



Australian Government

Department of Defence

CONSTRUCTION AND UPGRADE OF INDIRECT FIRE SUPPORT FACILITIES

Gallipoli Barracks, QLD

Lavarack Barracks, QLD

Robertson Barracks, NT

Campbell Barracks, WA

Proof and Experimental Establishment, SA

Bridges Barracks, VIC

Holsworthy Barracks, NSW

RAAF Base Williamtown, NSW

Statement of Evidence to the Parliamentary Standing Committee on Public Works

Canberra, Australian Capital Territory

October 2016

[This page intentionally blank]

Contents

Identification of the Need	5
Description of Proposal	7
Options Considered to Fulfil the Identified Need	9
Environment and Heritage Assessment	9
Key Legislation	10
Applicable Codes and Standards	10
Consultation with Key Stakeholders	11
Purpose of the Works	14
Project Objectives	14
Details and Reasons for Site Selection	14
Detailed Description of the Proposed Works	16
Public Transport, Local Road and Traffic Concerns	19
Zoning and Local Approvals	19
Childcare Provisions	19
Impact on Local Community	19
Planning and Design Concepts	20
Structural Design	20
Materials	21
Hydraulic Services	21
Electrical Services	21
Fire Protection	22
Acoustics	22
Security	22
Environmental Sustainability of the Project	22
Landscaping	23
Energy Targets	23
Workplace Health and Safety Measures	24
Provision for People with Disabilities	24
COST EFFECTIVENESS AND PUBLIC VALUE	24
Outline of Project Costs	24
Details of the Project Delivery System	25
Construction Program	25
Public Value	25
Revenue	25

Attachments

26

1. Locality Plan
2. Gallipoli Barracks
 - 2.1 Regional Plan
 - 2.2 Site Plan
 - 2.3 Floor Plan and Layout
3. Lavarack Barracks
 - 3.1 Regional Plan
 - 3.2 Site Plan
 - 3.3 Floor Plan and Layout
4. Robertson Barracks
 - 4.1 Regional Plan
 - 4.2 Site Plan
 - 4.3 Floor Plan and Layout
5. Bridges Barracks
 - 5.1 Regional Plan
 - 5.2 Site Plan
 - 5.3 Floor Plan and Layout
6. Campbell Barracks
 - 6.1 Regional Plan
 - 6.2 Site Plan
 - 6.3 Floor Plan and Layout
7. Holsworthy Barracks
 - 7.1 Regional Plan
 - 7.2 Site Plan
 - 7.3 Floor Plan and Layout
8. RAAF Base Williamtown
 - 8.1 Regional Plan
 - 8.2 Site Plan
 - 8.3 Floor Plan and Layout
9. Proof and Experimental Establishment
 - 9.1 Regional Plan
 - 9.2 Site Plan
 - 9.3 Floor Plan and Layout

LAND 17 PHASE 1B/1C

INFRASTRUCTURE PROJECT

Identification of the Need

1. Australian Defence Force (ADF) personnel are highly trained and equipped to conduct a variety of military operations in support of Government objectives. This may include the requirement to respond to a threat in a variety of environments in Australia or overseas. To achieve this, ADF personnel need to be capable of providing the appropriate, timely and accurate force onto specific objectives. This needs to be achievable by a variety of methods, including through indirect fire from artillery systems.
2. LAND 17 is a multi-phased project providing the ADF with a new suite of ammunition, artillery command and fire control systems, and new delivery platforms to Australian Army units across Australia. Indirect fire support is a key Combat Support enabler to the ADF. Accordingly, the indirect fire support systems are required to ‘train to fight’ in the most effective and efficient manner. Three key components to allow specific units to do so is to consider how they are sustained, maintained and trained. The introduction of the new M777A2 Lightweight Howitzer (LTH) has impacted how existing units will be supported to achieve these three functions. Accordingly, there is a facilities deficiency to support identified ADF units to ‘train to fight’ across the three key components as follows:
 - a. **Sustainment.** The new M777A2 capability is supported by a new vehicle fleet and associated equipment. The new LAND 121 vehicle fleet is required to be operated and stored in locations to support the manoeuvre of the new M777A2 capability. As such, vehicle shelters for storage and hardstand for movements are deficient in some locations.
 - b. **Maintenance.** The new M777A2 capability is required to be maintained in a different manner to that of the replaced system. Accordingly, maintenance locations and arrangements for storing spare parts are inadequate in some locations.

- c. **Train.** Simulation is a key component to allow all ADF units to train in the most effective and efficient manner. Continuing advances in technology have seen a surge in the effectiveness of simulation to augment field training which is incrementally more expensive, inefficient and difficult to achieve based on unit proximity to available ranges. A simulation system is required to further enhance this capability and, as such, a dedicated facility for ADF units does not exist.

Background

3. In October 2013, LAND 17 Phase 1C.1 (LTH only) achieved Government Second Pass approval for the equipment acquisition. The remaining elements of LAND 17 Phase 1B and LAND 17 Phase 1C achieved Government Second Pass approval in August 2014. The approval included funding for the infrastructure component related to these capabilities, to be provided under one project, referred to herein as LAND 17 Phase 1B/1C.

Facilities to Support LAND 17 Phase 1B/1C

4. The aim of the LAND 17 Phase 1B/1C infrastructure project is to deliver new and upgraded facilities and infrastructure to support the introduction into service of the new equipment to the Australian Army. The key types of facilities proposed include the following:
 - a. **Joint Fires Observers (JFO) / Joint Tactical Air Controller (JTAC) Simulator Facility.** This facility will accommodate the JFO/ JTAC simulator equipment. The facility will consist of a purpose designed simulator room with associated control room, storage spaces, services areas, class room, kitchenette and ablutions. The simulator room will provide a platform for soldiers lying together with their full battle ensemble, surrounded by a screen upon which interactive battle scenarios will be projected.
 - b. **Upgraded and new Repair Parts Stores (RPS).** RPS will allow the Army units to accommodate the additional stores being provided under LAND 17 Phase 1B/1C that will be controlled by RPS personnel.
 - c. **Shelters.** Shelters will allow for the storage of new equipment such as vehicles, LTH, ammunition modules and their associated stores. The ammunition modules will not contain ammunition when located in the shelter.

- d. **Hardstand.** Hardstand will allow for heavy trailers, vehicle flat racks and associated circulation area to support vehicle and equipment movement.
- 5. The facilities are to be provided to eight separate locations across Australia. 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.

Description of Proposal

- 6. The works proposed to be delivered by LAND 17 will provide new and upgraded facilities and infrastructure to support the introduction, operation and deployment of the new ADF artillery capability. As described earlier, this will consist of facilities for the storage of vehicles, LTH, ammunition modules, enabling equipment and new JFO / JTAC simulator system.
- 7. A Locality Plan showing the location of the eight sites where the works are proposed is at Attachment 1, with individual Regional Plans at Attachment 2.1 to 9.1. The proposed works are categorised into eight project elements as follows:
 - a. **Project Element 1** – Gallipoli Barracks, QLD, 1st Regiment Royal Australian Artillery (1 REGT RAA).
 - b. **Project Element 2** – Lavarack Barracks, QLD, 4th Regiment Royal Australian Artillery (4 REGT RAA).
 - c. **Project Element 3** – Robertson Barracks, NT, 8th / 12th Regiment Royal Australian Artillery (8/12 REGT RAA).
 - d. **Project Element 4** – Bridges Barracks, VIC, The School of Artillery (SOARTY).
 - e. **Project Element 5** – Campbell Barracks, WA, Special Air Service Regiment (SASR).
 - f. **Project Element 6** – Holsworthy Barracks, NSW, 2nd Commando Regiment (2 CDO REGT).
 - g. **Project Element 7** – RAAF Base Williamtown, NSW, 4 Squadron, Royal Australian Air Force (4 SQN RAAF).

h. **Project Element 8** – Proof & Experimental Establishment (P&EE), SA.

8. The following table summarises the works associated with each of the project elements:

Project Element Number	1	2	3	4	5	6	7	8
Location	Gallipoli Barracks, QLD	Lavarack Barracks, QLD	Robertson Barracks, NT	Bridges Barracks, VIC	Campbell Barracks, WA	Holsworthy Barracks, NSW	RAAF Base Williamtown, NSW	P&EE, SA
Scope of Works								
JFO/JTAC Simulator	✓	✓	✓	✓	✓	✓	✓	
Expansion to RPS	✓	✓	✓					
Gun Shelter								✓
Ammunition Module Storage	✓	✓	✓	✓				
CES Cage	✓	✓	✓	✓				
Vehicle Shelter		✓	✓	✓				
Hardstand		✓	✓	✓				
Replacement Training Shelter				✓				
RBS 70 Training Bunker				✓				

Table 1: LAND 17 Phase 1B/1C Infrastructure Project - Scope of Works

Options Considered to Fulfil the Identified Need

9. To determine the most appropriate facilities solutions for the project, Defence undertook master planning activities that included user consultation meetings to define the functional requirements of the facilities and detailed investigation of each location. During the investigations, adaptive reuse of existing facilities and consolidation of the Defence estate were key opportunities pursued and where appropriate, incorporated into the proposed solutions.
10. Due to the nature and purpose of the equipment being acquired, proposed locations were limited to the locations of user units. As a result, the following opportunities were identified that would reduce the facilities and infrastructure requirements of the project.
 - a. **LAND 17 Phase 1A.** As part of the earlier Phase of LAND 17, facilities were delivered at Gallipoli Barracks and Lavarack Barracks that will now support a portion of LTH and vehicles being provided under LAND 17 Phase 1B/1C. The equipment that was procured under Phase 1A and identified for these facilities was reallocated to Darwin, so leaving shelters vacant.
 - b. **Bridges Barracks.** An existing vehicle shelter at The School of Artillery was identified that has space available to accommodate the allocated PMV.

Environment and Heritage Assessment

Environmental Impact of the Proposed Works

11. An Initial Environmental Review for the proposed works associated with this project was completed in late 2015, against the Environment Protection and Biodiversity Conservation Act (EPBC) 1999 (Cth). The conclusion of the Initial Environmental Review was that a referral under the EPBC was not required for the project. It was also determined that environment risks associated with the project are minor and manageable through the development of site specific Construction Environmental Management Plans.

12. Construction Environmental Management Plans will also be required to comply with the project's Environmental Assessment Report, prepared by the Defence Directorate of Environment Protection and Assessment. These plans also address issues such as traffic management, noise and dust generation, and erosion and sediment control during construction.

Indigenous and Non Indigenous Heritage Considerations

13. The Initial Environment Review concluded that heritage risks associated with the project are minor and manageable through the development of site specific Construction Environmental Management Plans.

Key Legislation

14. The following key legislation is relevant to this project:
 - a. EPBC 1999 (Cth);
 - b. Work Health and Safety Act (WH&S) 2011 (Cth);
 - c. Occupational Health and Safety Regulations 2007 (Vic & WA);
 - d. Disability Discrimination Act 1992 (Cth);
 - e. Fair Work Act 2009 (Cth); and
 - f. Fair Work (Building Industry) Act 2012 (Cth).

Applicable Codes and Standards

15. 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 2013;
 - c. Defence Security Manual;
 - d. Manual of Infrastructure Engineering – Electrical;

- e. Defence Manual of Fire Protection Engineering; and
- f. Defence Estate Quality Management System.

Consultation with Key Stakeholders

- 16. 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 major projects such as the LAND 17 Phase 1B/1C Infrastructure Project.
- 17. Within Defence, consultation has occurred with the following stakeholders:
 - a. Army Headquarters,
 - b. Capability Acquisition and Sustainment Group (formerly Defence Material Organisation),
 - c. Defence Estate and Infrastructure Group,
 - d. Chief Information Officer Group,
 - e. 1st, 4th and 8/12th Regiments of the Royal Australian Artillery,
 - f. School of Artillery,
 - g. Special Air Service Regiment,
 - h. 2 Commando Regiment,
 - i. 4 Squadron, Royal Australian Air Force, and
 - j. Proof and Experimental Establishment.
- 18. Defence has also developed a community consultation and communication strategy that recognises the importance of providing local residents, statutory authorities and other interested stakeholders, including action groups, an opportunity to provide input into, or raise concerns relating to the project.

19. Community consultation will occur as follows for the areas where works are proposed:

a. **Gallipoli Barracks, QLD.**

- (1) HON. Jane Prentice MP, Federal Member for Ryan;
- (2) HON. Kate Jones MP, State Member for Ashgrove;
- (3) Brisbane City Council and the local community (including action groups); and
- (4) QLD utilities providers.

b. **Lavarack Barracks, QLD.**

- (1) Mrs Cathy O'Toole MP, Federal Member for Herbert;
- (2) Mr Scott Stewart MP, State Member for Townsville;
- (3) Townsville City Council and the local community; and
- (4) QLD utilities providers.

b. **Robertson Barracks, NT.**

- (1) Mr Luke Gosling MP, Federal Member for Solomon;
- (2) Mr Gerard Wood MP, State Member for Nelson;
- (3) Municipality of Litchfield and the local community; and
- (4) NT utilities providers.

c. **Bridges Barracks, VIC.**

- (1) Mr Rob Mitchell MP, Federal Member for McEwen;
- (2) Ms Stephanie Ryan MP, State Member for Euroa;
- (3) Mitchell Shire Council and the local community; and
- (4) VIC utilities providers.

d. **Campbell Barracks, WA.**

- (1) Hon Julie Bishop MP, Federal Member for Curtin;
- (2) Hon Mr Colin Barnett MLA, State Member for Cottesloe;
- (3) City of Nedlands and the local community; and
- (4) WA utilities providers.

e. **Holsworthy Barracks, NSW.**

- (1) Mr Craig Kelly, Federal Member for Hughes;
- (2) Ms Melanie Gibbons MP, State Member for Holsworthy;
- (3) Liverpool City Council and the local community; and
- (4) NSW utilities providers.

f. **RAAF Base Williamtown, NSW.**

- (1) Mrs Meryl Swanson MP, Federal Member for Paterson;
- (2) Ms Kate Washington MP, State Member for Port Stephens;
- (3) Port Stephens Council and the local community; and
- (4) NSW utilities providers.

g. **Proof & Experimental Establishment, SA.**

- (1) Mr Nick Champion MP, Federal Member for Wakefield;
- (2) Mr Steven Griffiths MP JP, State Member for Goyder;
- (3) Wakefield Regional Council and the local community; and
- (4) SA utilities providers.

Purpose of the Works

Project Objectives

20. The purpose of the project is to provide infrastructure necessary to support the introduction into service of a range of equipment and training systems acquired under LAND 17 Phase 1B/1C.
21. In meeting the purpose of the project, operational effectiveness of Army personnel will be enhanced through modern equipment and more realistic training.

Details and Reasons for Site Selection

22. The works proposed to be delivered by LAND 17 Phase 1B/1C Infrastructure project include new and adaptive reuse facilities across eight sites. The following are common details and reasons across more than one site:
 - a. **All sites:** A Site Selection Board (SSB) was held for each location to confirm that the selected sites were the most appropriate locations for the siting of the facilities.
 - b. **Gallipoli Barracks / Lavarack Barracks / Robertson Barracks.** The proposed facilities are directly related to activities undertaken by the unit in that location. For this reason, the sites selected are located within the Operational Support Zone of the Base Zone Plan, within the regimental precinct. In addition, the JFO/ JTAC simulator facility will support the ongoing skills maintenance of soldiers with the JFO and JTAC proficiencies. In consideration of the activities undertaken within the facility, the selected locations are situated within a training and administrative area with separation from heavy vehicles movement.
 - c. **Bridges Barracks / RAAF Williamtown.** The proposed facilities for both SOARTY and 4 SQN RAAF are directly related to activities undertaken by each training establishment. For this reason, the sites selected are located within the Operational Support Zone of the Base Zone Plan, within each unit precinct. In addition, the JFO/ JTAC simulator facility will provide the initial training for soldiers in JFO and/ or JTAC proficiency. The selected site is located within the administration and training area where it will minimize travel times for students between lessons and limit trainee exposure to heavy vehicle movement.

23. The following sections summarise the site specific details and reasons.

Gallipoli Barracks

24. The RPS and ammunition module shelter both have strong functional relationships with the maintenance functions of the unit. It was further noted that these functions are undertaken in an area that is subject to regular movement of heavy vehicles and there was a need to limit impacting on the current available circulation area. As a result, the site selected is in close proximity to the area boundary.

Lavarack Barracks

25. The RPS extension has been sited in close proximity to the existing RPS. Of the alternate locations investigated, the selected site enables consolidation of all equipment held to within a single location and enables efficiencies in management to be realised.
26. Options for siting facilities in support of the additional vehicles, modules and trailers were limited. The selected location has reduced the potential risks associated with vehicle overcrowding and constrained movement areas.

Robertson Barracks

27. The new RPS area will improve upon existing space allocated to the existing RPS. As a result, site selection approval was not required.
28. For the additional vehicles, modules and trailers that were not able to be located in existing facilities, the siting of their new facility has been based on site master planning. The proposed location and layout replicates existing buildings that accommodate similar equipment.

Bridges Barracks

29. The ILHS vehicles, trailers, ammunition modules and flat racks site supports the separation of heavy vehicles from personnel movement through an extension of the current heavy vehicle and LTH storage area.

Campbell Barracks

30. Siting options for facilities at Campbell Barracks have been coordinated with the Campbell Barracks Redevelopment Project, which was heard by the Parliamentary Standing Committee on Public Works in 2015.
31. The JFO/ JTAC simulator facility will support the ongoing specialist training undertaken by SASR. The site selected will develop upon an already established simulation area and reduce foot movement between other specialist training facilities. This will minimize personnel exposure to vehicle movement whilst facilitating realistic training within a designated training range.

Holsworthy Barracks

32. The JFO/ JTAC simulator facility proposed for the Special Forces Training Facility at Holsworthy Barracks will support the ongoing skills maintenance of 2 CDO REGT soldiers with the JFO and JTAC proficiencies. Similarly to the SASR location, the site selected will develop upon an established simulation area and minimize personnel movement between differing training activities.

P&EE

33. The LTH gun shelter proposed for P&EE has been sited in close proximity to an older gun shelter. The facility will provide a purpose design drive-through shelter for the storage of the LTH and capitalize on new roadworks being delivered, therefore reducing the quantity of circulation hardstand required.

Detailed Description of the Proposed Works

34. Detailed site plans for each of the proposed project elements are at Attachments 2.2 – 9.2. This section outlines the proposed works for each of the elements.

Project Element 1 – Gallipoli Barracks, QLD, 1 REGT RAA

35. The floor plan of the proposed JFO/ JTAC simulator facility and RPS are provided at Attachment 2.3. The proposed works include:
 - a. JFO/ JTAC simulator facility as per the description in paragraph 4 (a);

- b. RPS comprising functional areas for administration, pallet breakdown area, various storage mediums (i.e. shelving, cages), ablution and adjacent ammunition module shelter;
- c. Hardstand for flat racks to be stored and their loaded / unloaded from ILHS vehicles; and
- d. Cages for secure storage of vehicles equipment.

Project Element 2 – Lavarack Barracks, QLD, 4 REGT RAA.

36. The floor plan of the proposed JFO/ JTAC simulator facility and RPS are provided at Attachment 3.3. The proposed works include:
- a. JFO/ JTAC simulator facility as per the description in paragraph 4 (a);
 - b. RPS comprising functional areas for administration, pallet breakdown area and various storage mediums (i.e. shelving, cages);
 - c. Shelters for PMV;
 - d. A shelter for ammunition module storage; and
 - e. Hardstand for trailers, flat racks and vehicle circulation.

Project Element 3 – Robertson Barracks, NT, 8/12 REGT RAA.

37. The floor plan of the proposed JFO/ JTAC simulator facility and RPS are provided at Attachment 4.3. The proposed works include:
- a. JFO/ JTAC simulator facility as per the description in paragraph 4 (a);
 - b. RPS comprising functional areas for administration, pallet breakdown area and various storage mediums (i.e. shelving, cages);
 - c. A shelter for ILHS vehicles, LTH and ammunition module storage; and
 - d. Hardstand for trailers, flat racks and vehicle circulation.

Project Element 4 – Bridges Barracks, VIC, SOARTY.

38. The floor plan of the proposed JFO/ JTAC simulator facility is provided at Attachment 5.3.
The proposed works include:

- a. JFO/ JTAC simulator facility that consists of the same areas as described in the description at paragraph 4 (a) however with two classrooms and simulator systems;
- b. A shelter for ILHS vehicles and ammunition module storage;
- c. Hardstand for trailers, flat racks and vehicle circulation;
- d. A replacement open training shelter;
- e. Two replacement training bunkers; and
- f. Enlarged cages for LTH related equipment storage.

Project Element 5 – Campbell Barracks, WA, SASR.

39. The floor plan of the proposed JFO/ JTAC simulator facility is provided at Attachment 6.3.
The JFO/ JTAC simulator facility is as per the description in paragraph 4 (a).

Project Element 6 – Holsworthy Barracks, NSW, 2 CDO.

40. The floor plan of the proposed JFO/ JTAC simulator facility is provided at Attachment 7.3.
The JFO/ JTAC simulator facility is as per the description in paragraph 4 (a).

Project Element 7 – RAAF Base Williamtown, NSW, 4 SQN RAAF.

41. The floor plan of the proposed JFO/ JTAC simulator facility is provided at Attachment 8.3.
The JFO/ JTAC simulator facility is as per the description in paragraph 4 (a).

Project Element 8 – P&EE, SA.

42. The floor plan of the new LTH shelter is provided at Attachment 9.3. The LTH shelter and associated circulation hardstand is the full scope of works.

Public Transport, Local Road and Traffic Concerns

43. There is no increase to base populations as a result of this project. However, during construction there will be an increase to the number of large vehicles that enter the bases to deliver materials to site for construction. Contractual arrangements within each 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

44. All proposed works will occur on Commonwealth land and there will be no change to existing land use conditions. The intended function and use of all project elements are consistent with Defence Zone Plans for the areas the works are proposed.

Childcare Provisions

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

Impact on Local Community

46. The proposal will generate short-term employment opportunities, predominantly in the building, construction and labour markets in areas affected by the Project. The proposal will also generate some off-site job opportunities through the manufacture and distribution of materials over the construction period. This will provide a positive economic stimulus for small and medium enterprises in areas where work is proposed.
47. The additional construction vehicles required to enter each site will be managed closely to ensure that impact on any local community will be minimised. Prior to construction commencing, Defence will hold community consultation sessions as required to articulate the proposed site and traffic management procedures. This will allow the community to provide feedback on any issues regarding perceived impact by the construction.

Planning and Design Concepts

48. 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 base aesthetics;
 - 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 Barracks;
 - 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. infrastructure services planning and structure design taking into account future flexibility, projected demand and Defence policies for reliability and redundancy;
 - f. recognition of site constraints, security requirements, the established Zone Plan, functional relationships to existing facilities; and
 - g. planning services and structural design to accommodate flexibility.

Structural Design

49. The proposed new buildings will be steel framed structures with concrete floor slabs and metal deck roofs. In some cases external load bearing masonry and precast panel walls will be used. Where possible, internal walls will be non-load bearing frames lined with plasterboard to provide maximum flexibility for future layout.
50. Internal partitions to office areas will be either fixed or demountable, with paint finish, depending on specific requirements. Partitions will provide acoustic separation suitable for the room functions, to a minimum standard specified in the Acoustic Section of this submission. Selected areas will be provided with high quality sound isolation appropriate to the nature of the area. This may include sound proofing of partitions and doors.

Materials

51. External walls for the majority of new and extended buildings will primarily consist of horizontal metal cladding. The simulator facility will incorporate masonry cladding so that it meets local aesthetics and provides relief to the large flat surfaces. All new buildings, except for a shelter at Robertson Barracks, will have mono-pitched roofs with overhangs appropriate to their purpose and location. The Robertson Barracks shelter has a pitched roof that is similar to the existing shelters. Roofs will be constructed of steel with zincalume or colorbond finished metal roofing (or equivalent).

Hydraulic Services

52. The scope of proposed hydraulic services includes, but is not limited to, the provision of:
- a. water supply suitable for fire-fighting purposes,
 - b. water supply suitable for domestic purposes,
 - c. sewerage drainage service, and
 - d. stormwater drainage service.
53. Hydraulic services will comply with AS3500: National Plumbing and Drainage Code of Australia, National Construction Code, Building Code of Australia 2013 and relevant regulatory authorities' standards as prescribed by the relevant water authorities in Brisbane, Townsville, Darwin, Puckapunyal, Perth, Sydney, Newcastle and Port Wakefield.

Electrical Services

54. The electrical supply to the proposed facilities will be from the existing electrical network for each base. Investigations have confirmed that there is adequate capacity within each network for the proposed facilities. The scope of the proposed electrical services comprises site infrastructure and in-building services. The electrical (power and lighting) systems shall conform to the requirements of all applicable legislation, codes of practice and guidance publications relevant to Queensland, Northern Territory, Victoria, Western Australia, New South Wales and South Australia as well as Defence Standards and Guidelines, specifically the Manual of Infrastructure Engineering – Electrical.

Fire Protection

55. All construction and fire protection requirements will, as a minimum, be in accordance with the provisions of the National Construction Code – Building Code of Australia 2013, the Defence Manual of Fire Protection Engineering, and all other applicable Codes and Standards.

Acoustics

56. The new facilities will comply with the National Construction Code - Building Code of Australia and Australian Standards for noise and acoustics. Acoustic separation has been considered between rooms and walls, and partitions are being designed to meet user requirements and building function.

Security

57. Advice from Defence Security and Vetting Service has been incorporated in the design solutions for the proposed facilities where appropriate. Security Risk Assessments have also informed the proposed designs. As such, the facilities meet appropriate security classifications as stipulated by Defence requirements.

Environmental Sustainability of the Project

58. 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.
59. 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.

60. ESD objectives and solutions are considered in the design to reduce the impact on the wider environment. This occurs through the use of sustainable design and construction techniques, and management systems that will reduce energy consumption and natural resources by:
- a. **Energy and greenhouse gas emissions minimisation:** Strategies to address this include adopting passive building design principles for new facilities, use of energy efficient heating, ventilation and air conditioning, lighting and control systems, natural ventilation, and energy management systems.
 - b. **Water use reduction:** The overall aim is to reduce potable water use by specifying water efficient fixtures and fittings, water sensitive landscaping and water management systems (including recharging of the groundwater aquifer at Campbell Barracks).
 - c. **Indoor environment to maximise occupant comfort:** This will be achieved by adopting a number of strategies including provision of daylight to occupied spaces, shading for privacy and glare control, building orientation and thermal insulation in non-conditioned spaces.
 - d. **Renewable energy:** Photovoltaic systems were considered to be installed to supplement mains power supply for some facilities. A PV Harvesting Assessment has determined that this solution is not economically viable.

Landscaping

61. The proposed landscape design will be limited to some minor low maintenance lawns or gardens adjacent to the simulator facilities. Areas adjacent other facilities provided by the project are predominately hard stand surfaces designed for vehicle traffic with considerations for surface stormwater flow. Any introduce plant selections will comprise predominately indigenous vegetation (native and endemic) to minimise water use and to ensure landscapes are durable, sustainable and low maintenance.

Energy Targets

62. There are no applicable energy targets for this proposal.

Workplace Health and Safety Measures

63. The proposed facilities to be provided under this project will comply with Department of Defence's WHS Policy, the Work Health and Safety Act (WHS) 2011 (Cth), Work Health and Safety (Commonwealth Employment – National Standards) Regulations and the Defence WHS Manual.
64. In accordance with Section 35(4) of the Building and Construction Industry Improvement Act 2005 (Cth), 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.
65. Safety aspects of this proposal have been addressed during the design process and have been documented in a Safety in Design Report completed by the Design Consultant. No special or unusual public safety risks have been identified in this process. The successful construction contractor will also be required to submit a Safety Plan for the construction phase prior to the start of any construction activities.

Provision for People with Disabilities

66. Universal access will be provided to all facilities in accordance with the access and mobility provisions of the National Construction Code – Building Code of Australia 2013, Australian Standard AS1428.1 (Parts 1 to 4) and the Defence Policies.

COST EFFECTIVENESS AND PUBLIC VALUE

Outline of Project Costs

67. The estimated out-turned cost of this project is \$57.1 million, excluding Goods and Services Tax. The cost estimate includes the construction costs, management and design fees, furniture, information communications technology, fitting and equipment, contingencies and an escalation allowance.
68. The Net Personnel and Operating Costs as a result of the proposed project will increase due to the ongoing operation and support services required by the new facilities.

Details of the Project Delivery System

69. A Project Manager/Contract Administrator has been appointed by the Commonwealth to manage the project works and the associated administration of the contracts in the planning phase. A Design Services Consultant has been appointed using the Department of Defence – Design Services Consultant form of contract, to manage design development to meet the needs of Defence user groups in the planning phase.
70. Subject to Parliamentary approval of the project, the intention is for the works to progress using Department of Defence Head Contractor (HC) form of contract. This form of contract is well understood by industry and should result in greater efficiencies with the delivery of the project.

Construction Program

71. Subject to Parliamentary approval of the project, construction is expected to commence in April 2017 with completion anticipated by April 2018.

Public Value

72. The proposed works will support an important Defence capability need for the ADF. This will allow for more efficient and effective training to prepare the ADF for employment on operations to enhance Australia's security.
73. 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

74. No revenue is expected to be delivered from this project.

Attachments

1. Locality Plan
2. Gallipoli Barracks
 - 2.1 Regional Plan
 - 2.2 Site Plan
 - 2.3 Floor Plan and Layout
3. Lavarack Barracks
 - 3.1 Regional Plan
 - 3.2 Site Plan
 - 3.3 Floor Plan and Layout
4. Robertson Barracks
 - 4.1 Regional Plan
 - 4.2 Site Plan
 - 4.3 Floor Plan and Layout
5. Bridges Barracks
 - 5.1 Regional Plan
 - 5.2 Site Plan
 - 5.3 Floor Plan and Layout
6. Campbell Barracks
 - 6.1 Regional Plan
 - 6.2 Site Plan
 - 6.3 Floor Plan and Layout
7. Holsworthy Barracks
 - 7.1 Regional Plan
 - 7.2 Site Plan
 - 7.3 Floor Plan and Layout

8. RAAF Base Williamtown

8.1 Regional Plan

8.2 Site Plan

8.3 Floor Plan and Layout

9. Proof and Experimental Establishment

9.1 Regional Plan

9.2 Site Plan

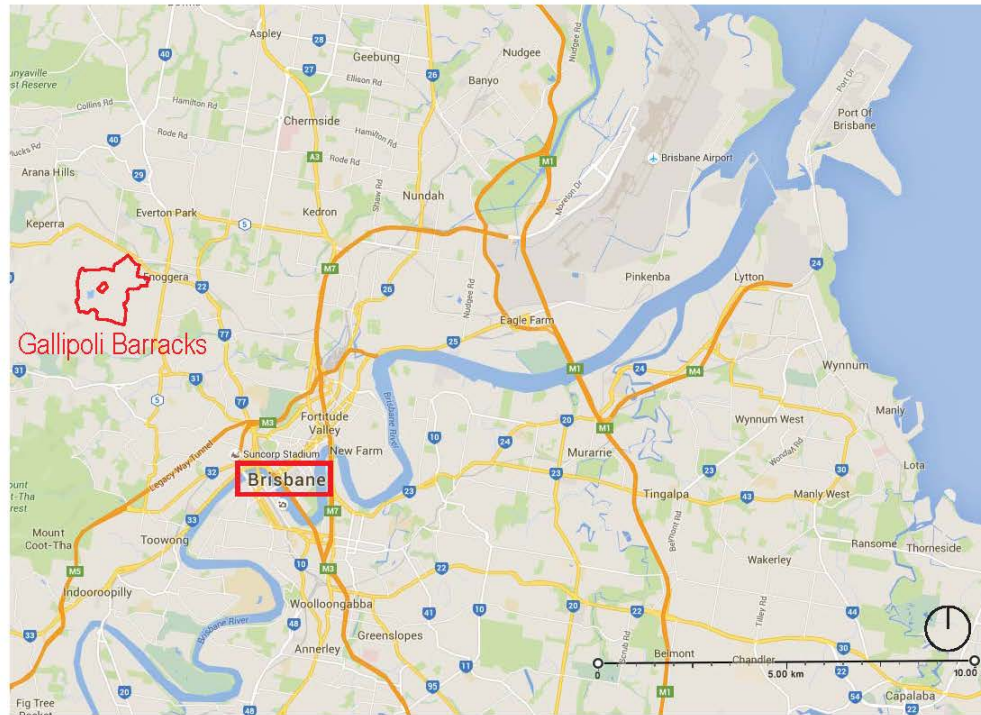
9.3 Floor Plan and Layout



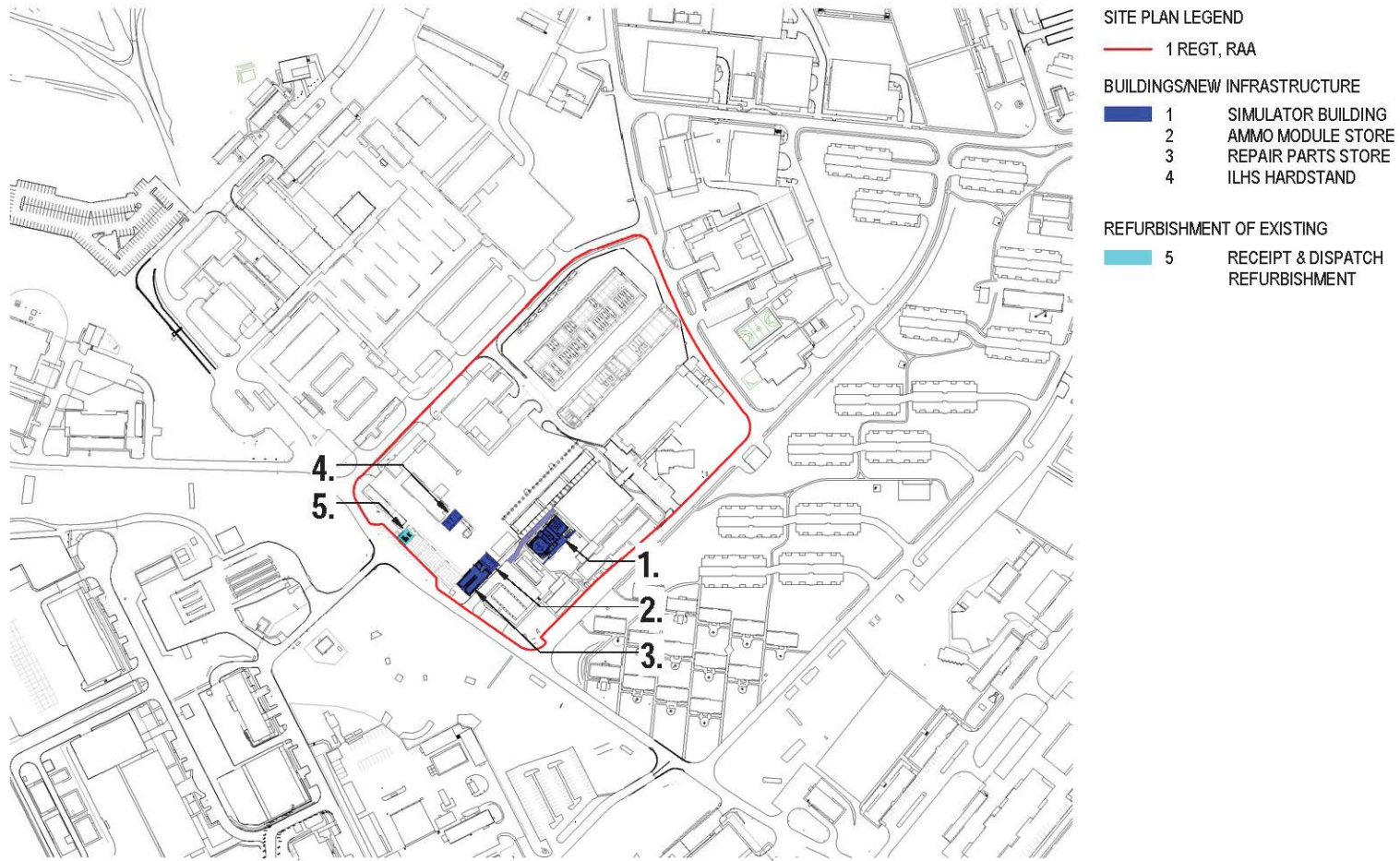
ATTACHMENT 1 - LOCALITY PLAN



Land 17 - Phase 1B/1C



Land 17 - Phase 1B/1C



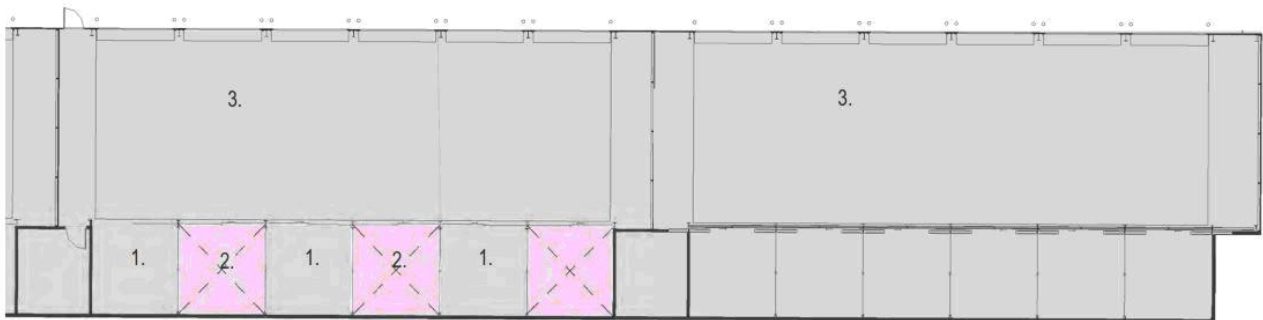
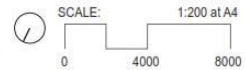
ATTACHMENT 2.1 | Gallipoli Barracks, Enoggera - SITE PLAN

SCALE: 1:4000 at A4

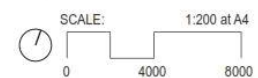
ATTACHMENT 2.3 – FLOOR PLAN AND LAYOUT – GALLIPOLI BARRACKS



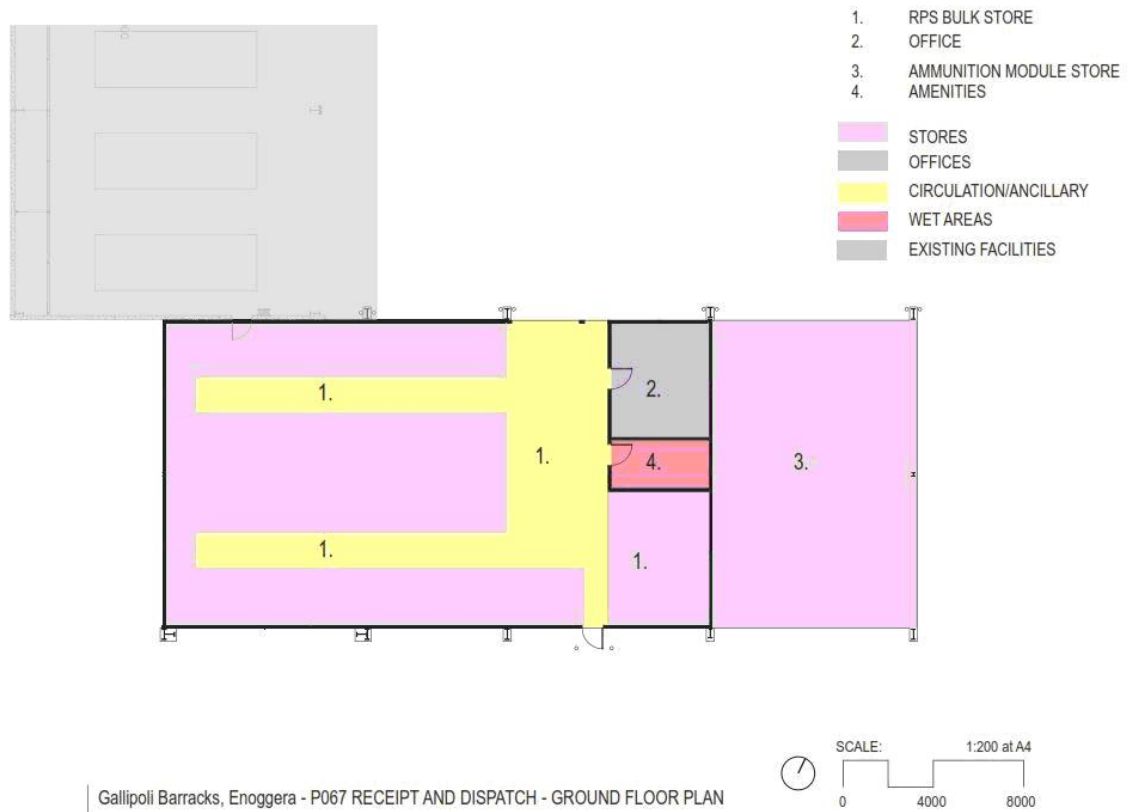
JTAC/JFO SIMULATOR FACILITY - GROUND FLOOR PLAN



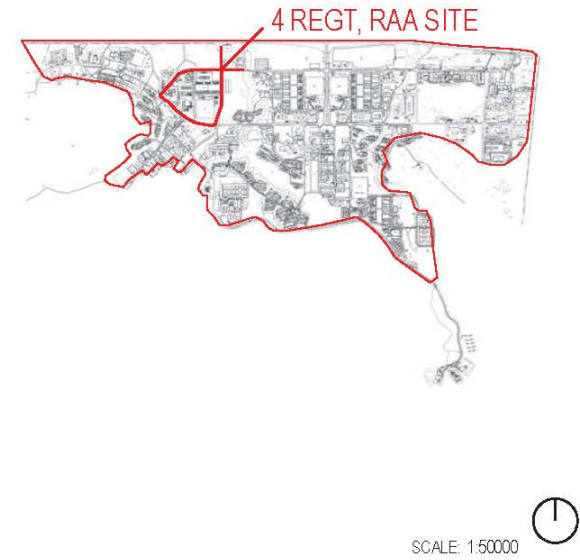
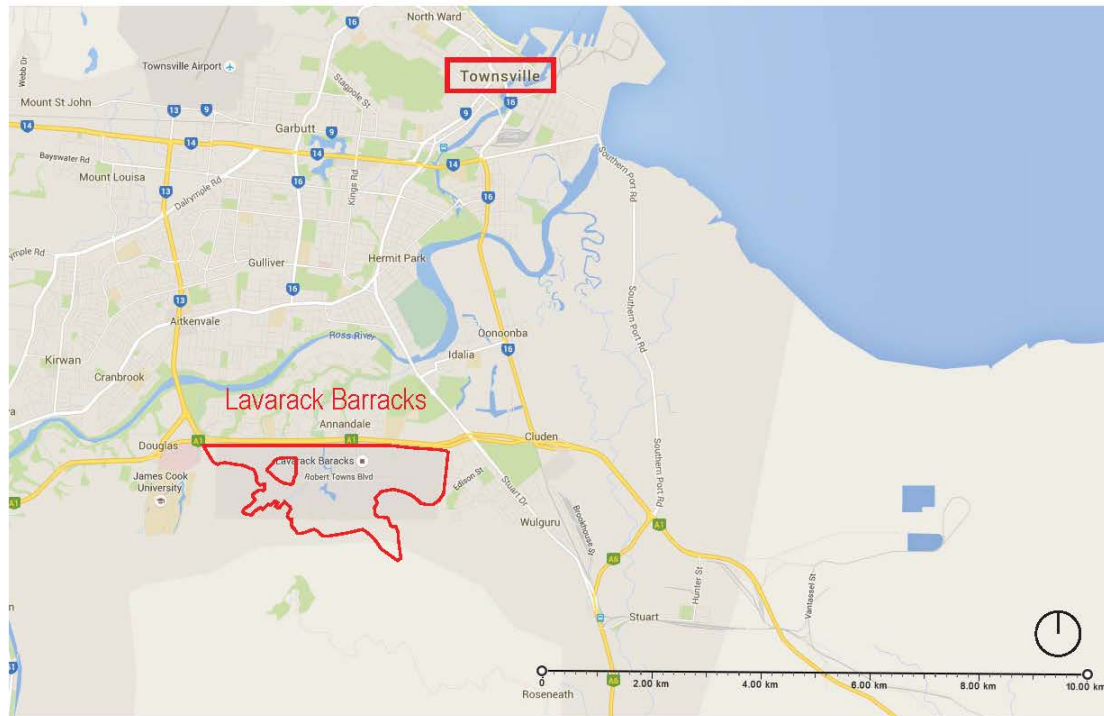
Gallipoli Barracks, Enoggera - AMMUNITION MODULE STORE + P12 MODIFICATION - GROUND FLOOR PLAN

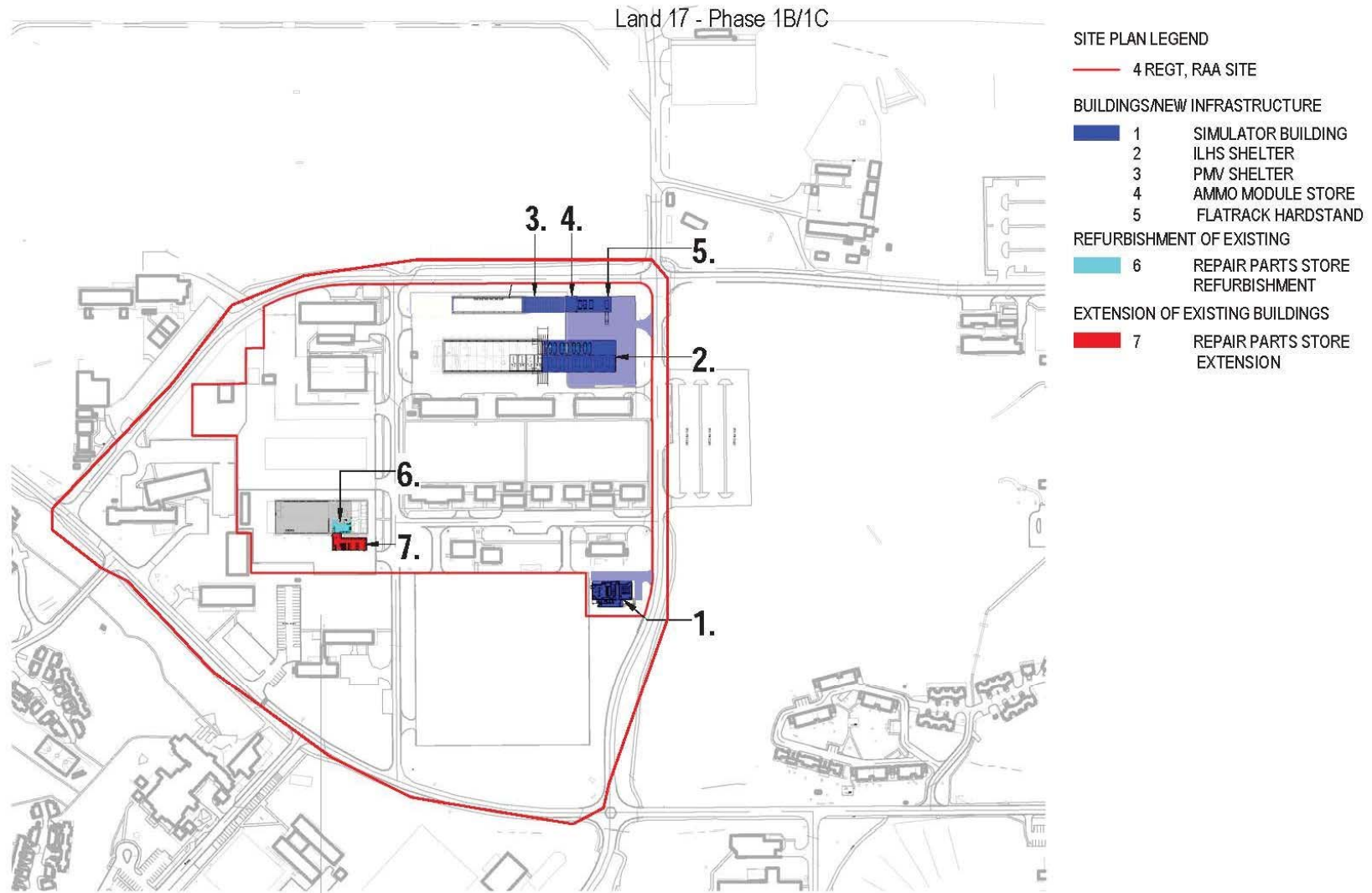


ATTACHMENT 2.3 – FLOOR PLAN AND LAYOUT – GALLIPOLI BARRACKS



Land 17 - Phase 1B/1C

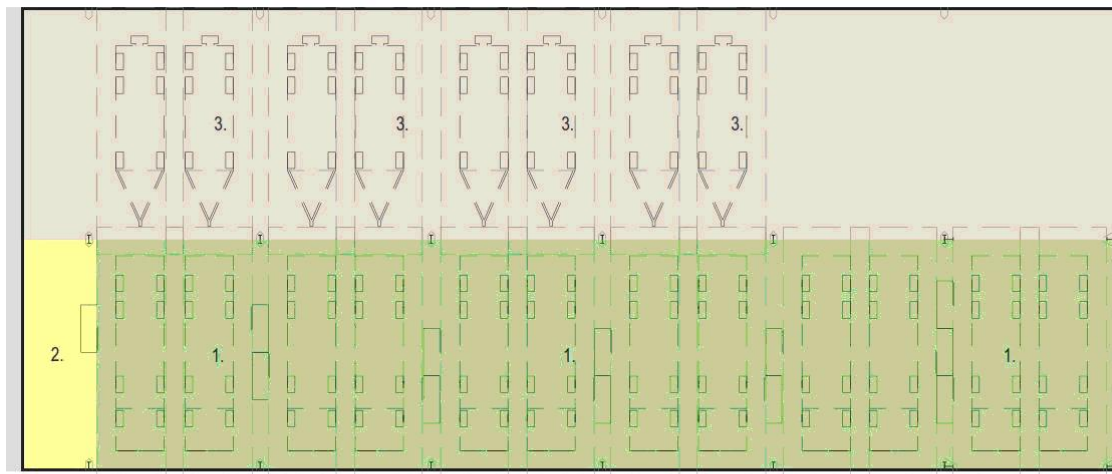
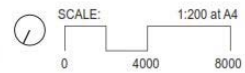




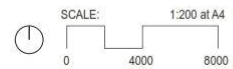
ATTACHMENT 3.3 – FLOOR PLAN AND LAYOUT – LAVARACK BARRACKS



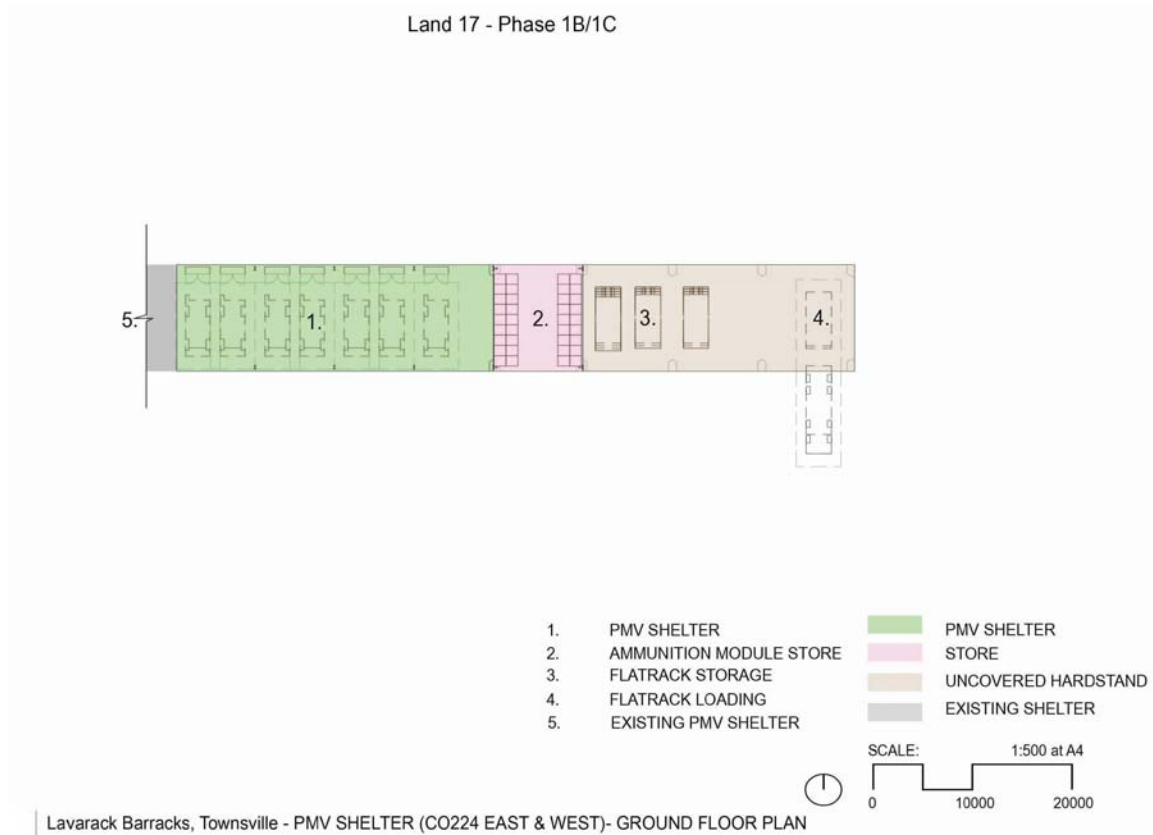
JTAC/JFO SIMULATOR FACILITY - GROUND FLOOR PLAN



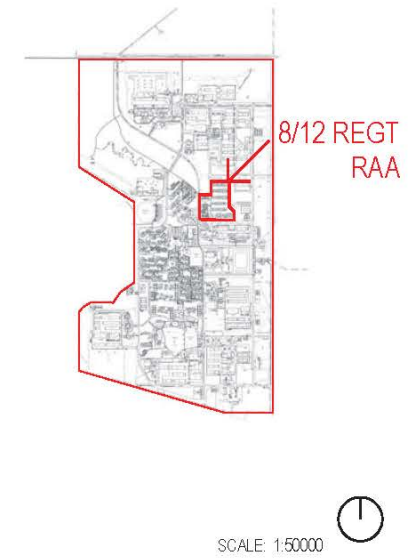
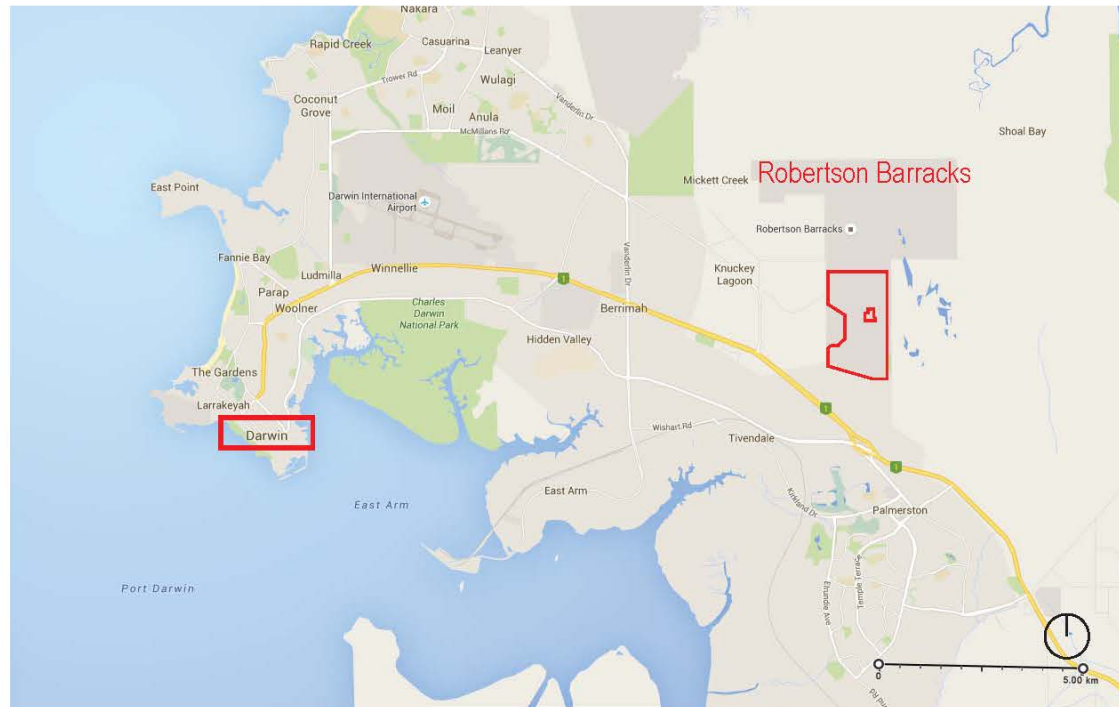
Lavarack Barracks, Townsville - ILHS SHELTER - GROUND FLOOR PLAN



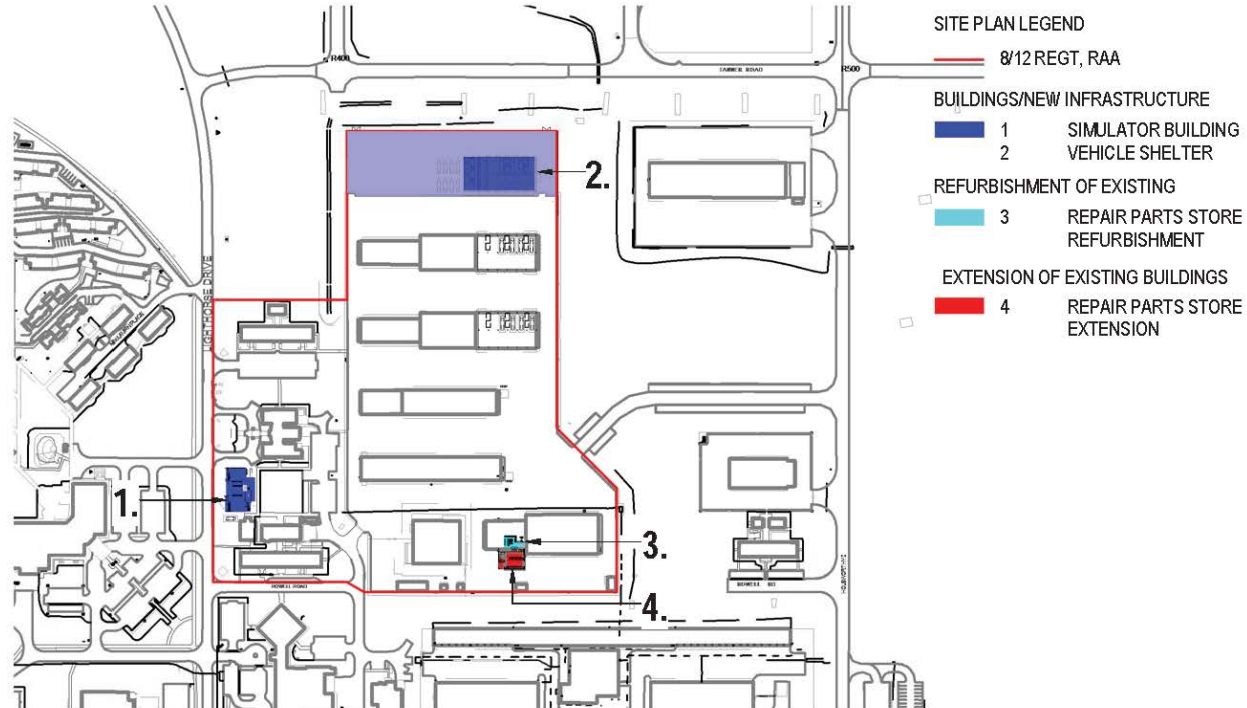
ATTACHMENT 3.3 – FLOOR PLAN AND LAYOUT – LAVARACK BARRACKS



Land 17 - Phase 1B/1C



Land 17 - Phase 1B/1C



ATTACHMENT 4.3 – FLOOR PLAN AND LAYOUT – ROBERTSON BARRACKS



JTAC/JFO SIMULATOR FACILITY - GROUND FLOOR PLAN

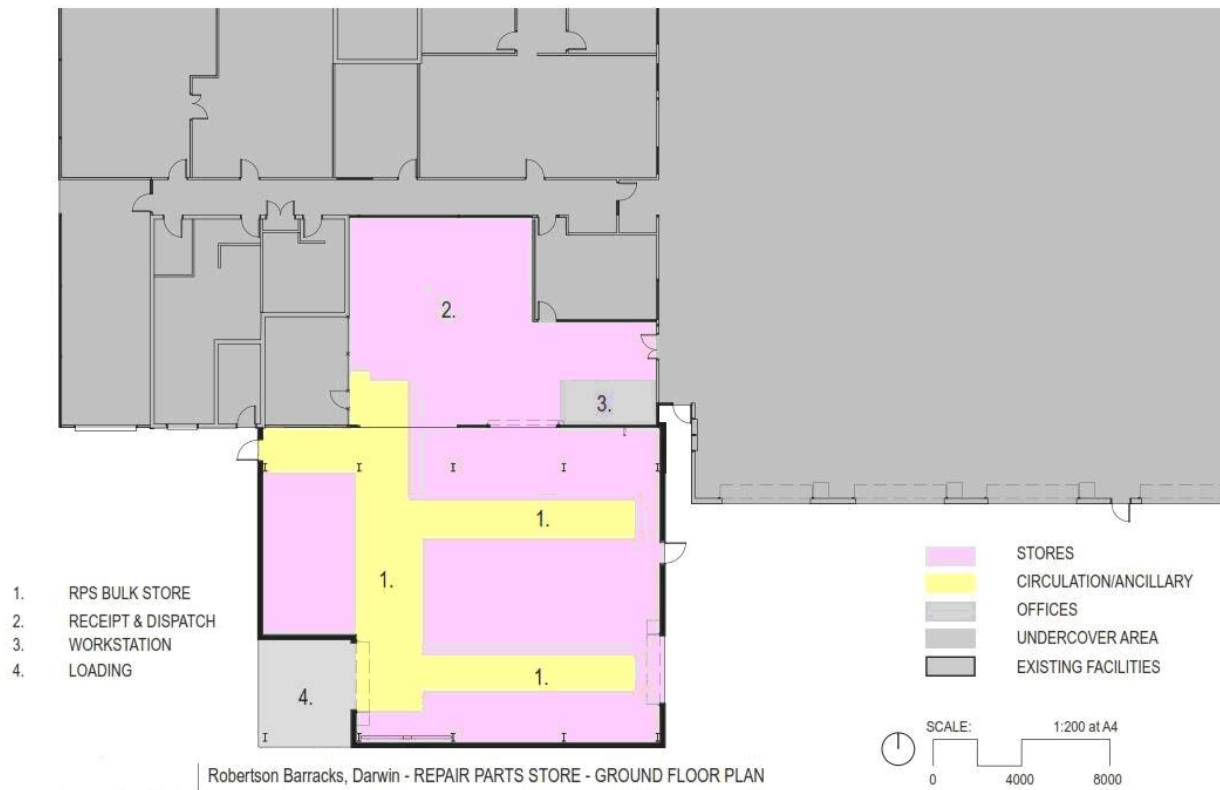
SCALE: 1:200 at A4
0 4000 8000



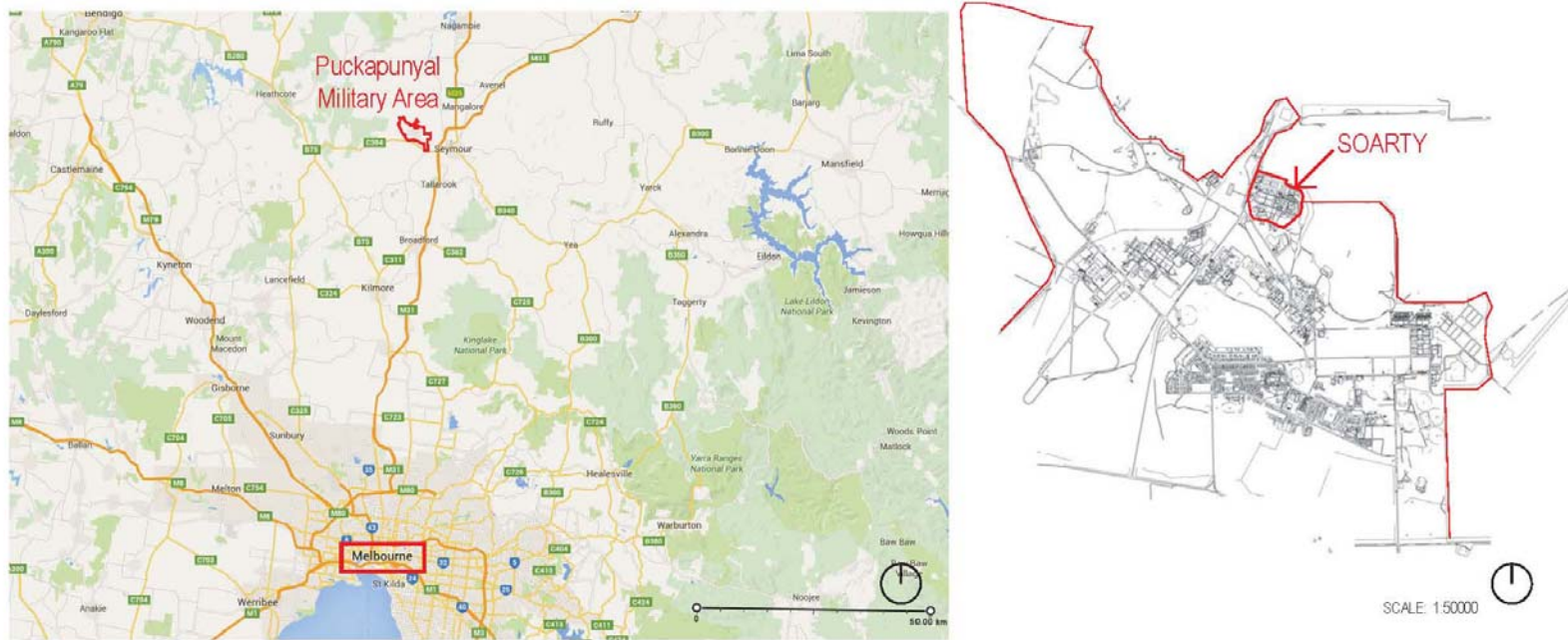
Robertson Barracks, Darwin - VEHICLE SHELTER - GROUND FLOOR PLAN

SCALE: 1:200 at A4
0 4000 8000

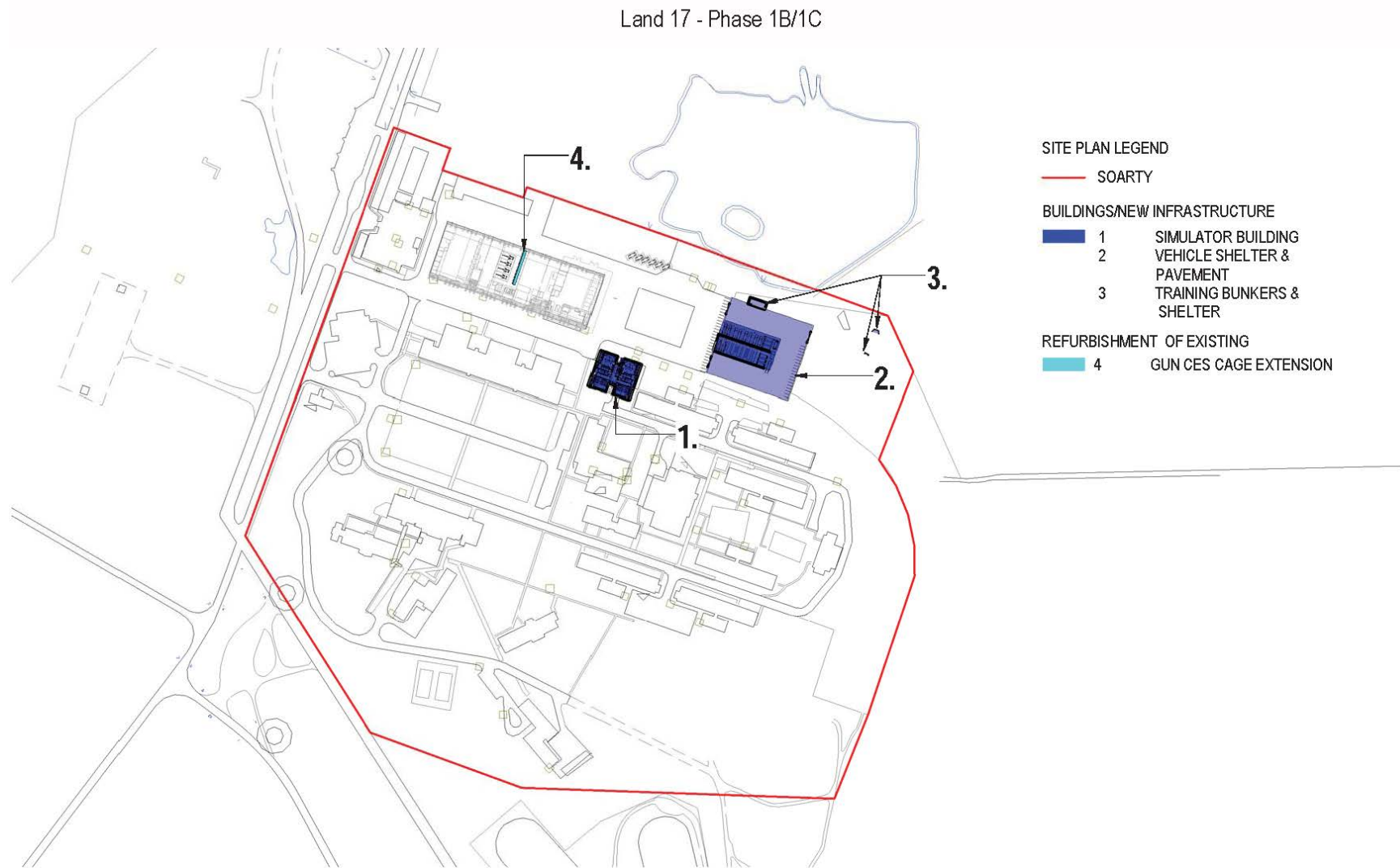
ATTACHMENT 4.3 – FLOOR PLAN AND LAYOUT – ROBERTSON BARRACKS



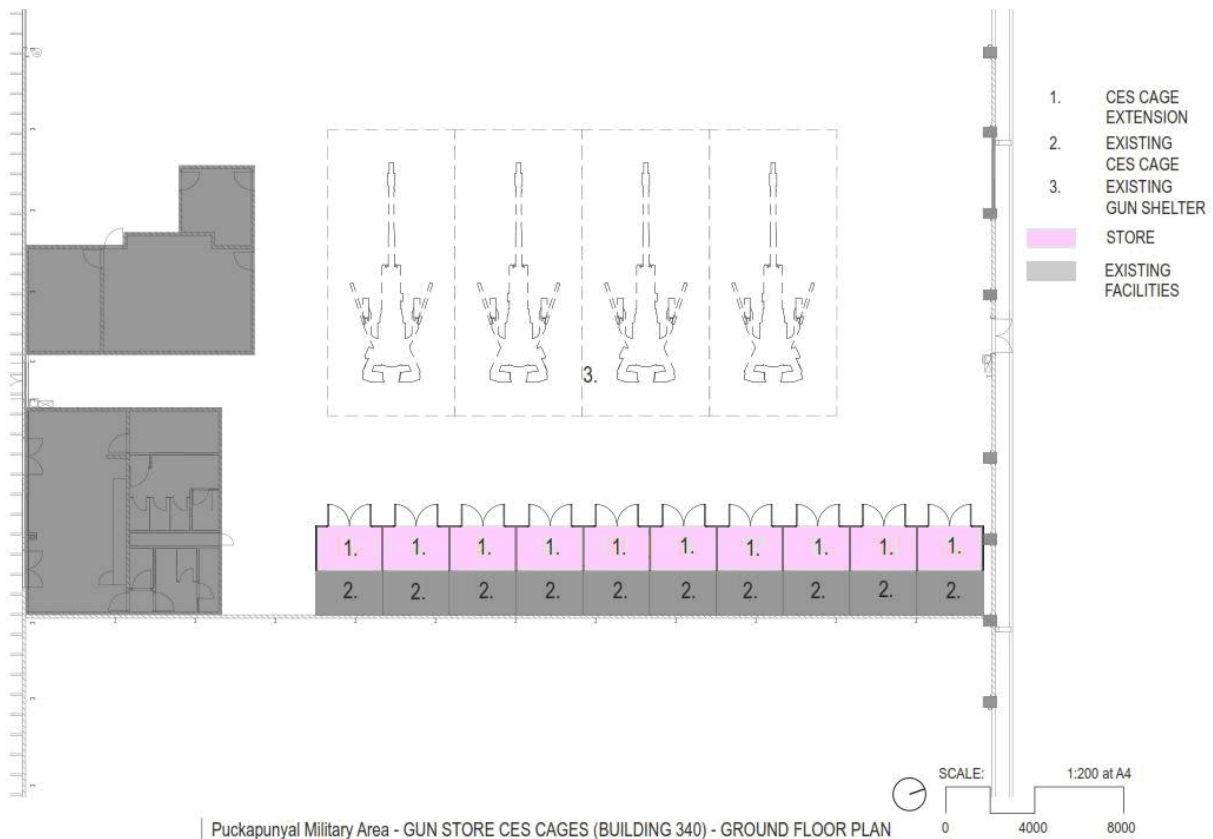
Land 17 - Phase 1B/1C



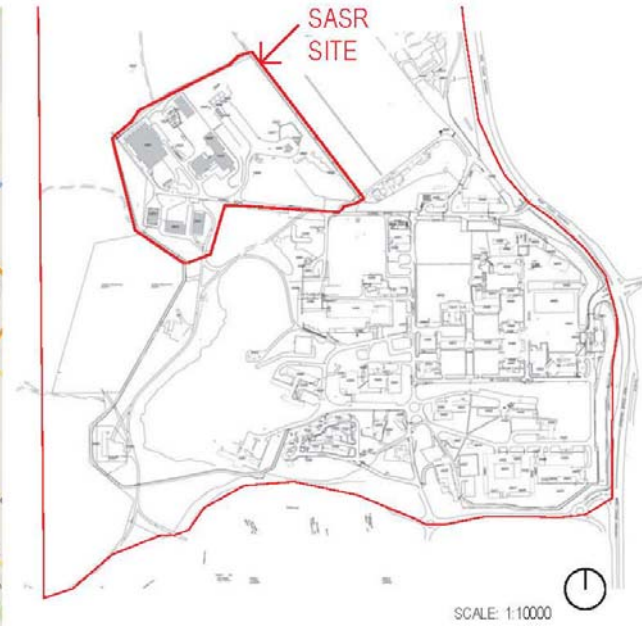
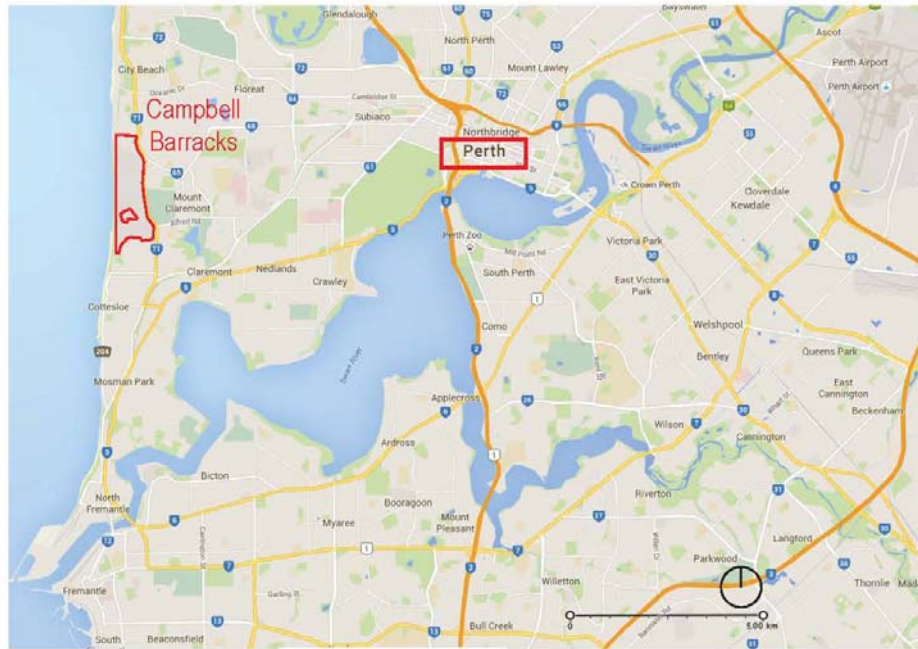
ATTACHMENT 5.1 | Puckapunyal Military Area - REGIONAL PLAN

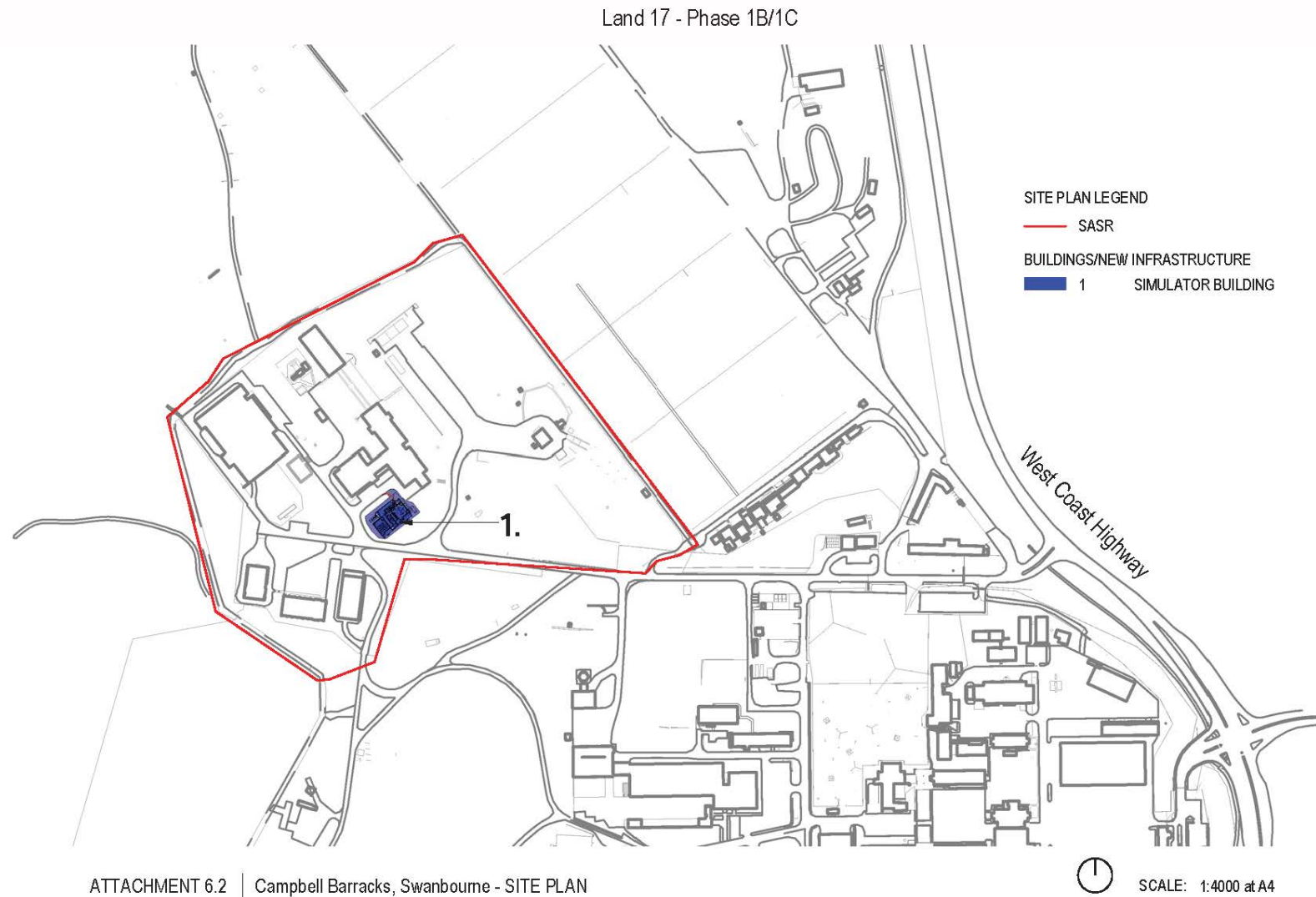


ATTACHMENT 5.3 – FLOOR PLAN AND LAYOUT – BRIDGES BARRACKS



Land 17 - Phase 1B/1C

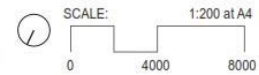




ATTACHMENT 6.3 – FLOOR PLAN AND LAYOUT – CAMPBELL BARRACKS



JTAC/JFO SIMULATOR FACILITY - GROUND FLOOR PLAN



Land 17 - Phase 1B/1C



ATTACHMENT 7.2 – SITE PLAN – HOLSWORTHY BARRACKS



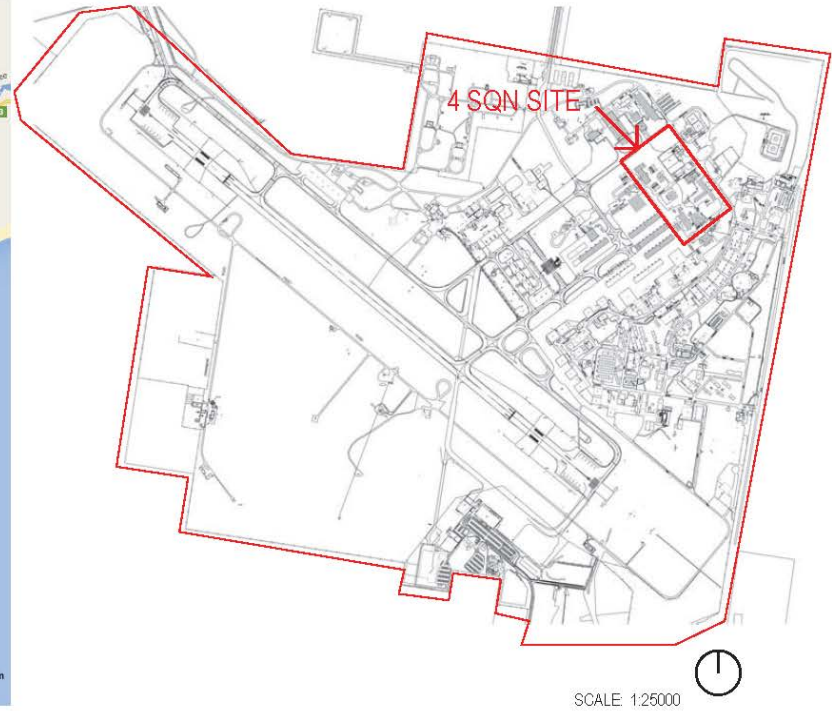
ATTACHMENT 7.3 – FLOOR PLAN AND LAYOUT – HOLSWORTHY BARRACK

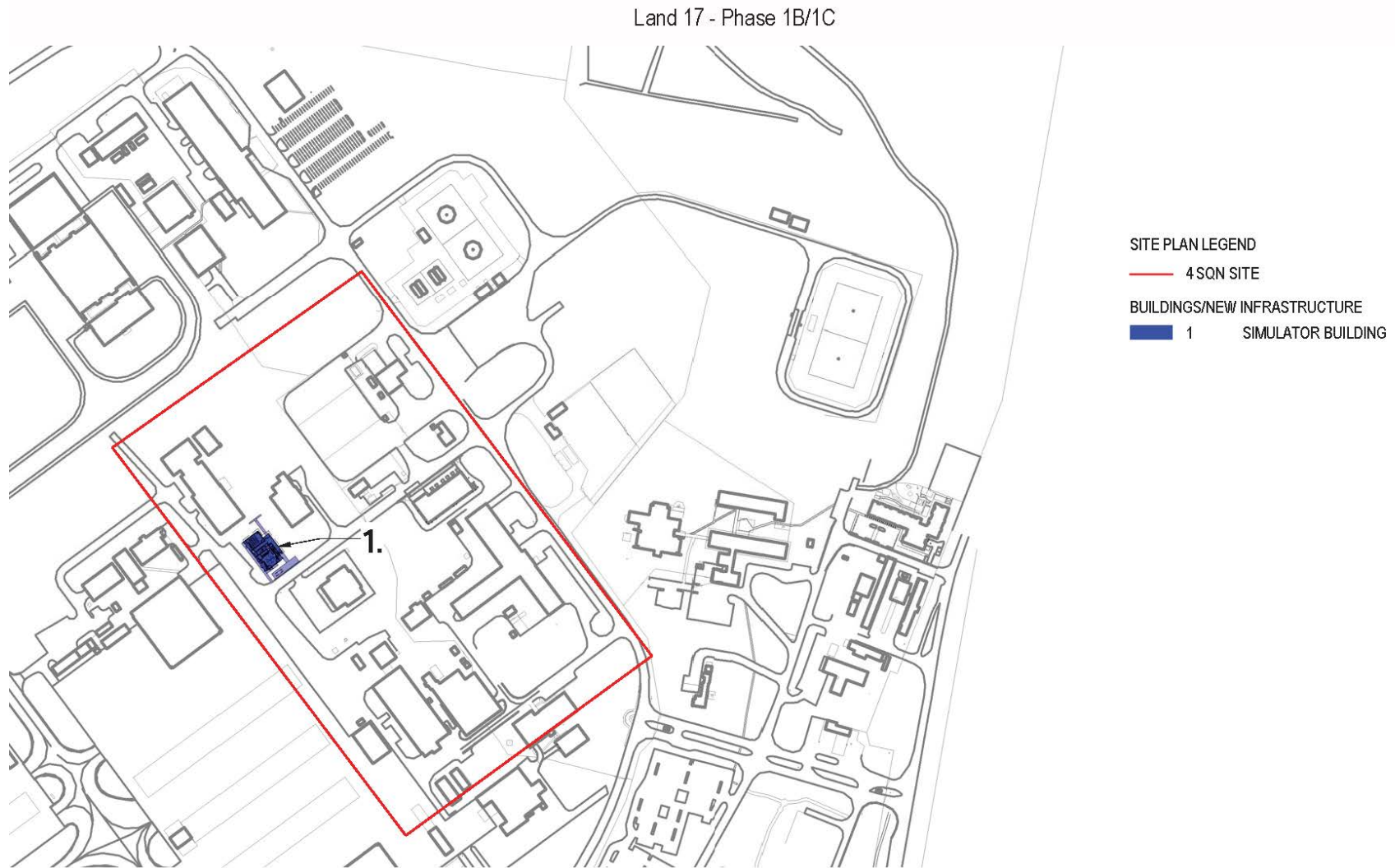


JTAC/JFO SIMULATOR FACILITY - GROUND FLOOR PLAN

SCALE: 1:200 at A4
0 4000 8000

Land 17 - Phase 1B/1C





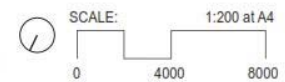
ATTACHMENT 8.2 | RAAF Base Williamtown- SITE PLAN

SCALE: 1:4000 at A4

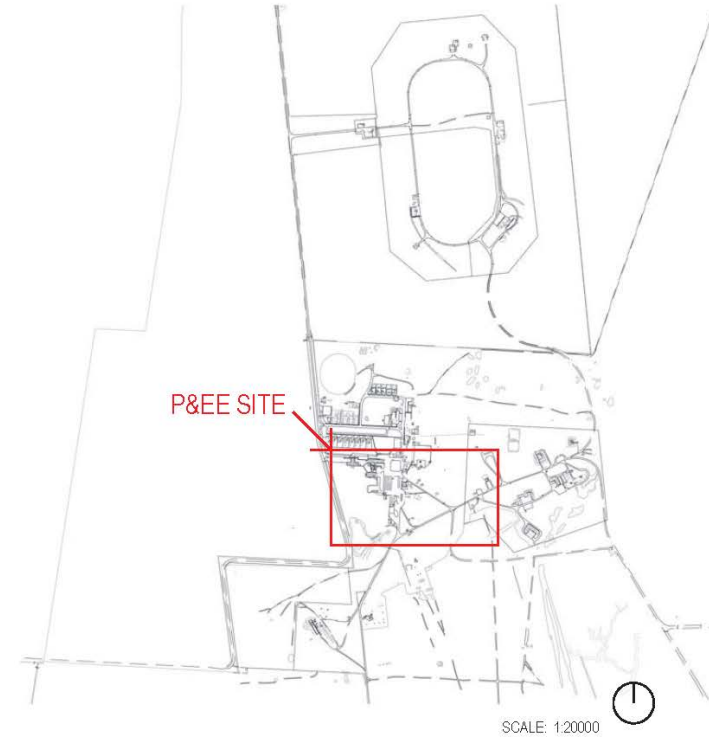
ATTACHMENT 8.3 – FLOOR PLAN AND LAYOUT – RAAF BASE WILLIAMTOWN

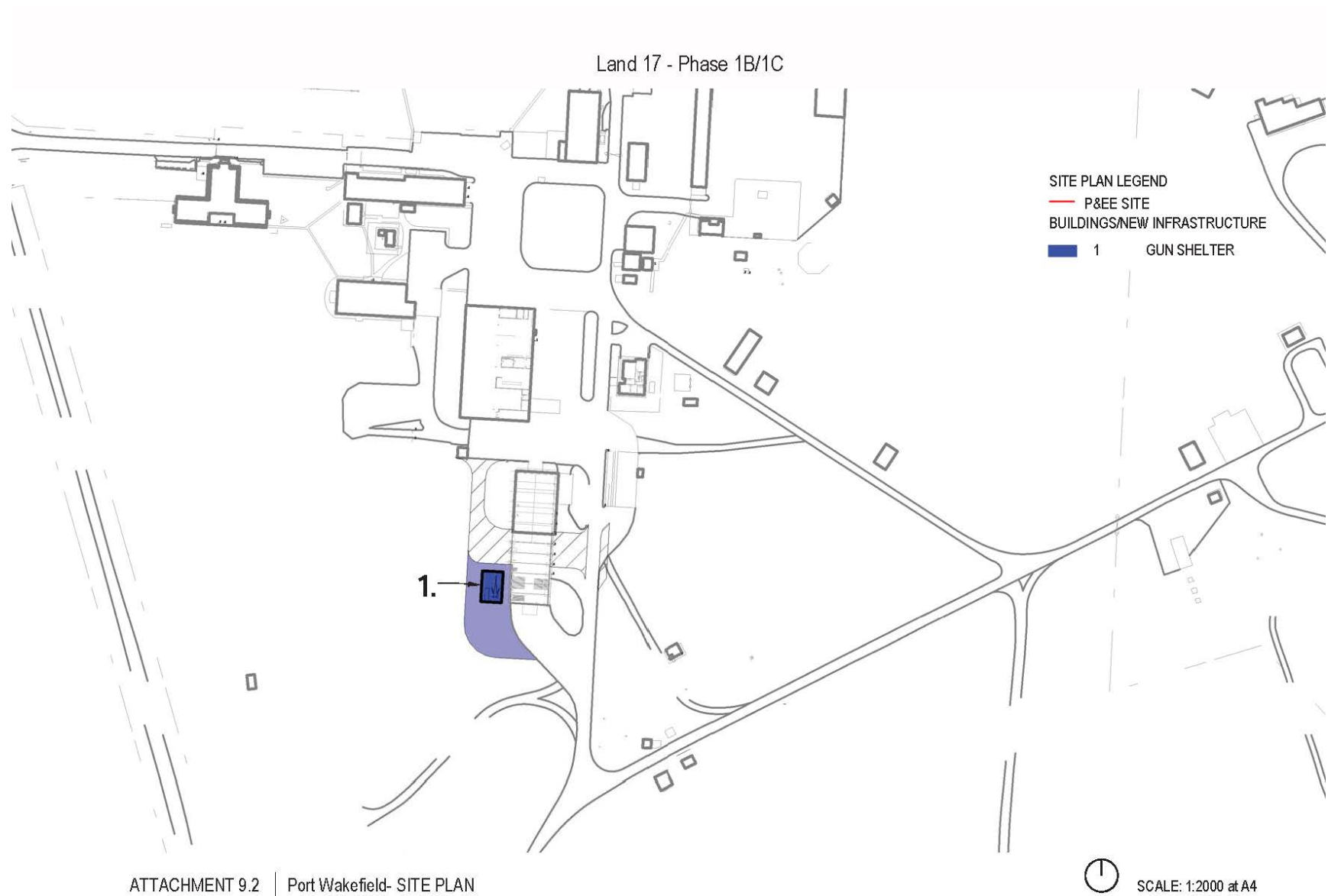


JTAC/JFO SIMULATOR FACILITY - GROUND FLOOR PLAN

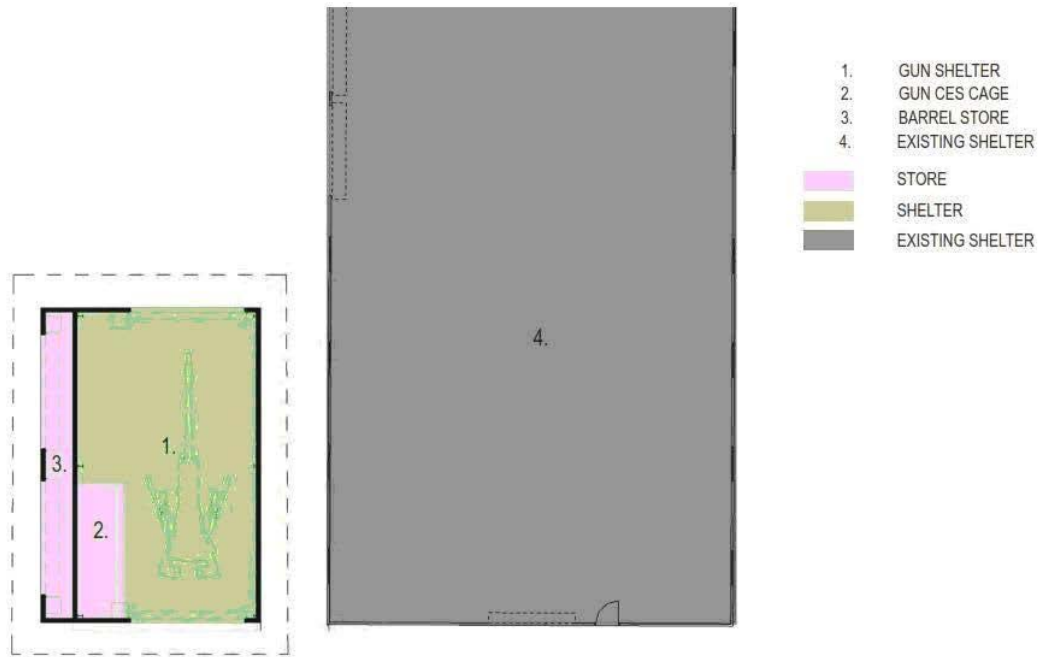


Land 17 - Phase 1B/1C





ATTACHMENT 9.2 – FLOOR PLAN AND LAYOUT PROOF AND EXPERIMENTAL ESTABLISHMENT



Port Wakefield - GUN SHELTER- GROUND FLOOR PLAN

