



**Australian Government**

**Department of Defence**

**JOINT PROJECT 157  
REPLACEMENT AVIATION REFUELLING  
VEHICLES INFRASTRUCTURE PROJECT**

RAAF Base Amberley, Ipswich QLD

RAAF Base Townsville, Garbutt QLD

5<sup>th</sup> Army Aviation Regiment, RAAF Townsville, Garbutt QLD

RAAF Base Williamtown, Williamtown NSW

RAAF Base Richmond, Richmond NSW

6<sup>th</sup> Army Aviation Regiment, Holsworthy Barracks, Moorebank NSW

RAAF Base Darwin, Darwin NT

1<sup>st</sup> Army Aviation Regiment, Robertson Barracks, Palmerston NT

RAAF Base Tindal, Katherine NT

RAAF Base Learmonth, Exmouth WA

RAAF Base Curtin, Derby WA

HMAS Stirling, Garden Island WA

RAAF Base Edinburgh, SA

Woomera Test Facility, SA

RMAF Base Butterworth, Malaysia

**Statement of Evidence  
to the  
Parliamentary Standing Committee  
on Public Works**

Canberra, Australian Capital Territory

December 2017

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# JOINT PROJECT 157

## INFRASTRUCTURE PROJECT

### Identification of the Need

1. The Australian Defence Force's (ADF) air capability is a vital part of Australia's national security framework and essential for the conduct of a variety of military and humanitarian operations in support of Government objectives. This air capability requires the ability to refuel the current and future ADF aviation fleet. This critical enabler is dependent on aviation refuelling vehicles and trained personnel.
2. Capability Project Joint Project 157 (JP157) will provide the ADF with Commercial-off-the-Shelf (COTS) aviation fuel tankers and elevating hydrant vehicles. These vehicles will replace an aged and failing, under-capacity aviation refuelling fleet at 17 military air bases within Australia and at Royal Malaysian Air Force (RMAF) Base Butterworth. The existing fleet of 141 vehicles, includes 12 militarised variants, is being replaced with 100 COTS aviation refuelling vehicles comprised of three types: High Capacity Semi-Tankers, Medium Capacity Rigid Tankers and Elevating Hydrant Vehicles. These vehicles will be operated by ADF personnel to meet refuelling requirements and raise, train and sustain the required deployable workforce. In order to do so, the new aviation refuelling fleet requires the following facilities deficiencies to be addressed:
  - a. **Fuel Spill Containment:** Fuel spill containment is a mandatory requirement for parking and loading of aviation fuel tankers and elevating hydrant vehicles. This relies on bunding that captures and directs fuel spills to fuel treatment systems. Repairs and extension of damaged and/or undersized bunding and provision of new compliant bunding are necessary at many sites.

- b. **Fuel Treatment Systems.** Fuel treatment systems separate fuel from stormwater runoff. There is a lack of treatment system capacity or unsuitable treatment system types at various sites.
- c. **Shelter:** Aviation refuelling vehicles need to be parked and sheltered within a bunded secure environment that complies with fuel spill, fuel treatment and security requirements. Vehicle shelters are necessary to protect the vehicles from the elements, reduce environmental degradation and maintenance. There is a lack of capacity in existing shelters as well as a lack of mandatory safety showers and other Building Code and Work Health and Safety (WHS) compliance requirements at most sites.
- d. **Vehicle Circulation:** Hardstand and access roads are required to be Austroad dimension compliant to enable parking and associated circulation space to support vehicle movements. Vehicle circulation and access roads are deficient at many sites.

## Background

- 3. In August 2016, Project JP157 achieved Government approval, including the infrastructure requirements.
- 4. Government has approved that fully commercial aviation refuelling services will support RAAF Bases East Sale, Pearce and Williams, and HMAS *Albatross*. The remaining 17 sites at ADF airfields and the RMAF Base Butterworth aviation-refuelling requirement will be met with Defence owned COTS aviation refuelling vehicles and an ADF workforce. This enables efficient refuelling support at ADF airfields nationally and at the Royal Malaysian Air Force (RMAF) Base Butterworth whilst it also raises, trains and sustains the required deployable ADF workforce that will deploy to operate allied or Defence aviation refuelling vehicles.

## Facilities to Support JP157

- 5. The JP157 infrastructure project will deliver new and upgraded facilities and to support the replacement and future aviation refuelling fleets.
- 6. Following detailed site assessments of the ADF airfields and the RMAF Base Butterworth and consideration of flexibility to move vehicles around to meet

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surge, operational and training requirements, it was determined no works were required at RAAF Base Scherger and Army Aviation Centre Oakey. The extent of infrastructure works by site varies as a result of the differing allocations of equipment, availability of appropriate space within existing infrastructure and outcomes of consultation with stakeholders. The types of infrastructure works and key elements proposed include the following:

- a. **Bunding Works:** Repairs and extension of damaged and/or undersized bunding and provision of new compliant bunding.
- b. **Fuel Treatment System Works.** Increase of treatment system capacity or replacement of unsuitable treatment system type.
- c. **New Vehicle Shelters.** Vehicle shelters are necessary to sustain the aviation refuelling fleet by protecting the vehicles from the elements, reducing environmental degradation and maintenance.
- d. **Hardstand and Access Roads.** Hardstand and access roads are required to be Austroad dimension compliant to allow parking and associated circulation space to support movements.
- e. **Security Works.** Security works are required to provide appropriate levels of physical security and illumination of parking areas.
- f. **Contamination Works.** Contamination works are inclusive of disposal, storage and/or treatment of contaminated materials resultant from excavation works including soil and water contaminated with hydrocarbons and of per- and poly-fluoroalkyl substances (PFAS).

## Description of the Proposal

7. A Locality Plan showing the location of the fifteen sites where the works are proposed is at Attachment 1, with Individual Regional Plans and Site Plans at Attachments 2 to 16. The following Table 1 summarises the proposed scope of works at each location:



Table 1: Summary of Proposed Scope of Works by Location

Scope of Works	Bunding Works	Fuel Treatment System Works	New Vehicle Shelters	Hardstand and Access Roads	Security Works	Contamination Works
<b>Locations</b>						
RAAF Base Amberley, QLD	✓					✓
RAAF Base Townsville, QLD	✓	✓	✓	✓	✓	✓
5 <sup>th</sup> Army Aviation Townsville	✓		✓			✓
RAAF Base Williamtown, NSW	✓	✓	✓	✓	✓	✓
RAAF Base Richmond, NSW	✓	✓	✓	✓	✓	✓
6 <sup>th</sup> Army Aviation Horseshoe Barracks, NSW	✓	✓	✓	✓	✓	✓
RAAF Base Darwin, NT	✓		✓	✓		✓
1 <sup>st</sup> Army Aviation Robertson Barracks, NT	✓	✓	✓	✓		
RAAF Base Tindal, NT	✓		✓			✓
RAAF Base Leamonth, WA	✓		✓	✓		✓
RAAF Base Curtin, WA	✓				✓	✓
HMAS STIRLING, WA	✓		✓	✓	✓	✓
RAAF Base Edinburgh, SA	✓		✓		✓	✓
Woomera Test Facility, SA	✓	✓	✓	✓		✓
Buttsworth Malaysia	✓					

## Options Considered to Fulfil the Identified Need

8. To determine the most appropriate facilities solutions for the project, Defence undertook master planning activities to the level of 5% design. This included user consultation meetings to define the functional requirements of the facilities and investigation of each location. During the investigations, refit/reuse of existing facilities and consolidation of the Defence estate were key considerations and, where appropriate, incorporated into the proposed solutions.
9. The options considered by Defence during the planning of the Project were:
  - a. Option 1 – Status Quo (Do Nothing);
  - b. Option 2 – Refurbishment/New mix Option (to minimize new works);
  - c. Option 3 – Construct New Facilities (to achieve compliance and meet sheltering requirements for vehicle preservation); and
  - d. Option 4 – Operationally Optimal Shelter Configuration (being the more flexible accommodation option to meet the variable nature of operating demands).
10. The Government approved option is Option 2, comprising refurbishment of existing facilities and construction of new facilities.

## Environment and Heritage Assessment

### Environmental Impact of the Proposed Works

11. In August 2016, initial environmental assessment for the proposed works associated with this project was undertaken against the Environment Protection and Biodiversity Conservation (EPBC) Act 1999 (Cth). The recommendations were reproduced in an Environmental Report (ER), concluding that it is unlikely that the project could result in a significant impact under the EPBC Act. Further assessment as recommended by the ER was completed in September 2017 that confirmed the ER's conclusion. Therefore, there is no requirement to refer the activity to the Minister for the Environment for assessment and approval. It was also determined that the environmental risks associated with the project are manageable through the development of site specific Construction Environmental Management Plans (CEMPs).

12. The CEMP for the Project and Environmental Compliance Certificate (ECC) issued for each work site also addresses issues such as traffic management, noise and dust generation, and erosion and sediment control during construction. Any contaminated material found during the construction phase shall be removed and disposed of in accordance with Defence Environmental Policy and applicable State Legislation.

### **Indigenous and Non-Indigenous Heritage Considerations**

13. The Heritage impact assessments concluded that heritage risks associated with the project are manageable through the development of site specific CEMPs.
14. Encountering cultural heritage artefacts is a higher risk at RAAF Base Edinburgh. Defence will require the construction contractor to engage an on-site cultural heritage monitor at RAAF Base Edinburgh during construction.

### **Key Legislation**

15. The following key legislations is relevant to this project:
  - a) EPBC Act 1999 (Cth);
  - b) Building and Construction Industry (Improving Productivity) Act 2016;
  - c) Work Health and Safety Act (WH&S) 2011 (Cth);
  - d) Disability Discrimination Act 1992 (Cth);
  - e) Fair Work Act 2009 (Cth);
  - f) Fair Work (Building Industry) Act 2012 (Cth);
  - g) Native Title Act; and
  - h) Relevant State Building and Safety Acts.

### **Applicable Codes and Standards**

16. The design of the proposed works will comply with all relevant and current Defence standards, Australian standards, codes and guidelines including, but not limited to:
  - a) National Construction Code - Building Code of Australia;
  - b) Austroads;
  - c) Defence Manual of Infrastructure Engineering Electrical;
  - d) Defence Manual of Fire Protection Engineering;

- e) Defence Manual of Infrastructure Engineering – Bulk Fuel Installation Design;
  - f) Defence Estate Quality Management System;
  - g) Defence Security Manual; and
  - h) Civil Aviation and Safety Authority's Manual of Standards.
17. An accredited building certifier has been engaged to certify the compliance of the design and will be engaged to certify compliance of the completed works.

### **Consultation with Key Stakeholders**

18. To develop the requirements and proposed solutions for this proposed project, extensive consultation has been undertaken with the relevant Defence users and technical authorities.
19. Within Defence, consultation has occurred with the following stakeholders:
- a. Air Force Headquarters,
  - b. Army Headquarters,
  - c. Navy Headquarters,
  - d. Capability Acquisition and Sustainment Group,
  - e. Defence Estate and Infrastructure Group, and
  - f. Fuel Services Branch.
20. Defence has developed a comprehensive consultation and communication strategy that recognises the importance of providing local residents, statutory authorities and other interested stakeholders, including special interest groups, an opportunity to provide input into, or raise concerns relating to the proposed works.
21. As part of this strategy, the following communication methods have been or will be adopted:
- a. letterbox drops to neighbouring residential areas confirmed as affected by the Construction Works;
  - b. community information sessions; and
  - c. local newspaper advertisements.

22. In implementing this strategy, consultation has occurred or will occur, with the following key external stakeholders:

a. RAAF Base Amberley, Ipswich QLD:

- 1) Federal Member for Blair, The Hon Shayne Neumann, MP,
- 2) State Member for Ipswich West, Mr Jim Madden,
- 3) Ipswich City Council, Mayor Andrew Antoniolli,
- 4) Ipswich Chamber of Commerce and Industry,
- 5) Local Community Groups.

b. RAAF Base Townsville, & 5<sup>th</sup> Army Aviation Regiment, RAAF Townsville Garbutt QLD:

- 1) Federal Member for , Herbert, Ms Cathy O'Toole, MP,
- 2) Federal Member for Kennedy, Mr Bob Katter, MP,
- 3) State Member for Townsville, (Member yet to be declared)
- 4) State Member for Burdekin, Mr Dale Last,
- 5) Townsville City Council, Mayor Jenny Hill,
- 6) Townsville Chamber of Commerce,
- 7) Local Community Groups.

c. RAAF Base Williamtown, Williamtown NSW:

- 1) Federal Member for Paterson, Ms Meryl Swanson, MP,
- 2) State Member for Port Stephens; Ms Kate Washington,
- 3) Port Stephens Council; Mayor Ryan Palmer,
- 4) Hunter Business Chamber,
- 5) Local Community Groups including;

i. Hunter Water Corporation.

d. RAAF Base Richmond, Richmond NSW:

- 1) Federal Member for Macquarie, Ms Susan Templeman, MP,

- 2) State Member for Hawkesbury; Mr Dominic Perrottet,
  - 3) Hawkesbury City Council, Mayor Mary Lyons-Buckett,
  - 4) Hawkesbury Chamber of Commerce,
  - 5) Local Community Groups.
- e. 6<sup>th</sup> Army Aviation Regiment Holsworthy Barracks, Moorebank NSW:
- 1) Federal Member for Hughes, Mr Craig Kelly, MP,
  - 2) State Member for Holsworthy; Ms Melanie Gibbons,
  - 3) Liverpool Council, Mayor Wendy Waller,
  - 4) NSW Business Chamber ,
  - 5) Local Community Groups.
- f. RAAF Base Darwin, Darwin NT and 1<sup>st</sup> Army Aviation Regiment Robertson Barracks, Palmerston NT:
- 1) Federal Member for Solomon, Mr Luke Gosling, OAM , MP,
  - 2) State Member for Nelson, Mr Gerard Wood,
  - 3) State Member for Spillett, Mrs Lia Finocchiaro,
  - 4) Darwin City Council, Mayor Katrina Long Lim,
  - 5) Municipality of Litchfield, Mayor Maree Bredhauer,
  - 6) Chamber of Commerce Northern Territory,
  - 7) Local Community Groups.
- g. RAAF Base Tindal, Katherine NT:
- 1) Federal Member for Lingiari, The Hon Warren Snowdon, MP,
  - 2) Member for Katherine, Ms Sandra Nelson, MLA,
  - 3) Katherine Town Council, Mayor Fay Miller,
  - 4) Chamber of Commerce, Northern Territory,
  - 5) Local Community Groups
- h. RAAF Base Learmonth, Exmouth WA:

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- 1) Federal Member for Durack, Ms Melissa Price, MP,
  - 2) State Member for North West Central, Mr Vincent Catania,
  - 3) Exmouth Shire, Matthew Nikkula (President),
  - 4) Chamber of Commerce and Industry Western Australia,
  - 5) Local Community Groups.
- i. RAAF Base Curtin, Derby WA:
- 1) Federal Member for , Ms Melissa Price, MP,
  - 2) State Member for Kimberly, Ms Josie Farrer;
  - 3) Shire of Derby West Kimberly, Mr Geoff Haerewa (President),
  - 4) Chamber of Commerce and Industry Western Australia,
  - 5) Local Community Groups.
- j. HMAS Stirling, Garden Island WA:
- 1) Federal Member for Brand, Ms Madeline King , MP,
  - 2) State Member for Rockingham, Mr Mark McGowan,
  - 3) Rockingham City Council, Mayor Barry Sammels,
  - 4) Chamber of Commerce and Industry Western Australia,
  - 5) Local Community Groups.
- k. RAAF Base Edinburgh, SA:
- 1) Federal Member for Wakefield, Mr Nick Champion , MP,
  - 2) State Member for Taylor, Ms Leesa Vlahos,
  - 3) Salisbury City Council, Mayor Gillian Aldridge,
  - 4) Chamber of Commerce and Industry South Australia,
  - 5) The Hon. Martin Hamilton-Smith, South Australian Minister for Investment & Trade, Small Business, Defence Industries and Veterans' Affairs,
  - 6) Local Community Groups, including:
    - i. The Kaurna people.

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- l. Woomera Test Facility, SA:
  - 1) Federal Member for Grey, The Hon Rowan Ramsey , MP,
  - 2) State Member for Giles, The Hon Edward Hughes,
  - 3) WPA Coordination Office, Department of Defence,
  - 4) The Hon. Martin Hamilton-Smith, South Australian Minister for Investment & Trade, Small Business, Defence Industries and Veterans' Affairs,
  - 5) Chamber of Commerce and Industry South Australia,
  - 6) Local Community Groups, including:
    - i. Kokatha Aboriginal Committee, and
    - ii. Mr Steven Loosely AM, Woomera Prohibited Area Advisory Board Chair.
- m. RAAF Base Scherger, QLD:
  - 1) Federal Member for Leichhardt, Mr Warren Entsch , MP,
  - 2) State Member for Cook, Ms Cynthia Liu,
  - 3) Weipa Town Authority, Mr Michael Rowland (Chair),
  - 4) Western Cape Chamber of Commerce,
  - 5) Local Community Groups.
- n. RMAF Base Butterworth, Malaysia:
  - 1) Mr Lim guan Eng,
  - 2) Tuan Sr Hj Rozali bin Hj Mohamud.

Defence plans to convene at least four public information sessions at locations where significant works are proposed, including include Williamtown, Richmond, Edinburgh and Townsville.



## **Purpose of the Works**

### **Project Objectives**

23. The aim of this is to provide the facilities required for the replacement refuelling tanker fleet procured under JP157.

### **Details and Reasons for Site Selection**

24. For each of the proposed new buildings, site selection boards (SSBs) have been completed in accordance with Defence Estate development guidelines. The SSBs typically consider the suitability of the site for the proposed function, clearances to adjacent runways, the locations of related functions, access to services and infrastructure, movement by vehicles and pedestrians to and from the site and heritage and environmental management factors and the approved Zone Plan.
25. User consultation occurred with the relevant stakeholders including Estate Planning during the Site Selection process. This process concluded with Site Selection process approval minutes for 12 sites. Other remaining sites will only have minor works, which do not involve structures, and hence did not require site selection.

### **Detailed Description of the Proposed Scope of Works**

26. Detailed site plans for each of the proposed project elements are at Attachments 2 to 16. The proposed JP157 facilities to be delivered include the following elements.

#### **Queensland Proposed Works**

##### **RAAF Base Amberley**

27. The proposed works include;
- a. **Bunding Works** to extend the existing fuel farm dispense point bunding over exiting hardstand on the South Eastern end.
  - b. **Contamination works** are required at the site.

##### **RAAF Base Townsville**

28. The proposed works at Works Site 1 – Tanker Parking Area include:

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- a. **Bunding Works** to provide new bunding under proposed new shelter one.
  - b. **New Fuel Treatment Systems Works** inclusive of stormwater system modifications, removal of an existing triple interceptor and replacement with a new treatment system are required.
  - c. **New Shelter One** to provide shelter for six High Capacity Semi -Tankers, three Medium Capacity Rigid Tankers and four Elevating Hydrant Vehicles.
  - d. **Hardstand and Access Works** to provide access and circulation requirements to new shelters.
  - e. **New Shelter Two** to provide shelter for three Medium Capacity Rigid Tankers over existing banded hardstand.
  - f. **Hardstand Works** to provide access and circulation requirements to the proposed new shelter.
  - g. Three fire hydrants and two hose reels are required to ensure fire coverage of the new shelters.
  - h. Safety shower.
  - i. **Security Fence** modifications are required around the facility at Site 1.
  - j. **Contamination Works** are required at the site.
29. The proposed works at Work Site 2 – Fuel Farm include:
- a. **Bunding Works** to extend the existing bunding over existing hardstand on the South Western end of the fuel farm dispense point.

**5<sup>th</sup> Army Aviation Regiment, RAAF Base Townsville**

30. The proposed works include:
- a. **Bunding Works** inclusive of re-caulking and sealing are required to remediate the existing banded hardstand.
  - b. **New Vehicle Shelter** to provide shelter for two Medium Capacity Rigid Tankers over existing banded hardstand.

- c. Upgrades to the fire protection systems including the provision of a hose reel and powder extinguisher and replacement of single head hydrant with dual head hydrants.
- d. **Contamination Works** are required at the site.

### **New South Wales Proposed Works**

#### **RAAF Base Williamtown**

31. The proposed works include:

- a. **Bunding Works** to provide new bunding under new shelter two is required. The bunded hardstand under shelter one is in reasonable condition.
- b. **Fuel Treatment System Works** requires reconfiguration of existing drainage infrastructure to ensure spills and roof shed stormwater are drained to separate systems.
- c. **New Shelter One** will provide shelter for ten High Capacity Semi - Tankers, three Medium Capacity Rigid Tankers and four Elevating Hydrant Vehicles over existing bunded hardstand. To accommodate the vehicle allocation and operations, a central firewall will be added to meet hazardous area code requirements, separating the proposed new shelter into two fire-separated zones to comply with the 200 tonne fuel load limit.
- d. **New Shelter Two** will provide shelter for three Medium Capacity Rigid Tankers.
- e. **Hardstand and Access Works** to provide new hardstand, access and vehicle circulation.
- f. Three fire hydrants are required to ensure hydrant coverage of the new structures as well as a hose reels and powder fire extinguishers.
- g. A safety shower.
- h. **Security Fence** modifications will be required around the facility.
- i. **Contamination Works** are required at the site.

### **RAAF Base Richmond**

32. The proposed works include:

- a. **Bunding Works** for the new shelter.
- b. **Fuel Treatment System Works** including modifications of a grated drain at the intersection of the new and existing hardstand, an additional stormwater inlet and associated pipework and a new treatment system as the existing system capacity is deficient.
- c. **New Shelter** with bunded hardstand to provide shelter for five High Capacity Semi-Tankers, one Medium Capacity Rigid Tankers and four Elevating Hydrant Vehicles.
- d. **Hardstand and Access Works** to provide new hardstand, access and vehicle circulation.
- e. Fire hydrant relocation to ensure hydrant coverage of the new structure and relocation of water mains to provide required water flow to three fire hose reels.
- f. A safety shower.
- g. **Security Fence** extensions are required around the facility.
- h. **Contamination Works** are required at the site.

### **6<sup>th</sup> Army Aviation Regiment, Holsworthy Barracks**

33. The proposed works include:

- a. **Bunding Works** under the proposed new shelter.
- b. **Fuel Treatment System Works** includes stormwater system modifications to connect the new shelter's bunded hardstand to the existing fuel treatment system.
- c. **New Shelter Works** to provide shelter for two Medium Capacity Rigid Tankers.
- d. **Hardstand and Access Road Works** to provide drive through access to the new shelter and satisfy circulation requirements.

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- e. Fire hydrant relocation to ensure hydrant coverage of the new structure and relocation of water mains to provide required water flow to three fire hose reels.
- f. **Security Fence** extension around the facility and provision of two additional gates.
- g. **Contamination Works** are required at the site.

**Northern Territory Proposed Works**

**RAAF Base Darwin**

34. The proposed works at Works Site 1 – Tanker Parking Area include:

- a. **Bunding Works** to provide new bunding under shelter one. The bunded hardstand under the existing shelter two will be re-caulked and resealed.
- b. **New Shelter One** will provide shelter for three Elevating Hydrant Vehicles.
- c. **Reuse of Shelter Two** will provide shelter for two Elevating Hydrant Vehicles.
- d. **Hardstand Works** in front of new shelter one is required to enable access to the shelter off the existing hardstand.
- e. The new and existing structures will both require a fire hose reel and powder fire extinguishers.
- f. One safety shower at each shelter.
- g. **Security Fence** extensions will be required around the facility.
- h. **Contamination Works** are required at the site.

35. The proposed works at Works Site 2 – Fuel Dispensing Area include:

- a. **Bunding Works** to extend the existing bunding hardstands are required under the existing shelter.

**1<sup>st</sup> Army Aviation Regiment, Robertson Barracks**

36. The proposed works include:

- a. **Bunding Works** to provide new bunded area under the new shelter.

- b. **Fuel Treatment System Works** to provide a new system are necessary to address capacity requirements.
- c. **New Shelter Works** to shelter two Medium Capacity Rigid Tankers.
- d. **Hardstand and Access Road Works** to allow drive through shelter access and support circulation requirements.
- e. The new shelter requires a fire hose reel and powder fire extinguisher.
- f. A safety shower.
- g. **Security Fence** extensions are required around the facility.

#### **RAAF Base Tindal**

37. The proposed works at Work Site 1 include:

- a. **Bunding Works** are required remediate existing bunded hardstand.
- b. **Contamination Works** are required at the site.

38. The proposed works at Work Site 2 include:

- a. **New Vehicle Shelter Works** to provide shelter for one for a High Capacity Semi-Tanker.
- b. The new shelter requires a powder fire extinguisher.
- c. A safety shower.
- d. **Contamination Works** are required at the site.

#### **Western Australia Proposed Works**

##### **RAAF Base Learmonth**

39. The proposed works include:

- a. **Bunding Works** to provide new bunded hardstand area for the proposed new shelter.
- b. **Fuel Treatment System Works** to connect the new bunded area to the existing fuel treatment system.

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- c. **New Vehicle Shelter** to provide shelter for two High Capacity Semi-Tankers and one Medium Capacity Rigid Tanker.
- d. **Hardstand and Access Road Works** to allow drive through shelter access and support vehicle circulation requirements.
- e. A fire hose reel and powder fire extinguisher in the new shelter.
- f. A safety shower.
- g. **Contamination Works** are required at the site.

**RAAF Base Curtin**

40. The proposed works include:

- a. **Bunding Works** to extend the existing bunded hardstand on the north eastern end of the fuelling area.
- b. **Security Fence** modifications to encircle the hardstand extension.
- c. **Contamination Works** are required at the site.

**HMAS Stirling**

41. The proposed works include:

- a. **Bunding Works** to provide new bunded hardstand area under the proposed new shelter.
- b. **Fuel Treatment System Works** to connect the new bunded area to the existing fuel treatment system works.
- c. **New Vehicle Shelter** to provide shelter for two Medium Capacity Rigid Tankers.
- d. **Hardstand and Access Road Works** to allow drive through shelter access and vehicle circulation.
- e. The new structure requires a fire hose reel and powder fire extinguishers.
- f. A safety shower.
- g. **Security Fence** modifications required to secure the facility.
- h. **Contamination Works** are required at the site.

## **South Australia Proposed Works**

### **RAAF Base Edinburgh**

42. The proposed works include:

- a. **Bunding Works** to provide new bunded area under the proposed new shelter.
- b. **Fuel Treatment System Works** are required to connect the new bunded area to existing fuel treatment systems.
- c. **New Vehicle Shelters** to provide shelter for six High Capacity Semi-Tankers, one Medium Capacity Rigid Tankers and four Elevating Hydrant Vehicles.
- d. Water mains works are required to provide support to fire hydrants and two new hose reels.
- e. A new safety shower.
- f. **Security Fences** will be required around the facility.
- g. **Contamination Works** are required at the site.

### **Woomera Test Facility**

43. The proposed works include:

- a. **Bunding Works** require new bunded hardstand under the proposed new shelter and at the fuel dispenser.
- b. **Fuel Treatment System** works include the removal of a non-compliant humeceptor and replacement with a new fuel treatment system as well modifications to the stormwater inlets and supporting pipework.
- c. **New Vehicle Shelters** are required to provide shelter for two Medium Capacity Rigid Tankers.
- d. **Hardstand and Access Road Works** are required to allow drive through shelter access and vehicle circulation.
- e. A new water connection and fire hose reel is required for the new shelter.



- f. **Contamination Works** are required at the site.

### **Malaysia Proposed Works**

#### **RMAF Base Butterworth**

44. The proposed works include:
- a. **Bunding Works** are required to repair the offloading, dispensing areas and maintenance bay. These include caulking and resealing works.

### **Public Transport, Local Road and Traffic Concerns**

45. There is no increase to base populations resulting from this project. During construction, there will be a small increase to the number of construction vehicles that enter the bases to deliver materials to site for construction. Contractual arrangements within the construction contract will mitigate the effects of this on the local road network through the development of Traffic Management Plans (if applicable) within each Site Management Plan.

### **Zoning and Local Approvals**

46. All elements of the proposal are located within the boundaries of Commonwealth-owned and Defence controlled land or at the Royal Malaysian Air Force (RMAF) Base Butterworth . Accordingly, no civilian authority or design approvals are required, although the works will comply with the relevant standards and regulations where applicable.
47. The proposed works were developed based on the approved Zone Plans and possible future known development at each of the sites.

### **Child Care Provisions**

48. No additional childcare facilities are provided under this project.

### **Impact on Local Community**

49. The proposal will generate short-term employment opportunities and opportunities for suppliers predominantly in the building, construction and labour markets at 14 sites throughout Australia.

50. The Contractor will be required to manage all construction activities, in accordance with the Construction Environmental Management Plan, to minimise any disruption to the local community. This plan will include control measures to mitigate potential impacts on the Defence and local communities such as increased on base and local traffic movements including noise, dust and vibration generated during the construction activities. Erosion and sediment control is contractually required during the construction phase to protect the environment.
51. The project will not result in any net increases in permanent military or civilian personnel. There will be a small increase in contractor personnel accessing and working at the sites during the construction phase. During construction, there will be a small increase in the number of large vehicles delivering materials to site and undertaking construction activities.
52. The development of Traffic Management Plan by the Contractor, together with ongoing and regular coordination of all construction activities with local Defence authorities, will mitigate the effects of this project on the internal road network.

## **Planning and Design Concepts**

53. The general design philosophy for the proposed facilities incorporates the following considerations:
  - a) provision of cost effective and functional facilities suitable for the weather;
  - b) adoption of conventional construction techniques and materials for a 50 year life;
  - c) maximum use of existing infrastructure and facilities to minimise capital costs;
  - d) use of readily available and durable materials that combine long life while minimising maintenance;
  - e) recognition of site constraints, required separation distances, security requirements, the approved Zone Plan, functional relationships to existing facilities; and

- f) shelters provided are for parking Aviation Refuelling Vehicles provided under the JP157 project and not to be used as mechanical maintenance facilities.
54. An accredited building certifier has been engaged to certify the compliance of the design and will be engaged to certify compliance of the completed works.

### **Structural Design**

55. The structural design for any new shelter construction will be consistent with industrial type solutions including portal frames, precast panel fire walls and lightweight metal cladding.

### **Hydraulic Services**

56. Sites with shelters being provided over existing concrete hardstands will typically not change any drainage loadings (e.g. 5<sup>th</sup> Army Aviation Townsville, Edinburgh, Williamtown, Richmond, Townsville and Tindal). Existing drainage networks will largely remain unchanged for these sites. Clean water runoff from the roofs of these structures will typically enter the same drainage networks or be relocated to more appropriate drainage networks. Drainage from the bunded areas beneath these structures will flow to the existing gravity treatment networks (e.g. interceptors) that capture a minimum of 8,000 L of fuel.
57. Sites that require new shelters and concrete hardstands will have roof overhangs incorporated on the shelter to minimise stormwater intake into the bunded areas beneath. Clean stormwater runoff from the roofs of these structures will typically be to ground (e.g. Robertson, Woomera, Stirling, Holsworthy, Darwin and Learmonth). Connection of the bunded drainage from beneath these shelters will be to existing drainage networks with suitable fuel capture or treatment systems.
58. Where new stormwater quality treatment devices are required to prevent pollution of local water catchments, appropriate interceptor devices will be designed or selected from standard units, to meet local site constraints, flow rate requirements and to manage the potential pollutants.

## **Electrical Services**

59. Lighting and lightning protection works will be provided in accordance with the Australian Standards and Defence's engineering policies. Electrical connection will be made from nearby switchboards with both physical and demand capacity.
60. Low power LED lighting will be specified to reduce overall power requirements and to reduce operating costs. No sub-metering is required or provided for the parking shelters.

## **Communications**

61. There are no telephones or computer facilities required in the shelters. Local audible and visual alarms are required for safety showers. Protection of existing in ground communication services will be provided where potential conflicts may arise with construction of the new shelter using concrete encasement.

## **Fire Protection**

62. Fire protection will be in accordance with the relevant standards and National Building Codes. Bush fire management protection measures are incorporated where relevant.

## **Acoustics**

63. The shelters are open structures that enable maximise ventilation for parking of Aviation Refuelling Vehicles and do not have any personnel permanently working in the area. As such, there is no requirement for any acoustic protection in the buildings.

## **Security**

64. All sites are within the confines of a secure base boundary fence and typically within an existing fenced fuel precinct. Where existing fencing requires relocation or replacement, a new Class 2 security fence will be provided in accordance with the Defence Security Manual and Australian Standards.

## **Environmental Sustainability of the Project**

65. The shelters provided by this project are typically open structures for parking of vehicles. The project has adopted cost effective Ecologically Sustainable Development (ESD) measures (where applicable) in the design and development of project elements. These measures have been incorporated into the design of most aspects of the proposed works and include:
- a) Minimising Energy and Greenhouse Gas Emissions: By adopting passive building design principles for new facilities, using energy efficient lighting and maximising natural ventilation;
  - b) Using High Efficiency Lighting by installing efficient light-emitting diode fittings;
  - c) Provision of Interceptors / Separators: By including interceptors and separators to collect and treat hydrocarbon and solid contaminants; and
  - d) Spill Containment incorporated for up to 8,000 L of fuel.

## **Landscaping**

66. Where applicable the landscape specification will include indigenous, regionally appropriate, drought tolerant plants and naturally occurring native grasses with low ongoing watering requirements. The reuse of materials from the building demolition works where possible forms part of this project. Materials such as soils and solid stone will be used where suitable for elements such as fill, backfill and erosion control.

## **Energy Targets**

67. The shelters will typically draw power for lighting purposes only. Applicable requirements of Defence's SMART Infrastructure Manual and Building Energy Performance Manual have been adopted for the proposed new shelters.

## **Provision for People with Disabilities**

68. The shelters are classified as 7A structures NCC/BCA and therefore do not require design for accessibility.

## **Work Health and Safety Measures**

69. The Australian Government is committed to improving work health and safety outcomes in the building and construction industry. This proposed redevelopment will comply with the requirements of the Work Health and Safety Act 2011(Cth), Work Health and Safety (Commonwealth Employment – National Standards) Regulations and relevant Defence policies.
70. In accordance with Section 35 (4) of the Building and Construction Industry Improvement Act 2005 (Cth), project contractors will also be required to hold full work health and safety accreditation from the Office of the Federal Safety Commissioner under the Australian Government Building and Construction Work Health and Safety Accreditation Scheme.
71. Safety aspects of the proposed redevelopment will be addressed during the design development process and documented in a Safety in Design Report. A Work Health Safety Plan is required for the construction phase prior to the commencement of any construction activities.
72. All construction sites require fencing appropriate to prevent public access, or access by unauthorised Defence personnel during the construction period. No public safety risks were identified to this point.

## **Cost Effectiveness and Public Value**

### **Outline of Project Costs**

73. The estimated out-turned cost of this project is \$40.4 million, excluding Goods and Service Tax. The cost estimate includes the construction costs, management and design fees, contingencies and escalation allowance.
74. Future sustainment costs for this project are estimated at \$0.5 million per annum due to the addition of new facilities and infrastructure that require a minimal additional maintenance, cleaning and utilities expenses.

### **Details of Project Delivery System**

75. Subject to Parliamentary approval, a Project Manager Contract Administrator will be appointed to manage the delivery phase of the works and a Head

Contractor will be appointed to complete the design, procure trade sub-contractors and manage the construction of the works.

76. The designer who completed the 90% design will be novated to the Head Contractor (Document and Construct) to complete the design. This provides the Commonwealth with buildability input into the design, while promoting opportunities for sub-contracting construction trade packages.
77. A single Head Contractor responsible for the works at all the sites reduces the administration and overhead costs of constructing relatively small projects over multiple sites. It also means the knowledge gained on one hazardous area site will be transferred to others sites.

### **Construction Program**

78. Subject to Parliamentary approval of the project, construction is planned to commence in mid 2018 and be completed in late 2019.

### **Public Value**

79. This project will provide the necessary facilities and infrastructure to ensure the new vehicle fleet is appropriately stored. In addition, the works will ensure the operation and storage of the fuel vehicles is carried out in a manner that minimises environmental and safety risk associated with fuel spills. The serviceability of the existing fleet is affected to varying degrees with the lack of dedicated garaging. This facilities project will garage the replacement vehicles to provide protection from the weather and elements and to and increase serviceability as well as usable life of the vehicles.
80. The Project will also employ a range of skilled consultants, contractors and construction workers that could also include opportunities for up-skilling and job training to improve individual skills and employability on future projects. The project will employ an average of 15 to 20 construction personnel at each location during the construction periods.

### **Revenue**

81. No revenue is expected to be derived from this project.

## Attachments

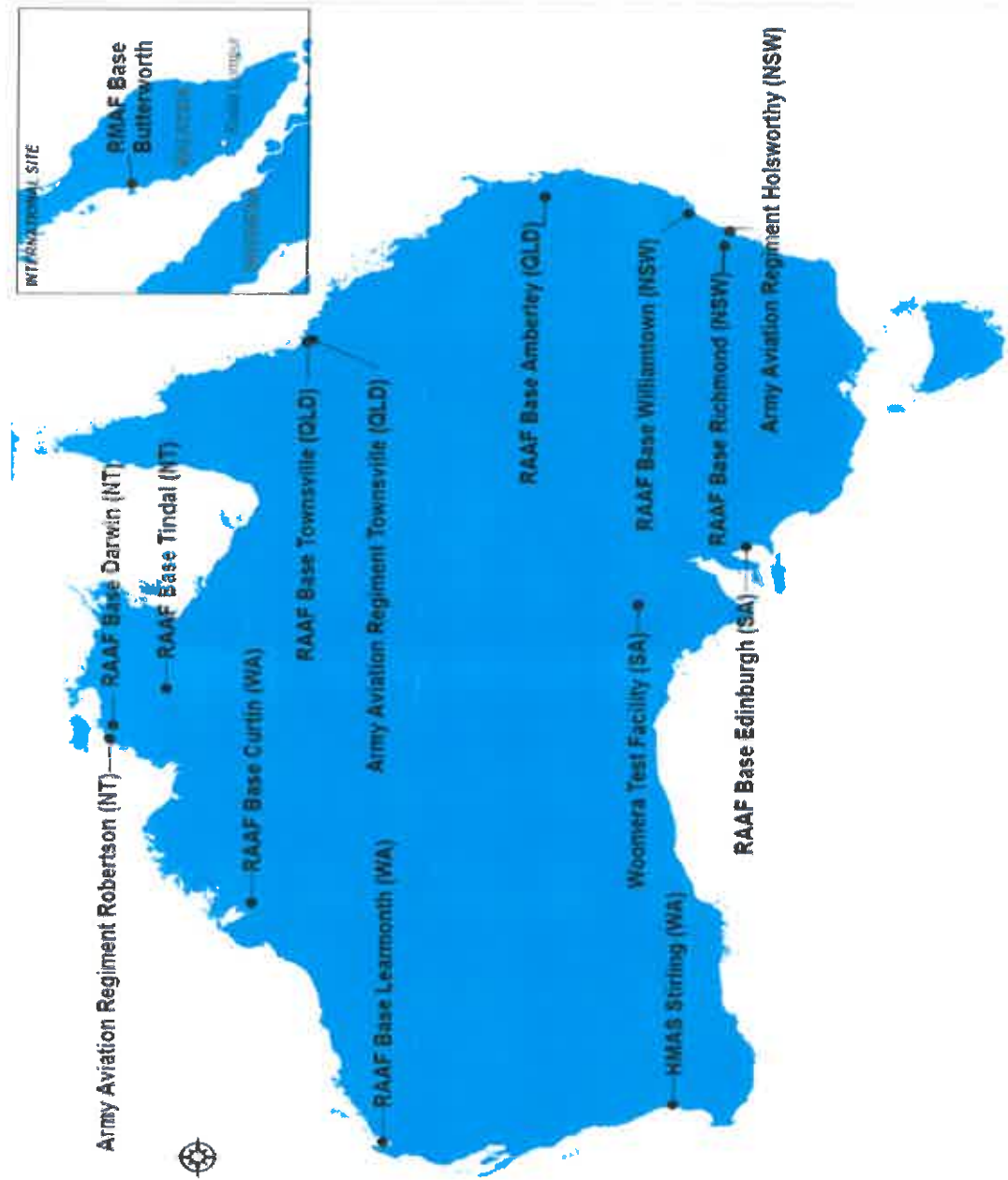
- 1.0 Locality Map
- 2.1 Regional Plan - RAAF Base Amberley, Queensland
- 2.2 Site Plan - RAAF Base Amberley, Queensland
- 3.1 Regional Plan - RAAF Base Townsville, Queensland
- 3.2 Site 1 Plan - RAAF Base Townsville, Queensland
- 3.3 Shelter Perspective Site 1 - RAAF Base Townsville, Queensland
- 3.4 Site 2 Plan - RAAF Base Townsville, Queensland
- 4.1 Regional Plan - 5th Aviation Army Regiment, RAAF Base Townsville, Queensland
- 4.2 Site Plan - 5th Aviation Army Regiment, RAAF Base Townsville, Queensland
- 4.3 Shelter Perspective - 5th Aviation Army Regiment, RAAF Base Townsville, Queensland
- 5.1 Regional Plan - RAAF Base Williamtown, New South Wales
- 5.2 Site Plan - RAAF Base Williamtown, New South Wales
- 5.3 Shelter Perspective - RAAF Base Williamtown, New South Wales
- 6.1 Regional Plan - RAAF Base Richmond, New South Wales
- 6.2 Site Plan - RAAF Base Richmond, New South Wales
- 6.3 Shelter Perspective - RAAF Base Richmond, New South Wales
- 7.1 Regional Plan - 6th Aviation Army Regiment, Holsworthy Barracks, New South Wales
- 7.2 Site Plan - 6th Aviation Army Regiment, Holsworthy Barracks, New South Wales
- 7.3 Shelter Perspective - 6th Aviation Army Regiment, Holsworthy Barracks, New South Wales
- 8.1 Regional Plan - RAAF Base Darwin, Northern Territory
- 8.2 Site 1 Plan - RAAF Base Darwin, Northern Territory
- 8.3 Shelter Perspective Site 1 - RAAF Base Darwin, Northern Territory
- 8.4 Site 2 Plan - RAAF Base Darwin, Northern Territory
- 9.1 Regional Plan - 1st Aviation Army Regiment, Robertson Barracks, Northern Territory
- 9.2 Site Plan - 1st Aviation Army Regiment, Robertson Barracks, Northern Territory
- 9.3 Shelter Perspective - 1st Aviation Army Regiment, Robertson Barracks, Northern Territory
- 10.1 Regional Plan - RAAF Base Tindal, Northern Territory
- 10.2 Site 1 Plan - RAAF Base Tindal, Northern Territory
- 10.3 Site 2 Plan - RAAF Base Tindal, Northern Territory
- 10.4 Shelter Perspective Site 2 - RAAF Base Tindal, Northern Territory
- 11.1 Regional Plan - RAAF Base Learmonth, Western Australia
- 11.2 Site Plan - RAAF Base Learmonth, Western Australia



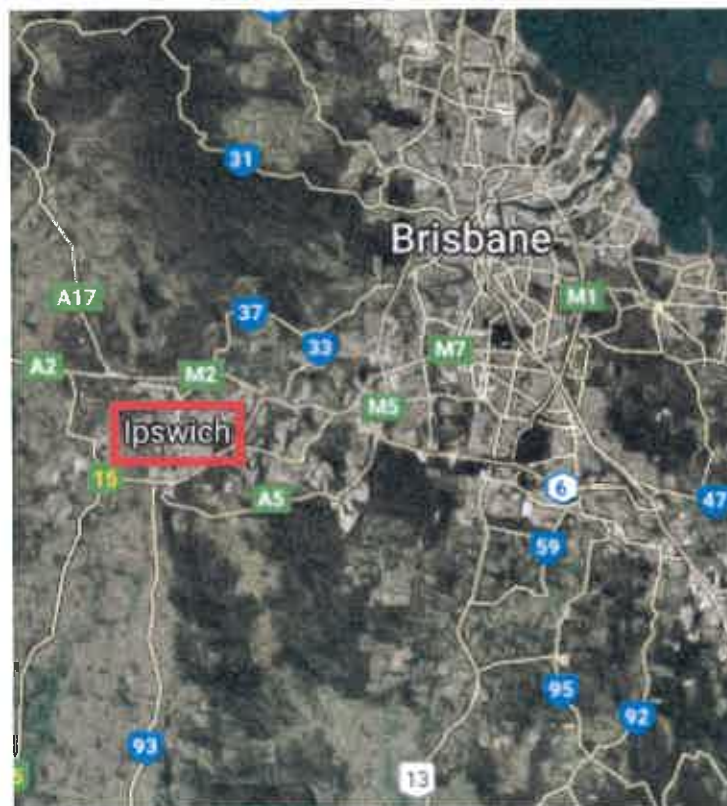
**28**

- 11.3 Shelter Perspective - RAAF Base Learmonth, Western Australia
- 12.1 Regional Plan - RAAF Base Curtin, Western Australia

Attachment 1 - Regional Plan


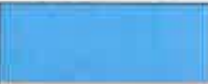






Attachment 2.1- Regional Plan – RAAF Base Amberley, Queensland



Attachment 2.2- Site Plan – RAAF Base Amberley, Queensland






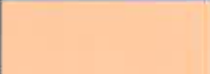


New Hardstand		Existing Hardstand	
New Shelter		Existing Shelter	
New Fence		Existing Fence	



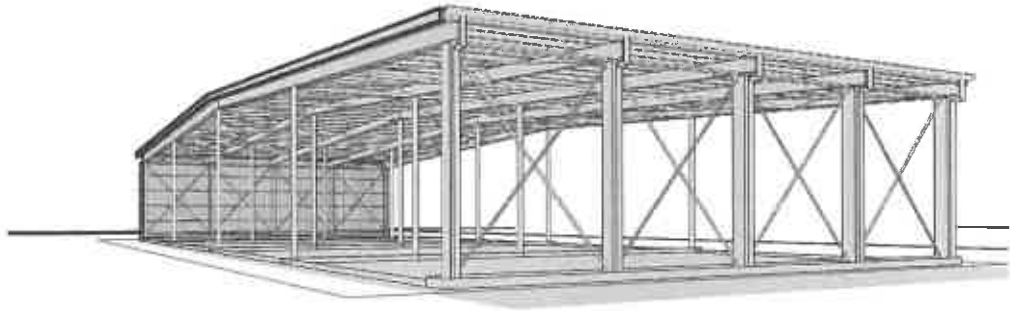


Attachment 3.2- Site 1 Plan – RAAF Base Townsville, Queensland



New Hardstand		Existing Hardstand	
New Shelter		Existing Shelter	
New Fence		Existing Fence	

Attachment 3.3- Shelter Perspective Site 1– RAAF Base Townsville, Queensland









Shelter 1



Shelter 2

Attachment 3.4- Site 2 Plan – RAAF Base Townsville, Queensland






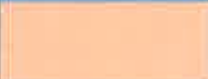
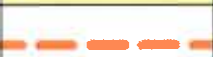

New Hardstand		Existing Hardstand	
New Shelter		Existing Shelter	
New Fence		Existing Fence	



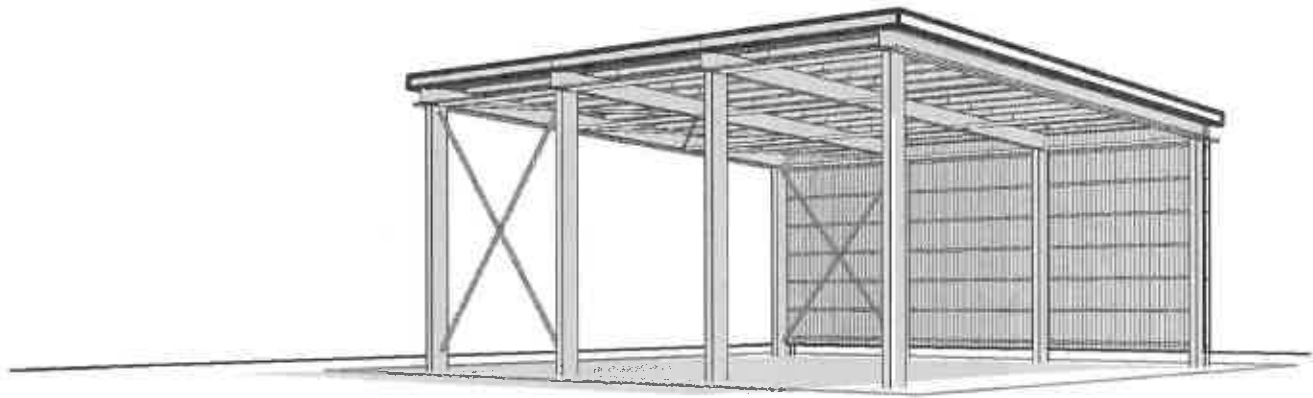


Attachment 4.2- Site Plan – 5th Aviation Army Regiment,  
RAAF Base Townsville, Queensland

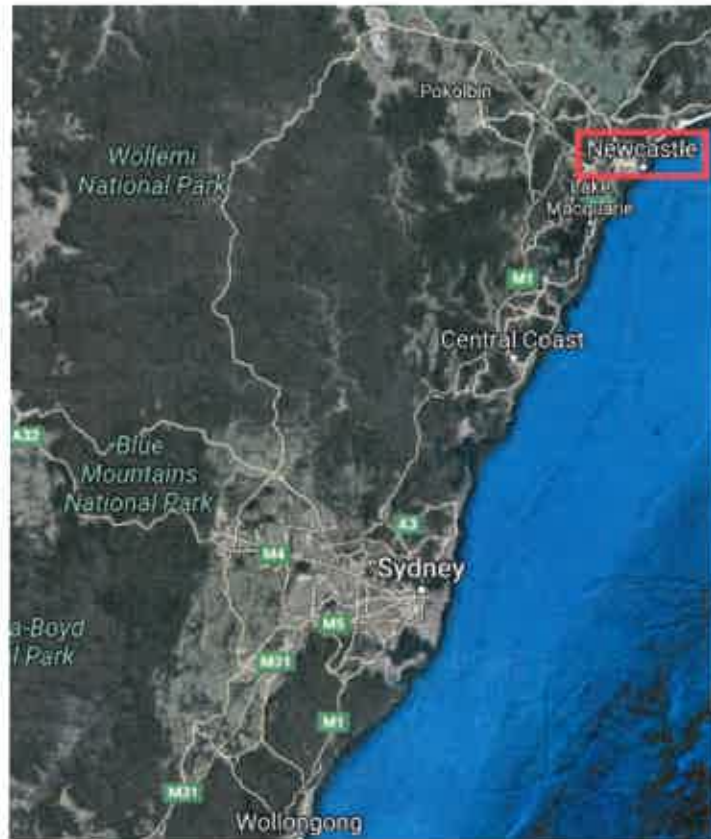


New Hardstand		Existing Hardstand	
New Shelter		Existing Shelter	
New Fence		Existing Fence	

Attachment 4.3- Shelter Perspective – 5th Aviation Army Regiment,  
RAAF Base Townsville, Queensland

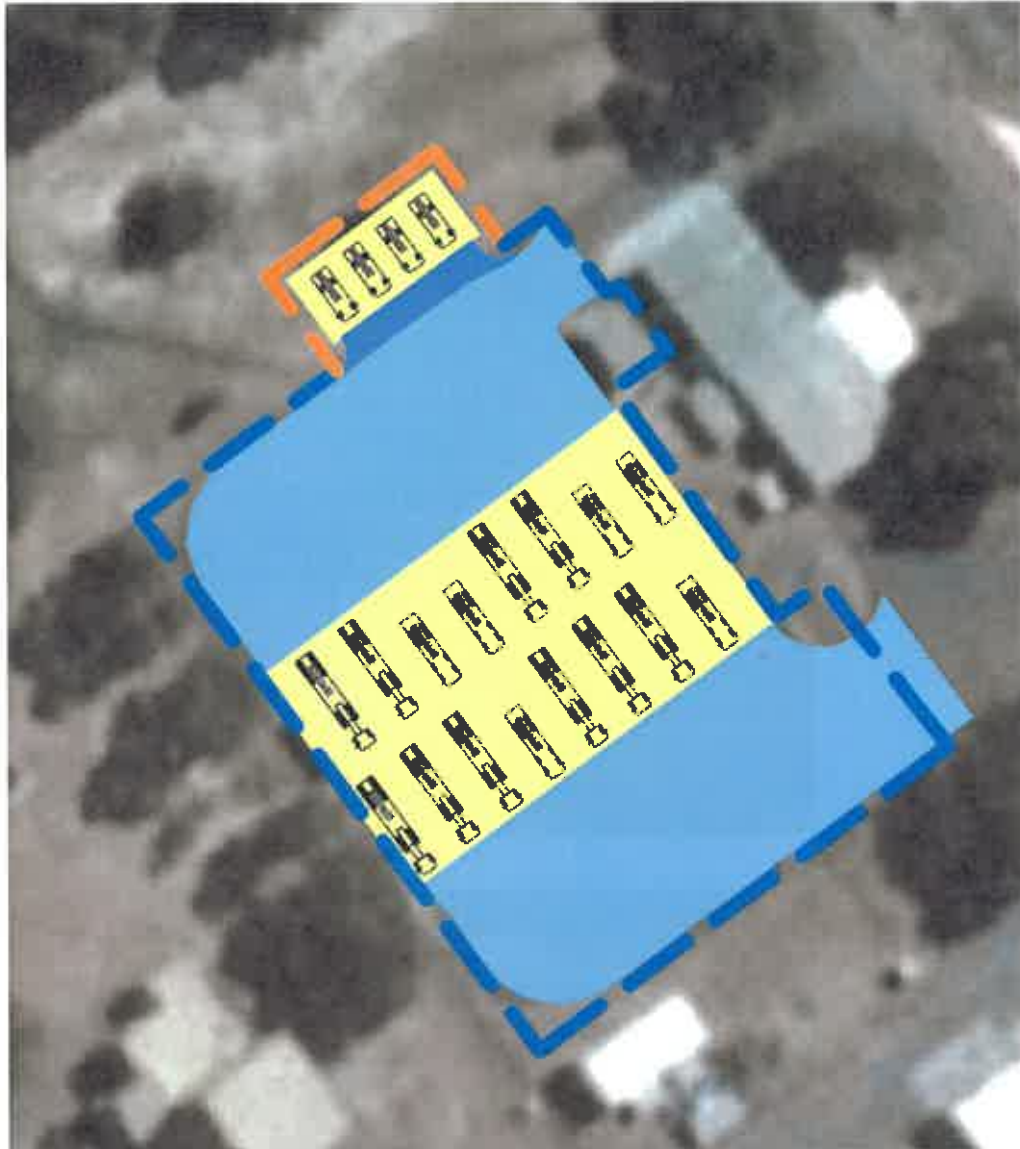





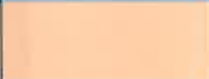


Attachment 5.1- Regional Plan – RAAF Base Williamtown, New South Wales



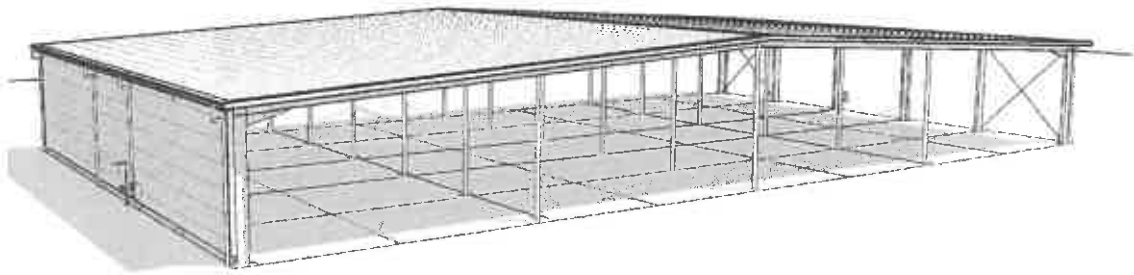


Attachment 5.2- Site Plan – RAAF Base Williamtown, New South Wales

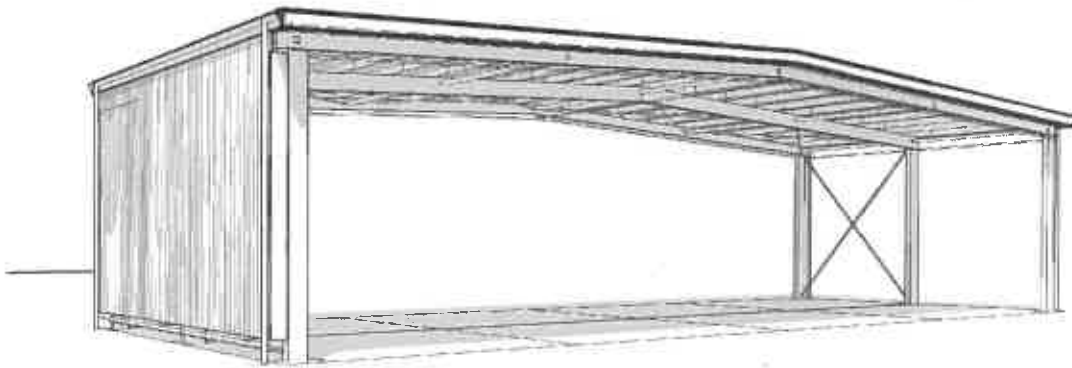


New Hardstand		Existing Hardstand	
New Shelter		Existing Shelter	
New Fence		Existing Fence	

Attachment 5.3- Shelter Perspective – RAAF Base Williamtown, New South Wales



Shelter 1









Shelter 2

Attachment 6.1- Regional Plan – RAAF Base Richmond, New South Wales



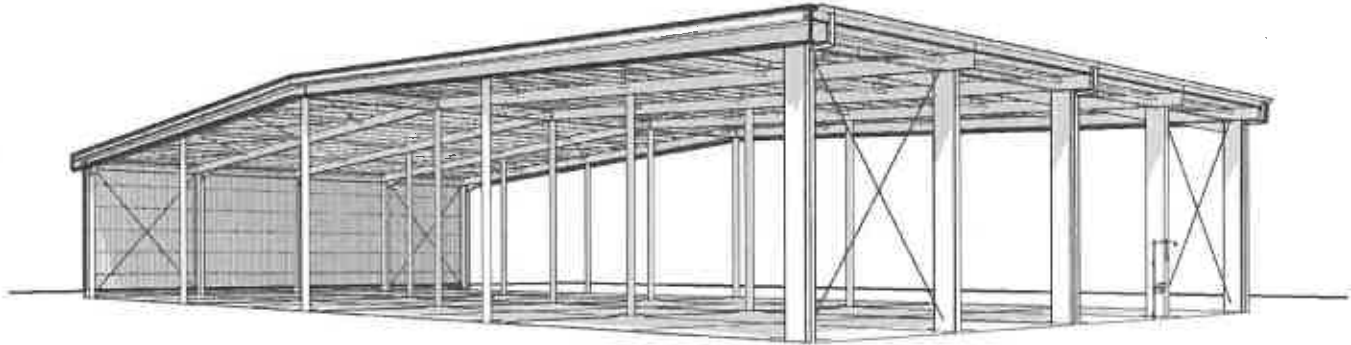
Attachment 6.2- Site Plan – RAAF Base Richmond, New South Wales



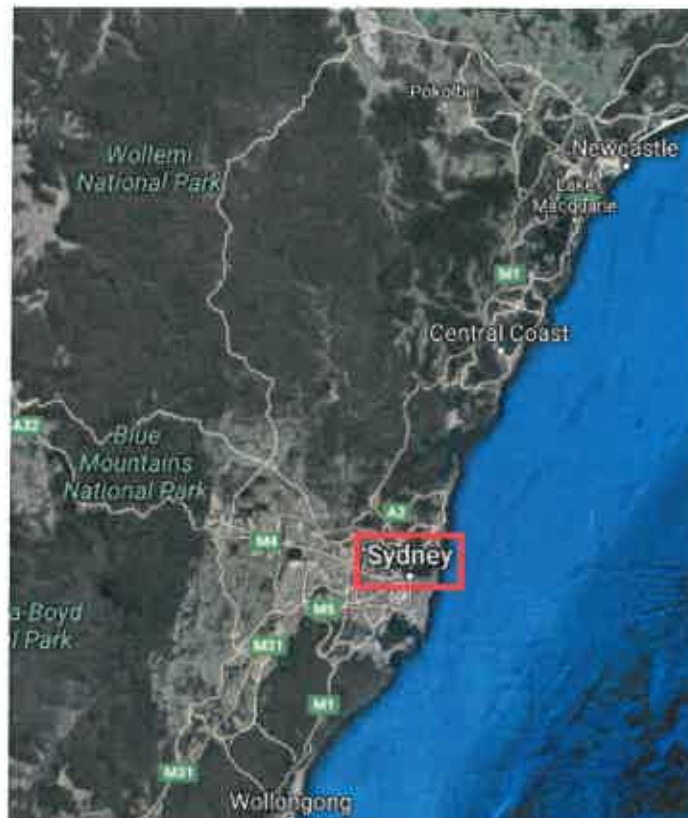
New Hardstand		Existing Hardstand	
New Shelter		Existing Shelter	
New Fence		Existing Fence	



Attachment 6.3- Shelter Perspective – RAAF Base Richmond, New South Wales


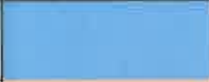






Attachment 7.1- Regional Plan — 6th Aviation Army Regiment,  
Holsworthy Barracks, New South Wales

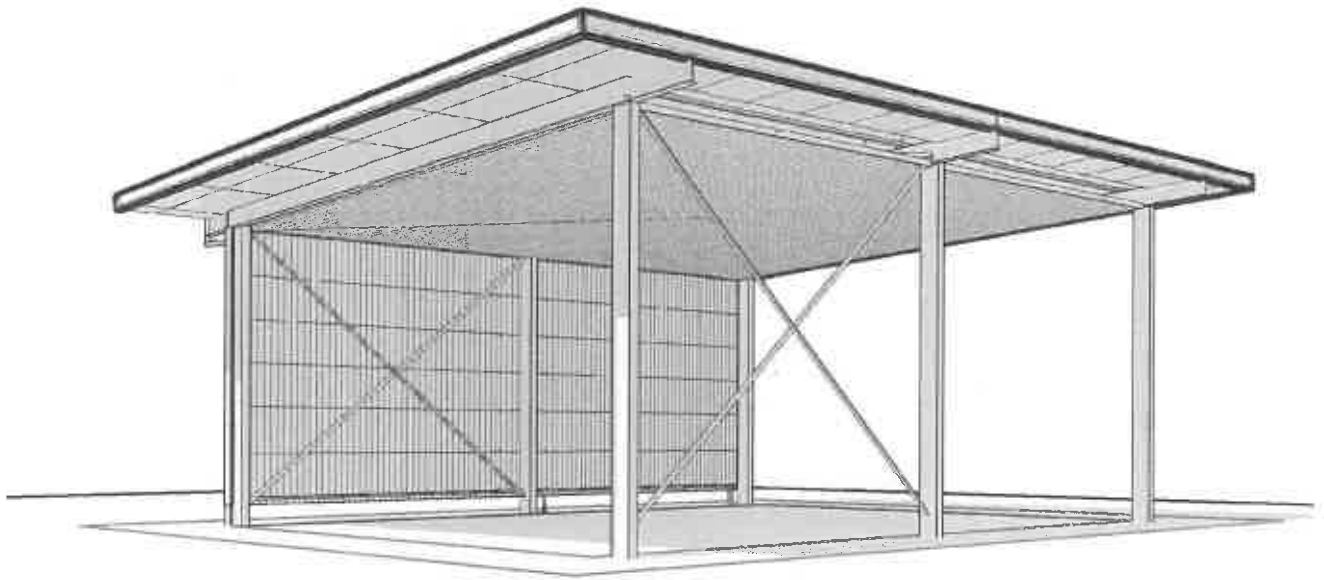


Attachment 7.2- Site Plan – 6th Aviation Army Regiment,  
Holsworthy Barracks, New South Wales



New Hardstand		Existing Hardstand	
New Shelter		Existing Shelter	
New Fence		Existing Fence	

Attachment 7.3- Shelter Perspective – 6th Aviation Army Regiment,  
Holsworthy Barracks, New South Wales





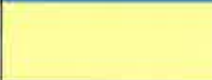



Attachment 8.1- Regional Plan -- RAAF Base Darwin, Northern Territory



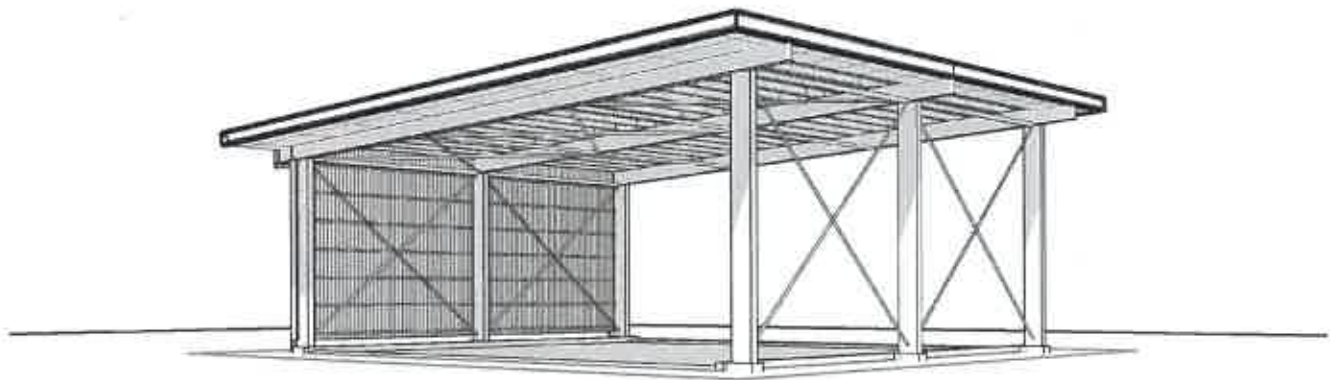


Attachment 8.2- Site 1 Plan – RAAF Base Darwin, Northern Territory



New Hardstand		Existing Hardstand	
New Shelter		Existing Shelter	
New Fence		Existing Fence	

Attachment 8.3- Shelter Perspective Site 1 – RAAF Base Darwin, Northern Territory




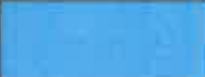




Shelter 1



Reused Shelter 659

Attachment 8.4- Site 2 Plan – RAAF Base Darwin, Northern Territory



New Hardstand		Existing Hardstand	
New Shelter		Existing Shelter	
New Fence		Existing Fence	



Shelter 664 is being resued with the bunded area within the building being extended.









Attachment 9.1- Regional Plan – 1st Aviation Army Regiment,  
Robertson Barracks, Northern Territory

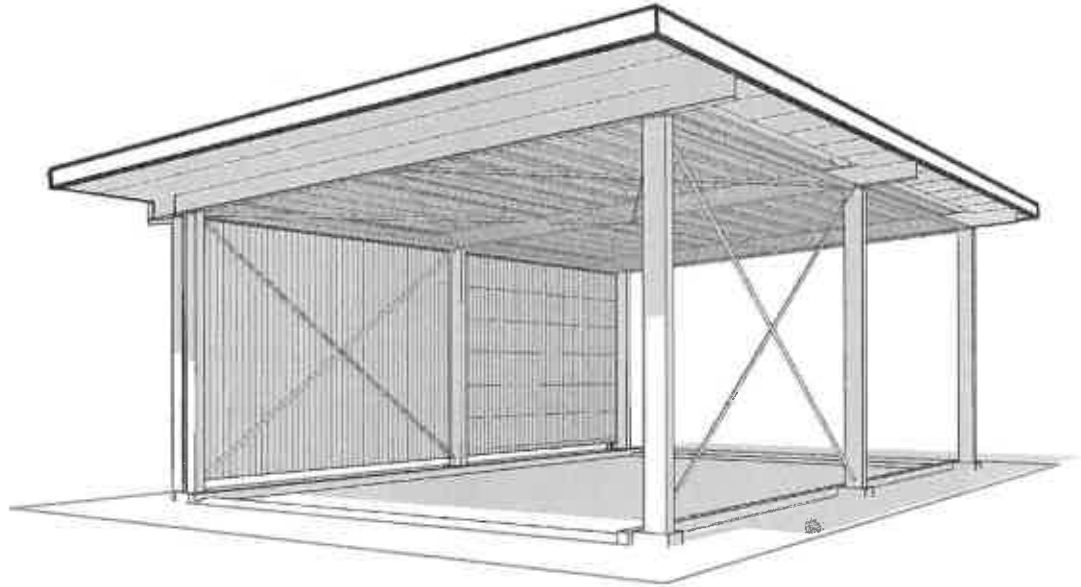


Attachment 9.2- Site Plan – 1st Aviation Army Regiment,  
Robertson Barracks, Northern Territory



New Hardstand		Existing Hardstand	
New Shelter		Existing Shelter	
New Fence		Existing Fence	

Attachment 9.3- Shelter Perspective – 1st Aviation Army Regiment,  
Robertson Barracks, Northern Territory




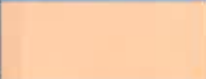




Attachment 10.1- Regional Plan – RAAF Base Tindal, Northern Territory



Attachment 10.2- Site 1 Plan – RAAF Base Tindal, Northern Territory





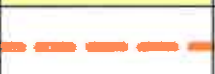



New Hardstand		Existing Hardstand	
New Shelter		Existing Shelter	
New Fence		Existing Fence	

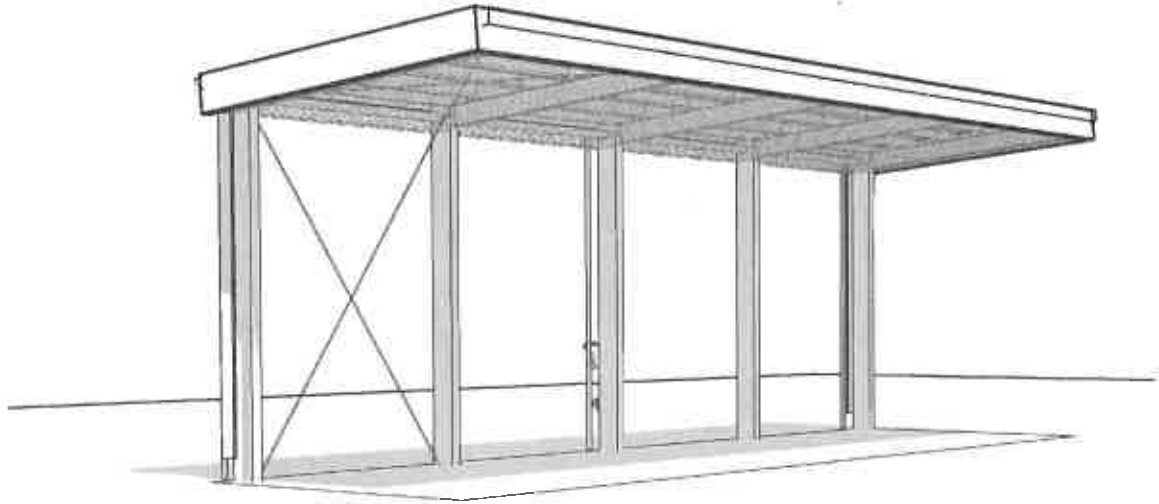


Attachment 10.3- Site 2 Plan – RAAF Base Tindal, Northern Territory



New Hardstand		Existing Hardstand	
New Shelter		Existing Shelter	
New Fence		Existing Fence	

Attachment 10.4- Shelter Perspective Site 2 – RAAF Base Tindal, Northern Territory




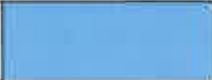

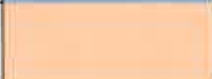
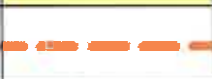

Attachment 11.1- Regional Plan – RAAF Base Learmonth, Western Australia



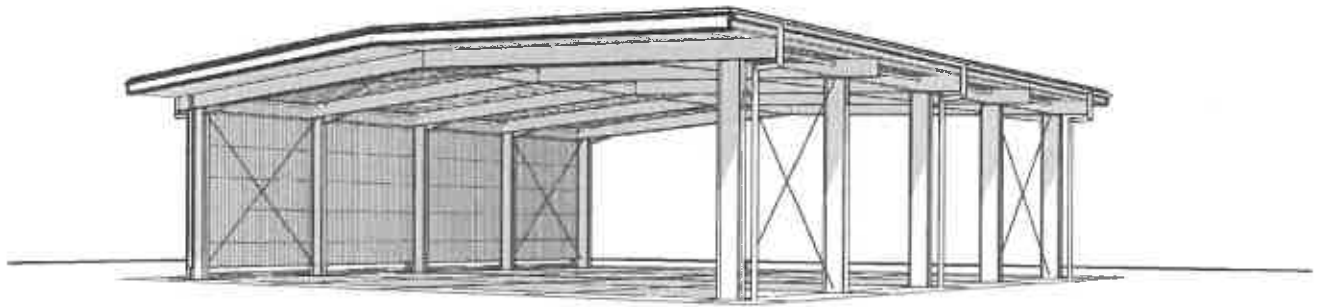


Attachment 11.2- Site Plan – RAAF Base Learmonth, Western Australia



New Hardstand		Existing Hardstand	
New Shelter		Existing Shelter	
New Fence		Existing Fence	

Attachment 11.3- Shelter Perspective – RAAF Base Learmonth, Western Australia




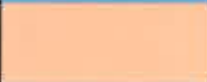
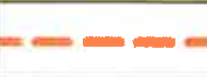



Attachment 12.1- Regional Plan – RAAF Base Curtin, Western Australia

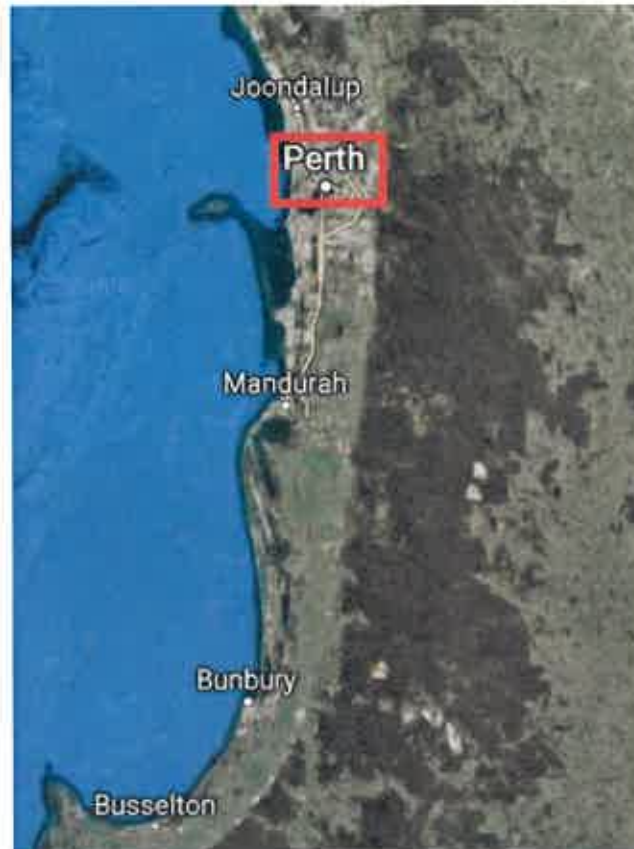


Attachment 12.2- Site Plan – RAAF Base Curtin, Western Australia



New Hardstand		Existing Hardstand	
New Shelter		Existing Shelter	
New Fence		Existing Fence	




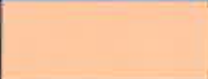


Attachment 13.1- Regional Plan – HMAS STIRLING, Western Australia



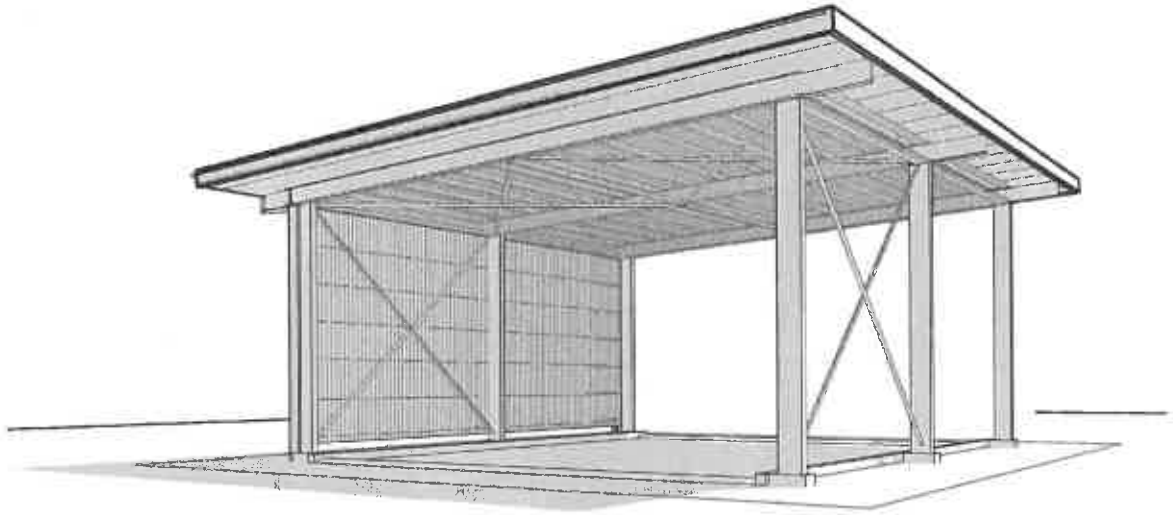


Attachment 13.2- Site Plan – HMAS STIRLING, Western Australia



New Hardstand		Existing Hardstand	
New Shelter		Existing Shelter	
New Fence		Existing Fence	

Attachment 13.3- Shelter Perspective – HMAS STIRLING, Western Australia









Attachment 14.1- Regional Plan – RAAF Base Edinburgh, South Australia



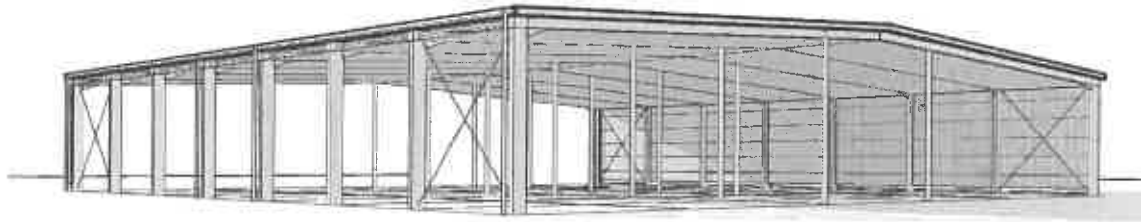


Attachment 14.2- Site Plan – RAAF Base Edinburgh, South Australia



New Hardstand		Existing Hardstand	
New Shelter		Existing Shelter	
New Fence		Existing Fence	

Attachment 14.3- Shelter Perspective – RAAF Base Edinburgh, South Australia

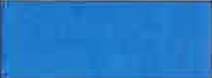



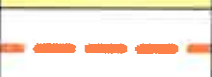



Attachment 15.1- Regional Plan – Woomera Test Facility, South Australia

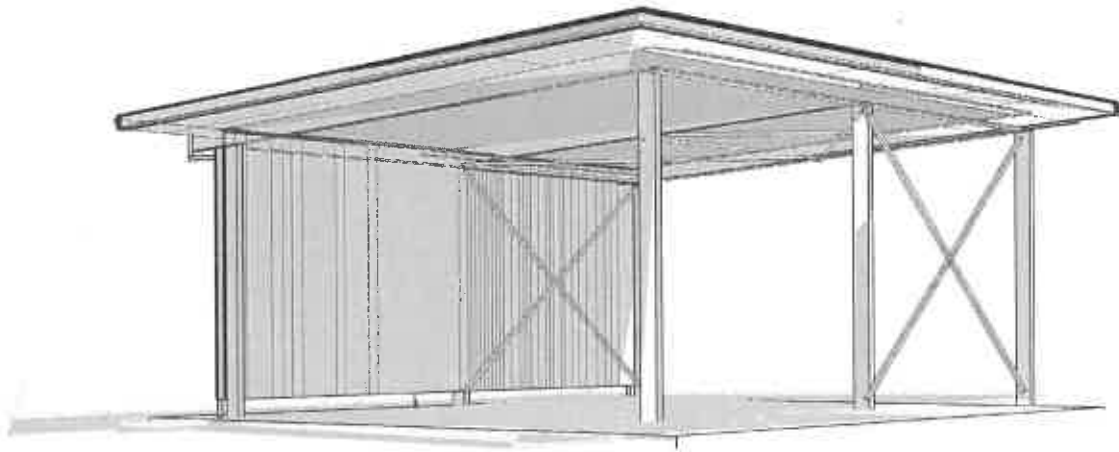


Attachment 15.2- Site Plan – Woomera Test Facility, South Australia



New Hardstand		Existing Hardstand	
New Shelter		Existing Shelter	
New Fence		Existing Fence	

Attachment 15.3- Shelter Perspective – Woomera Test Facility, South Australia










Attachment 16.1- Regional Plan – RMAF Base Butterworth, Malaysia



Attachment 16.2- Site Plan – RMAF Base Butterworth, Malaysia



New Hardstand		Existing Hardstand	
New Shelter		Existing Shelter	
New Fence		Existing Fence	