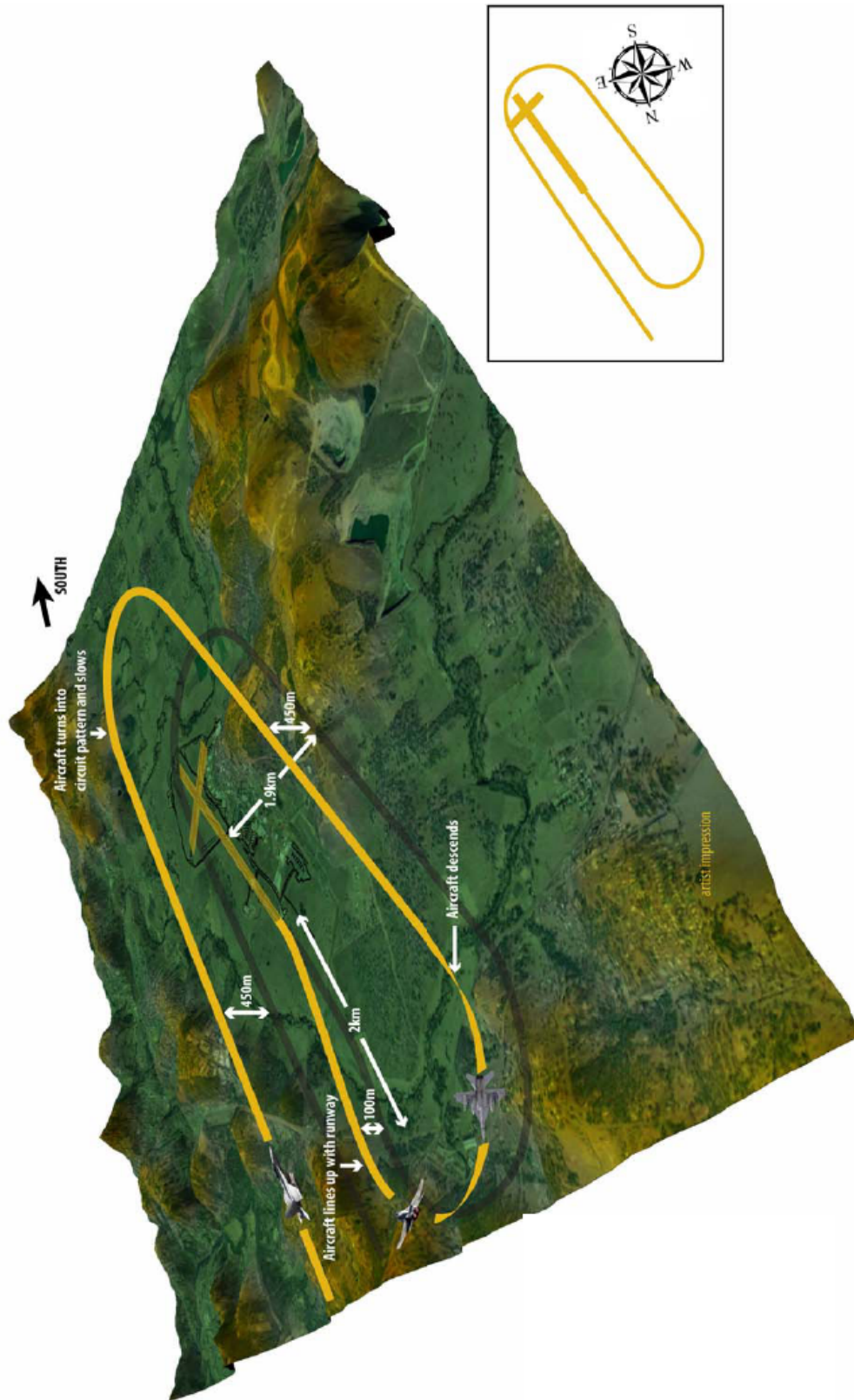


ANNEX D—SUPER HORNET DEPARTURE FLIGHT PATHS

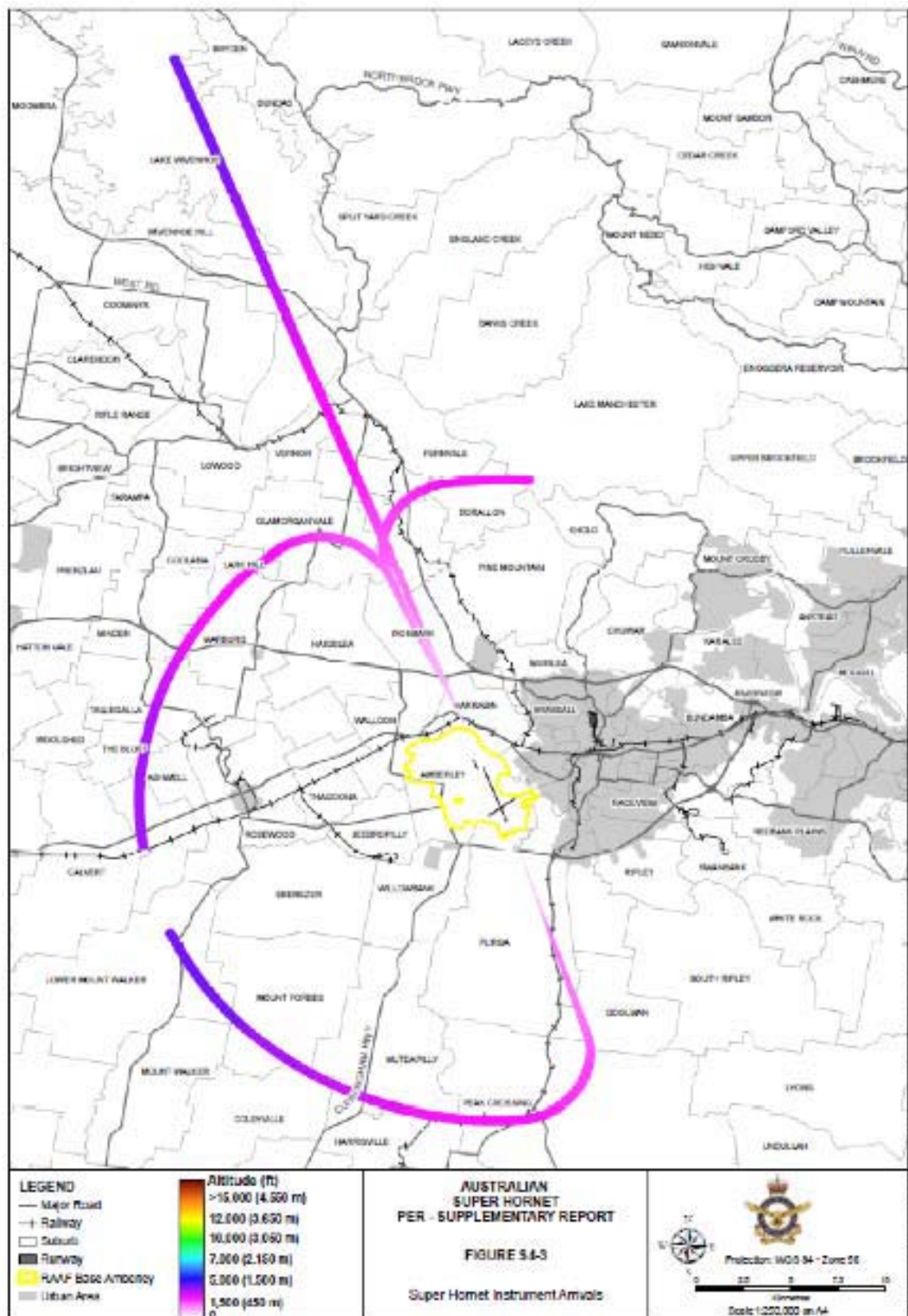


ANNEX E—SUPER HORNET ARRIVAL FLIGHT PATHS



ANNEX F—SUPER HORNET INITIAL AND PITCH PROCEDURE

ANNEX G—SUPER HORNET INSTRUMENT ARRIVAL FLIGHT PATHS



ANNEX H—SUPER HORNET CIRCUIT FLIGHT PATHS

