



Australian Government

Department of Defence

**LAND 2110 PHASE 1B AUSTRALIAN
DEFENCE FORCE CHEMICAL,
BIOLOGICAL, RADIOLOGICAL AND
NUCLEAR DEFENCE CAPABILITY
FACILITIES**

**STATEMENT OF EVIDENCE
TO THE
PARLIAMENTARY STANDING COMMITTEE
ON PUBLIC WORKS**

Canberra, Australian Capital Territory

March, 2018

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LAND 2110 PHASE 1B AUSTRALIAN DEFENCE FORCE CHEMICAL, BIOLOGICAL, RADIOLOGICAL AND NUCLEAR DEFENCE CAPABILITY FACILITIES

Identification of the Need

1. Defence's Chemical, Biological, Radiological and Nuclear Defence (CBRND) capability aims to protect personnel from the strategic, tactical and physiological impacts of exposure to Toxic Industrial Materials (TIM) and Chemical, Biological, Radiological and Nuclear (CBRN) weapons. This is achieved through training and equipping personnel for operations in a CBRN threat environment by addressing the five enabling systems of CBRN - detection, identification and monitoring; warning and reporting; physical protection; hazard management; and medical support.
2. Project J0090 LAND 2110 Phase 1B Australian Defence Force (ADF) CBRND Capability Facilities improves the CBRND capability and preparedness through the provision of facilities for training and storage of the capability procured under LAND 2110 Phase 1B capability project.
3. Training facilities in support of the LAND 2110 capability were identified as either being non-existent or dilapidated and in a state of disrepair.
4. Facilities to support storage of the equipment capability procured under LAND 2110 were also identified as either being non-existent or not fit for purpose.

Background

5. Project J0090 LAND 2110 Phase 1B ADF CBRND Capability Facilities improves the CBRND capability and preparedness through the provision of:
 - a. Mask Testing Facilities (MTF) for individual and collective training, and
 - b. Supplies and services for all five CBRN enabling systems.
6. Supporting the delivery of the capability for the project requires two facilities components to be delivered at a number of sites across Australia. The first is the construction of new and refurbishment of existing MTF, which will enable personnel to gain confidence in the use of individual protective equipment. The second is the provision of storage facilities to support the Integrated Logistics Plan (ILP) that will be adopted for the project.

Description of the Proposal

7. The works proposed to be delivered as part of the LAND 2110 Phase 1B ADF CBRND Capability Facilities project satisfies a requirement to enable essential training to be undertaken, and for high readiness CBRND equipment to be stored in locations that enable rapid access to that equipment. The project requires a combination of adaptive re-use and/or modification of existing facilities and construction of new facilities.
8. The proposed works have a national footprint. A Locality Plan showing the location of the 14 sites where the works are proposed is at [Attachment 1](#). The proposed works are categorised into three project elements as follows:
 - a. **Project Element 1 - New MTFs.** The requirement for this project element is to provide new facilities to undertake individual and collective training for the LAND 2110 capability at the locations detailed in para. 35.
 - b. **Project Element 2 - Refurbished MTFs.** The requirement for this project element is to update and refurbish existing facilities to undertake individual and collective training for the LAND 2110 capability at the locations detailed in para. 35.
 - c. **Project Element 3 - ILP Storage Solutions.** The requirement for this project element is to provide facilities at the locations detailed in para. 35 to support the

Operational and Training capability procured under the LAND 2110 capability project in three configurations:

- (1) Operational pack for Army,
- (2) Operational pack for Air Force, and
- (3) Training packs for all three services.

Options Considered

9. To determine the most appropriate infrastructure solutions, Defence undertook master planning and design activities that included extensive user consultation meetings and investigations to establish the functional requirements for each element at each of the proposed locations.
10. Where appropriate and cost effective, adaptive re-use and/or refurbishment solutions were considered the most appropriate solution.
11. At locations where no facilities existed, an approach to deliver new MTF and ILP Storage Solution facilities was adopted.
12. A 'Do Nothing' option was considered but rejected as it would not enable the ADF to achieve the required level of preparedness to respond to a CBRN threat and therefore would not meet the requirements of the project and the greater LAND 2110 capability requirements.

Environment and Heritage Assessment

Environment

13. All proposed works will be undertaken in accordance with Commonwealth Environmental Policies. An assessment of the potential environmental impacts was undertaken in 2012. This document will be reviewed and updated during development of the final design to address necessary issues and support delivery of the project through the development of a site-specific Construction Environmental Management Plan.

Asbestos

14. The scope of this proposal includes the upgrading of existing building assets that contain asbestos. Any asbestos removal and disposal activities will be conducted in accordance with the applicable State legislation and the appropriate environmental controls will be addressed in the Construction Environmental Management Plan.

Contamination

15. Aqueous film-forming foams (AFFF) have been used for fire-fighting purposes around Australia for decades. AFFF products historically used on some Defence sites contain perfluoroalkyl and polyfluoroalkyl substances (PFAS) and are known to affect land identified for works in this proposal.
16. The project will consult with Defence's PFAS Investigation and Management Branch during the final development of the design at each location to determine the appropriate approach to managing the risk of PFAS contamination. All options for managing PFAS, such as water treatment, soil solidification and stabilisation, reuse and stockpiling will be considered, with the most appropriate options to be adopted at each location.

Heritage

17. Heritage issues will be managed in accordance with the Heritage Management Plan relevant to each location. The proposed works will have a minimal impact on heritage values.

Key Legislation

18. The following key legislation is relevant to this project:
 - a. *Environment Protection and Biodiversity Conservation Act 1999 (Cth)*;
 - b. *Building and Construction Industry (Improving Productivity) Act 2016*;
 - c. *Work Health and Safety Act (WH&S) 2011 (Cth)*;
 - d. *Occupational Health and Safety (OHS) Act 2004 (Vic)*;
 - e. *Occupational Safety and Health (OSH) Act 1984 (WA)*;
 - f. *Work Health and Safety Act (WH&S) 2012 (SA)*;

- g. Work Health and Safety Act (WH&S) 2011 (NT);*
- h. Work Health and Safety Act (WH&S) 2011 (QLD);*
- i. Work Health and Safety Act (WH&S) 2011 (NSW);*
- j. Work Health and Safety (WHS) Act 2011 (Cth)*
- k. Occupational Health and Safety (OHS) Regulations 2017 (Vic);*
- l. Occupational Safety and Health (OSH) Regulations 1996 (WA);*
- m. Work Health and Safety Regulations (WH&S) 2012 (SA);*
- n. Work Health and Safety Regulations (WH&S) 2011 (NT);*
- o. Work Health and Safety Regulations (WH&S) 2011 (QLD);*
- p. Work Health and Safety Regulations (WH&S) 2017 (NSW);*
- q. Fair Work Act 2009 (Cth); and*
- r. Disability Discrimination Act 1992 (Cth).*

Applicable Codes and Standards

- 19. 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. Building Code 2016;
 - c. Defence Manual of Infrastructure Engineering – Electrical;
 - d. Defence Manual of Fire Protection Engineering;
 - e. Defence Estate Quality Management System;
 - f. Defence WHS Manual; and
 - g. Defence Security Manual.
- 20. 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

21. Defence recognises the importance of providing local residents, statutory authorities and other interested stakeholders an opportunity to provide input into, or raise concerns relating to projects such as the LAND 2110 Phase 1B ADF CBRND Capability Facilities project.
22. Defence has engaged in extensive consultation with the relevant Defence users and technical authorities to develop the requirements and proposed solutions for this proposal.
23. 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.
24. In implementing this strategy, consultation will occur with the following key external stakeholders:
 - a. Local and affected authorities including power, water and gas network providers, Telstra, relevant state authorities, and the relevant fire authority in each location; and
 - b. the Industry Capability Network.
25. Defence plans to conduct at least two community information sessions for the project prior to the Joint Parliamentary Standing Committee on Public Works Hearing.

Purpose of the Works

Project Objectives

26. The CBRND Capability Facilities project will provide new and refurbished facilities to undertake individual and collective training for the LAND 2110 capability and provide facilities to support the capability equipment procured under the LAND 2110 capability project.

Detailed Description of the Proposed Scope of Works

27. Supporting the delivery of the capability for the project requires two facilities components, to be delivered through three project elements, at a number of sites across Australia.

Project Element 1 – New Mask Testing Facilities construction

28. A requirement to construct seven new MTF facilities. An MTF is a purpose-built facility with a 200m safety radius. The facility consists of a central enclosed structure where training is conducted, with water available on site at the structure. A four-vehicle car park in the vicinity of the structure is to be constructed, with an access road provided to connect the facility to the nearest road. An undercover training shelter (waiting area), suitable for use by 30 personnel, is to be constructed at the entrance to the facility and outside of the safety area. A six-vehicle car park is to be provided at the waiting area.
29. The MTF constructed at Holsworthy Barracks, as part of the Moorebank Unit Relocation (MUR) project, is considered to be a ‘model MTF’, for the purpose of highlighting user requirements. A 100% design for this facility is owned by Defence and has been employed to inform the design. The Holsworthy Barracks facility is satisfying the functional requirements for a MTF and is in regular use by the School of Military Engineering (SME) for CBRND training and instruction.
30. Additional detail for this project element is provided at [Attachment 2](#).

Project Element 2 – Refurbished Mask Testing Facilities

31. The requirement for this project element is to update and refurbish three existing facilities to undertake individual and collective training for the LAND 2110 capability at the locations detailed in para. 35. Additional detail for this project element is provided at [Attachment 3](#).

Project Element 3 – ILP Storage Solution

32. The requirement for this project element is to provide facilities at ten locations to support the Operational and Training capability procured under the LAND 2110 capability project in three configurations:
- Operational pack for Army,
 - Operational pack for Air Force, and
 - Training packs for all three services.
33. Additional detail for this project element is provided at [Attachment 4](#).

Details and Reasons for Site Selection

34. For each of the proposed sites, site selection boards (SSBs) are being undertaken in accordance with Defence Estate development guidelines. The SSBs typically consider the suitability of the site for the proposed function, 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 Plans for each location.
35. The proposed works have a national footprint, with the project elements delivered at multiple sites as follows:

Location	1. New MTF	2. Refurb MTF	3. ILP
HMAS <i>Stirling</i> , WA		x	x
Bindoon Training Area, WA		x	
Robertson Barracks, NT	x		x
RAAF Base Edinburgh, SA	x		x
Lavarack Barracks, QLD	x		x
Gallipoli Barracks, QLD			x

Location	1. New MTF	2. Refurb MTF	3. ILP
RAAF Base Amberley, QLD	x		x
SME, Holsworthy Barracks, NSW			x
ARTC Kapooka, NSW	x		x
RAAF Base Wagga, NSW			x
HMAS <i>Creswell</i> , ACT		x	x
RMC, Majura Range, ACT	x		
HMAS <i>Cerberus</i> , VIC			x
RAAF Base East Sale, VIC	x		

36. Individual Regional Plans indicating the proposed location of each project element is provided in Attachments 5 to 20.

Zoning and Local Approvals

37. All elements of the proposal are located within the boundaries of Commonwealth-owned and Defence-controlled land. Accordingly, no civilian authority or design approvals are required, although the works will comply with the relevant standards and regulations (where applicable).
38. The proposed works have been developed in accordance with the respective Zone Plans for each establishment.

Child Care Provisions

39. There is no requirement for additional childcare facilities as this project does not increase base populations.

Impact on Local Community

40. The proposal will generate short-term employment opportunities predominantly in the building, construction and labour markets in each of the locations detailed in para. 35. The proposal will also provide opportunities for suppliers involved in the manufacture and distribution of construction materials and equipment.
41. The Head Contractor will be required to manage all construction activities, in accordance with the Construction Environmental Management Plan for each site, to

minimise any disruption to the respective local communities. These plans will include control measures designed 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 required during the construction phase to protect the environment will also be implemented.

42. **Traffic.** The project will not result in any net increases in permanent military or civilian personnel. There will, however, be an increase in contractor personnel accessing and working at each project location during the construction phase. During construction there will be an increase in the number of large vehicles delivering materials to site and undertaking construction activities. The development of Traffic Management Plans by the Head Contractor, together with ongoing and regular coordination of all construction activities with local Defence authorities at each establishment, will mitigate the effects of this on the internal road networks.
43. Contractor access to the construction sites within each establishment will be tightly controlled for security reasons and to minimise the impact of construction traffic movements and construction activities on ADF operations, training and the local community.
44. **Business Opportunities.** The construction phase of the project will provide opportunities for local businesses to provide services as sub-contractors to the Head Contractor at each location detailed in para. 35.

Planning and Design Concepts

45. The general design philosophy for the proposed facilities incorporates the following considerations:
 - a. provision of cost effective and functional facilities of energy efficient design suitable for the climate of the site and of a style compatible with the existing aesthetics of the establishment;
 - b. adoption, where possible, of conventional construction techniques and materials, in particular those commonly used by the construction industry and consistent with those already utilised on the establishment;
 - c. maximum use of existing infrastructure and facilities to minimise capital costs;

- d. use of readily available and durable materials that consider both life expectancy and maintenance requirements;
- e. infrastructure services planning and structural design taking into account future flexibility, projected demand and Defence policies for reliability and redundancy;
- f. recognition of site constraints, security requirements, the approved Zone Plan, functional relationships to existing facilities; and
- g. planning services and structural design to accommodate flexibility.

Structural Design

46. The structural design for any new construction or refurbishment will be consistent with the exemplar project (Holsworthy Barracks MTF) and existing finishes where appropriate. This includes industrial-type solutions such as portal frames and lightweight metal cladding, with “off-the-shelf” solutions considered.

Mechanical Services

47. There are no mechanical services planned for any of the new works.
48. For the buildings that are proposed to be refurbished, an assessment has been undertaken to determine the condition and performance of existing mechanical extraction systems. Where existing mechanical extraction systems are deemed to be required, they will be retained if in suitable condition, or if required, upgraded to improve the functional performance.

Hydraulic Services

49. All hydraulic works will be provided in accordance with the Australian Standards and Defence’s engineering policies.

Electrical Services

50. Lighting and power systems will be provided in accordance with the Australian Standards and Defence’s engineering policies.

Communications

51. There are no communication services required for this proposal.

Fire Protection

52. All construction and fire protection requirements will, as a minimum, be in accordance with the provisions of the Building Code of Australia, Defence's Manual of Fire Protection Engineering, and all other applicable codes and Australian Standards.

Acoustics

53. The new facilities will comply with the Building Code of Australia and Australian Standards for noise and acoustics.

Security

54. There are no security works planned for the project.

Environmental Sustainability of the Project

55. The Commonwealth is committed to Ecologically Sustainable Development (ESD) and the reduction in greenhouse gas emissions. Defence reports annually to Parliament on the energy efficiency targets, established by government, as part of its commitment to improve ESD. Defence also implements policies and strategies in energy, water and waste to improve natural resource efficiency and to support its commitment to the reduction of energy consumption, potable water consumption and waste diversion to landfill.
56. The ESD targets and requirements shall comply with the Defence Building Performance Manual. The targets and measures for this project have been balanced with other requirements for Defence buildings, such as functional and security requirements, heritage considerations and Work Health and Safety. Defence ESD policies have been addressed through a mature understanding of cost effectiveness. ESD is considered as one of the key objectives in the design development and delivery of new facilities.
57. The project has adopted cost effective ESD measures as a key objective in the design and development of project elements to reduce the impact on the wider environment.

This occurs through the use of sustainable design and construction techniques, and systems that will reduce energy consumption and natural resources by:

- a. **Reducing Water Use:** The overall aim is to reduce potable water use by specifying water efficient fixtures and fittings, and by incorporating on site rainwater collection at each MTF.
- b. **Using Renewable Energy:** Photovoltaic (PV) electrical systems with battery storage to store excess electricity generation have been incorporated into the design of each new MTF for light and power. This reduces the demand placed on traditional energy supply while also eliminating the need for supply infrastructure.
- c. **Using High Efficiency Lighting:** The design of the new MTF's incorporates high efficiency light-emitting diode (LED) light fittings. These fittings will reduce the energy demand placed on the PV electrical system and reduce the ongoing maintenance liability.

Landscaping

58. The project has no specific landscape design. Where landscaping is to be undertaken to remediate construction works, the design will include indigenous, regionally appropriate, drought tolerant plants and naturally occurring native grasses with low ongoing watering requirements.

Energy Targets

59. The requirements of Defence's SMART Infrastructure Manual and Building Energy Performance Manual have been adopted for the proposed new MTF's.

Compliance with Local, State/Territory and Commonwealth Water and Energy Policies

60. All buildings will be designed, constructed, operated and maintained in order to use energy and water as efficiently as possible and to comply with the following statutory and Defence requirements:
 - a. Section J of the Building Code of Australia;
 - b. Commonwealth Energy Efficiency in Government Operations Policy 2007;

- c. Department of Defence Building Energy and Performance Manual, Version 4 – December 2012;
- d. Department of Defence SMART Infrastructure Manual, Version 1 – May 2015;
- e. Department of Defence Water Management Strategy 2006-2009; and
- f. Department of Defence Waste Minimisation Policy 2007.

Work Health and Safety Measures

- 61. The Australian Government is committed to improving work health and safety outcomes in the building and construction industry. The proposed facilities 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 as listed in paras. 18 and 19.
- 62. 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.
- 63. Safety aspects of the proposed facilities have been addressed during the design development process and have been documented in a preliminary Safety in Design Report. This will be elaborated as the project progresses through the remaining design processes. A Work Health Safety Plan will be required to be developed for the construction phase for each site prior to the commencement of any construction activities.
- 64. All construction sites will be secured appropriately to prevent public access, or access by unauthorised Defence personnel during the construction period. No public safety risks have been identified.

Cost Effectiveness and Public Value

Outline of Project Costs

- 65. The estimated out-turned cost of this project is \$16.670 million, excluding Goods and Service Tax. The cost estimate includes the construction costs, management and design fees, contingencies and escalation allowance.
- 66. An increase in the future sustainment, employees and operating costs is anticipated due to the addition of new facilities and infrastructure which will require additional maintenance, cleaning and utilities expense appropriation.

Details of Project Delivery System

- 67. 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 design development, procure trade contractors and construct the works.

Construction Program

- 68. Subject to Parliamentary approval of the project, construction is expected to commence early 2019 and be completed by late 2019.

Public Value

- 69. The proposed redevelopment will contribute significantly to Defence's capability by improving ADF's training outcomes through fit-for-purpose and operationally effective facilities.
- 70. Existing facilities have been re-used where it has been possible to meet the users' requirements and to minimise operating costs and environmental impacts.
- 71. The Project will also employ a diverse 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

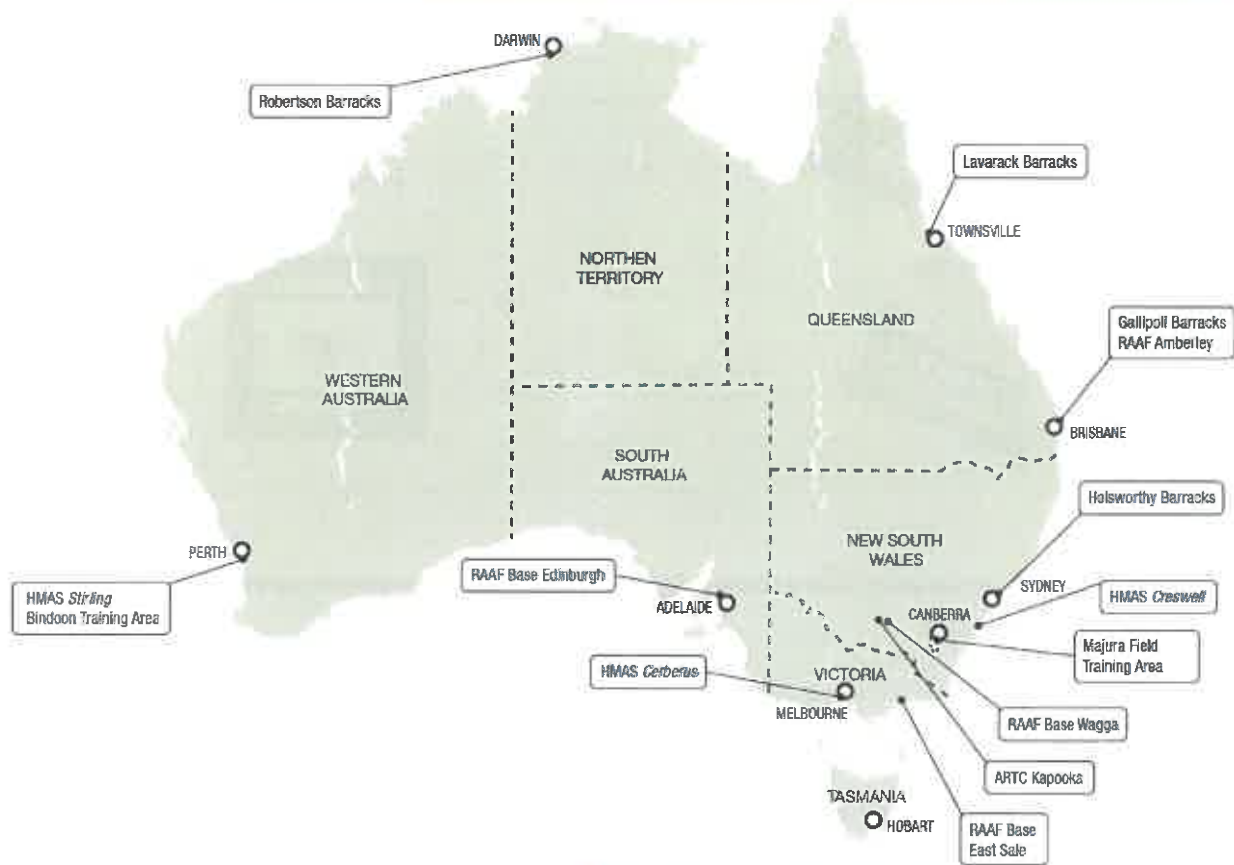
Revenue

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

Attachments

1. Site Locations Plan
2. Project Element 1 – New Mask Testing Facilities
3. Project Element 2.1 – Refurbished Mask Testing Facilities (HMAS *Stirling*)
4. Project Element 2.2 – Refurbished Mask Testing Facilities (Bindoon Training Area)
5. Project Element 2.3 – Refurbished Mask Testing Facilities (HMAS *Creswell*)
6. Project Element 3 – Integrated Logistics Plan Storage Solution
7. Site Location – HMAS *Stirling*, WA
8. Site Location – Bindoon Training Area, WA
9. Site Location – Robertson Barracks, NT
10. Site Location – RAAF Base Edinburgh, SA
11. Site Location – Lavarack Barracks, QLD
12. Site Location – RAAF Base Amberley, QLD
13. Site Location – Gallipoli Barracks, QLD
14. Site Location – HMAS *Creswell*, ACT
15. Site Location – Majura Range, ACT
16. Site Location – Holsworthy Barracks, NSW
17. Site Location – Kapooka Military Area, NSW
18. Site Location – RAAF Base Wagga, NSW
19. Site Location – HMAS *Cerberus*, VIC
20. Site Location – Dutson Air Weapons Range, VIC

Attachment 1: Site Locations Plan



Attachment 2: Project Element 1 - New Mask Testing Facilities

Figure 1 – New Mask Testing Facility and Training Shelter Concept

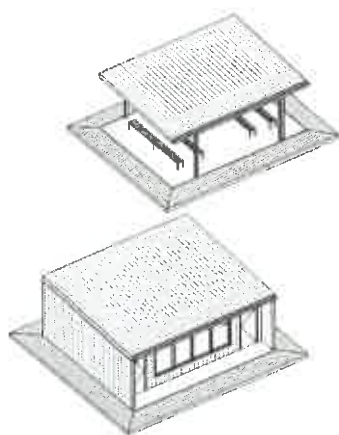


Figure 2 – New Mask Testing Facility and Training Shelter Floor Plan

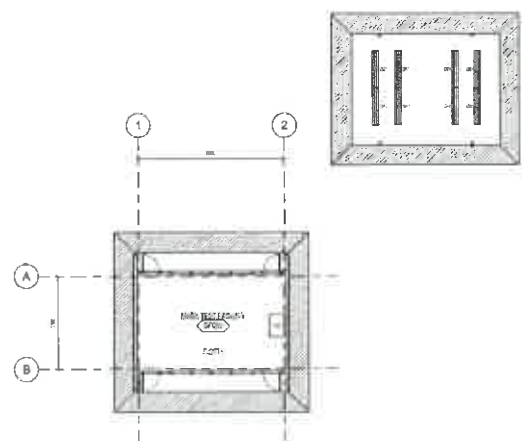


Figure 3 – New Mask Testing Facility and Training Shelter North and East Elevations

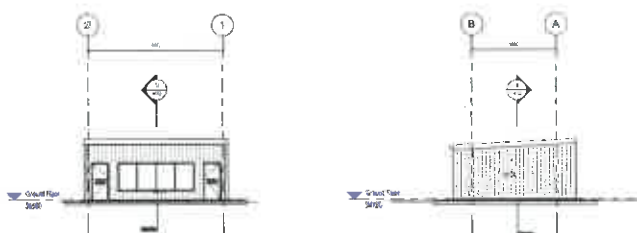
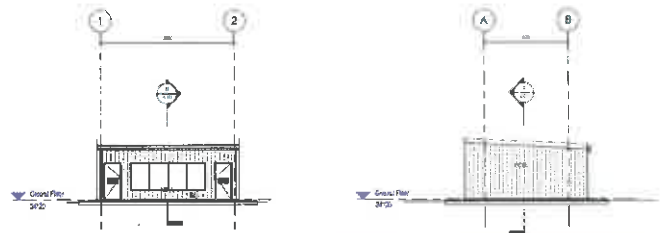


Figure 4 – New Mask Testing Facility and Training Shelter South and West Elevations



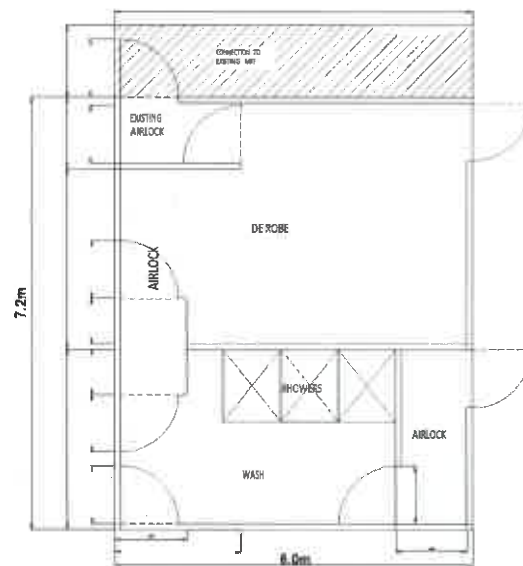
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Attachment 3: Project Element 2.1 - Refurbished Mask Testing Facility (RANSSSS West)

Figure 1 – Existing MTF at RANSSSS West at HMAS Stirling



Figure 2 – Cleansing and Monitoring Station extension to existing MTF



Attachment 4: Project Element 2.2 - Refurbished Mask Testing Facility (Bindoon Training Area)

Figure 1 – Existing MTF at Bindoon Training Area



Figure 2 – Dilapidated mechanical ventilation

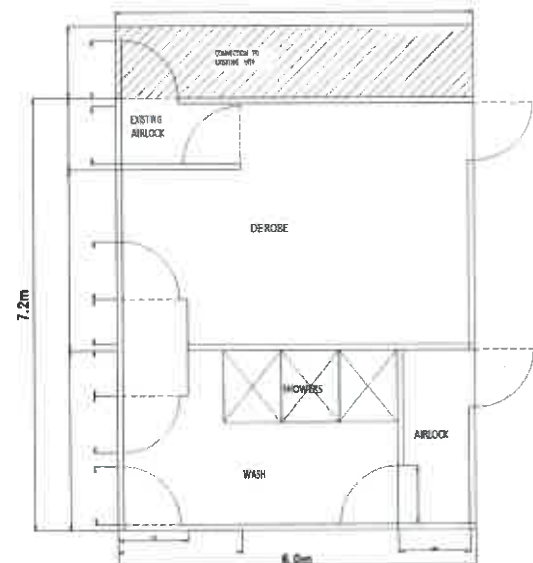


Attachment 5: Project Element 2.3 - Refurbished Mask Testing Facility (RANSSSS East)

Figure 1 – Existing MTF at RANSSSS East, HMAS Creswell



Figure 2 – Cleansing and Monitoring Station extension to existing MTF



Attachment 6: Project Element 3 - ILP Storage Solution Layouts

Figure 1 – Typical ILP Layout – Army Operational



Figure 2 – Typical ILP Layout – Air Force Operational

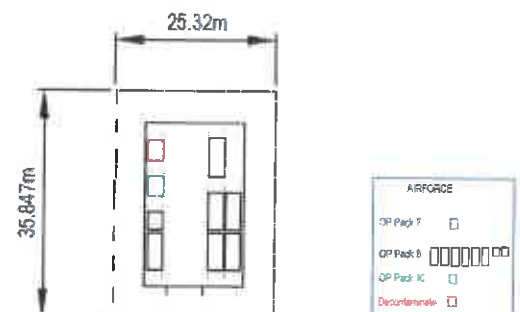


Figure 3 – Typical ILP Layout – Training



Attachment 7: Site Location - HMAS *Stirling*, WA

Figure 1 – HMAS *Stirling* RANSSSS MTF location



Attachment 8: Site Location - Bindoon Training Area, WA

Figure 1 – Bindoon Training Area



Figure 2 – Training facilities



Attachment 9: Site Location - Robertson Barracks, NT

Figure 1 – MTF and ILP location, Robertson Barracks



Attachment 10: Site Location - RAAF Base Edinburgh, SA

Figure 1 – MTF and ILP location, RAAF Base Edinburgh



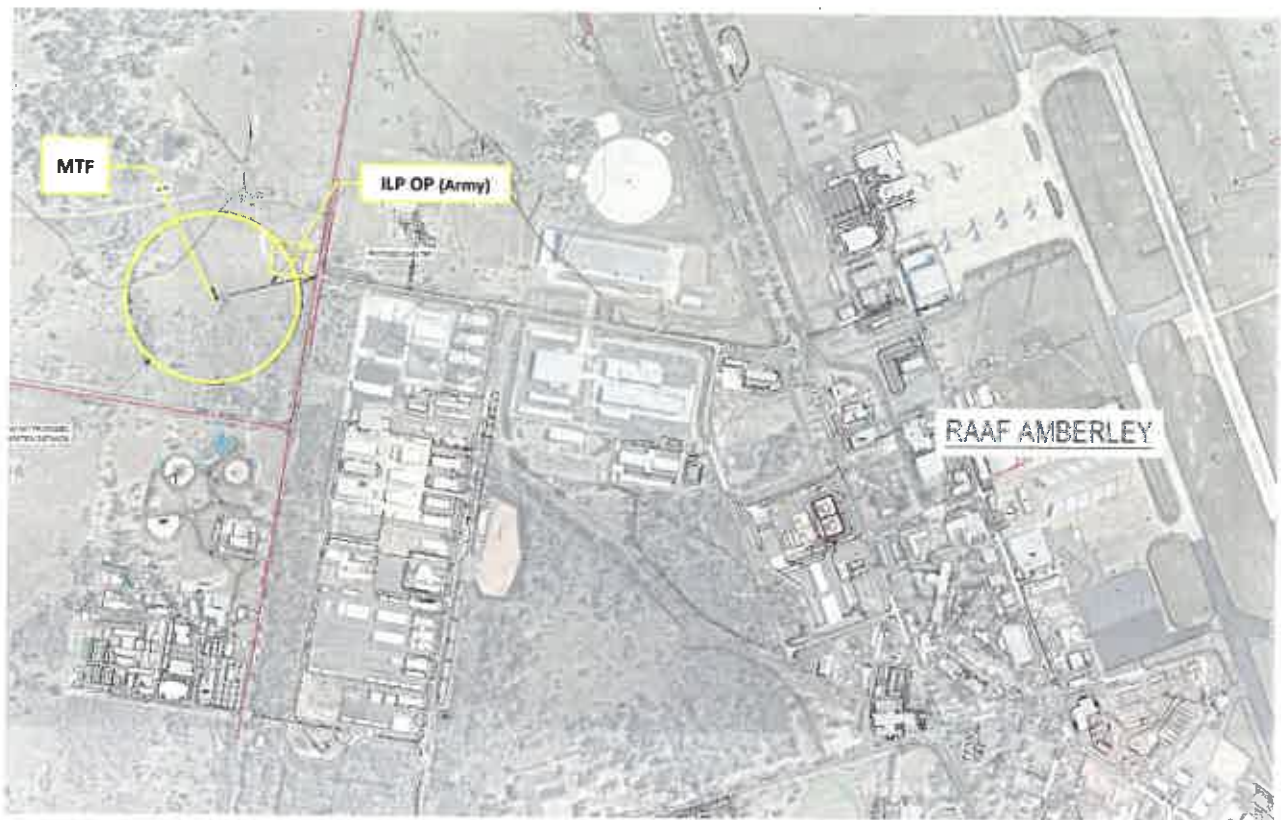
Attachment 11: Site Location - Lavarack Barracks, QLD

Figure 1 – MTF and ILP OP location, Lavarack Barracks, QLD



Attachment 12: Site Location - RAAF Base Amberley, QLD

Figure 1 – MTF and ILP OP (Army) location, RAAF Base Amberley



Attachment 13: Site Location - Gallipoli Barracks, QLD

Figure 1 – ILP location, Gallipoli Barracks



Attachment 14: Site Location - HMAS Creswell, ACT

Figure 1 – MTF and ILP location at RANSSSS (East), HMAS Creswell



Attachment 15: Site Location - Majura Range, ACT

Figure 1 – MTF location, Majura Range



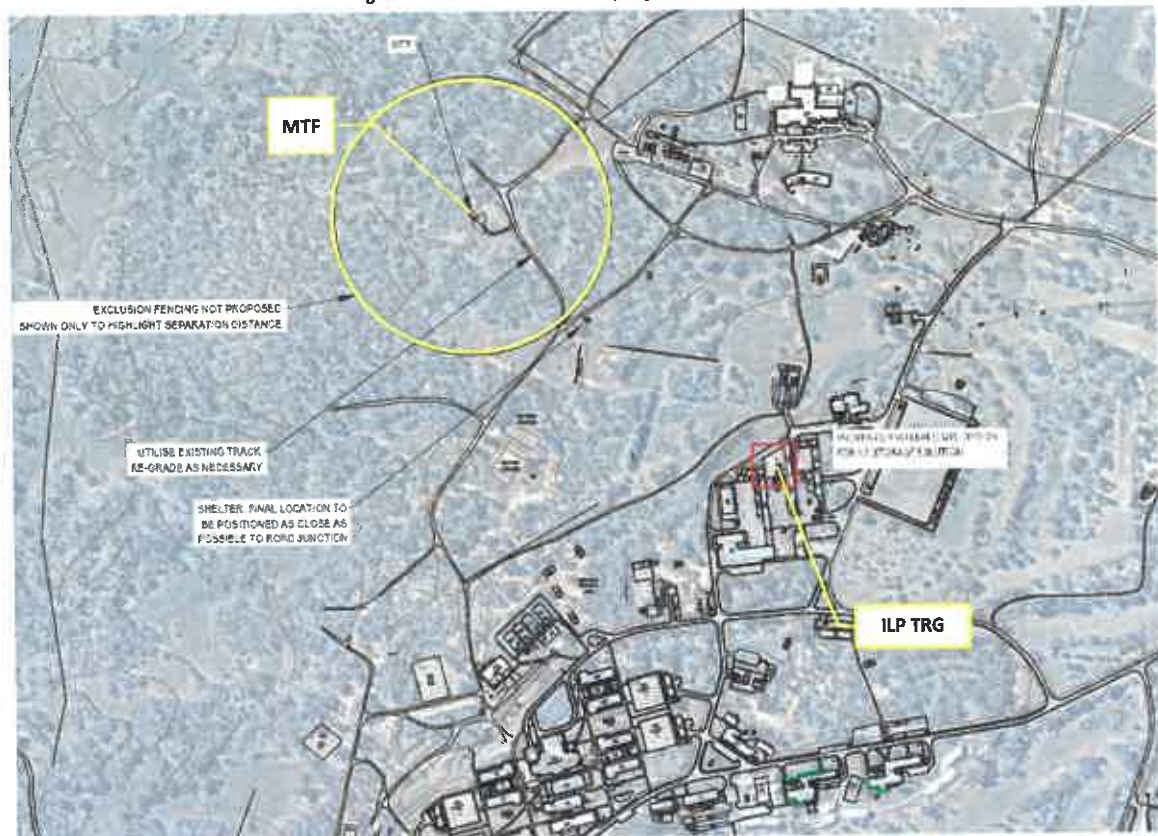
Attachment 16: Site Location - Holsworthy Barracks, NSW

Figure 1 – ILP location, Holsworthy Barracks



Attachment 17: Site Location - Kapooka Military Area, NSW

Figure 1 – MTF and ILP location, Kapooka Military Area



Attachment 18: Site Location - RAAF Base Wagga, NSW

Figure 1 – ILP location, RAAF Base Wagga



Attachment 19: Site Location - HMAS *Cerberus*, VIC

Figure 1 – ILP location, HMAS *Cerberus*



Attachment 20: Site Location – Dutson Air Weapons Range, VIC

Figure 1 – MTF location, Dutson Air Weapons Range



