



**Australian Government**

**Department of Defence**

# **DEFENCE LOGISTICS TRANSFORMATION PROGRAM (DLTP)**

Moorebank, NSW

RAAF Base Amberley, Ipswich QLD

Lavarack Barracks, Townsville QLD

Robertson Barracks, Palmerston NT

HMAS Stirling, Rockingham WA

Palmer Barracks, Guildford WA

RAAF Base Edinburgh, Edinburgh SA

Wadsworth Barracks, East Bandiana VIC

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

Canberra, Australian Capital Territory

June 2012

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# Contents

<b>Need for the Works</b>	<b>1</b>
Identified Need .....	1
Options Considered for Fulfilling the Need .....	3
Historical Background .....	3
Environment and Heritage Assessment Process .....	9
Heritage Impact .....	10
Environmental Impact .....	11
Key Legislation .....	13
Impacts on Local Communities.....	13
Consultation with Stakeholders .....	14
<b>Purpose of Works</b>	<b>14</b>
Program Objectives .....	14
Site Selection.....	15
Program Locations .....	15
Program Scope of Works .....	15
Public Transport.....	31
Local Road and Traffic Concerns .....	31
Zoning, Local Approvals and Land Acquisition .....	33
Planning and Design Concepts .....	34
Structural Design.....	34
Materials and Furnishings .....	35
Mechanical Services.....	35
Hydraulic Services .....	35
Electrical Services.....	36
Fire Protection .....	36
Acoustics .....	37
Landscaping.....	37
Other Civil Works.....	38
Water and Energy Conservation Measures .....	38
Demolition and Disposal of Existing Structures.....	41
Provisions for People with Disabilities.....	41
Childcare Provisions.....	42

Security.....	42
Occupational Health and Safety Measures.....	42
<b>Cost-Effectiveness and Public Value</b>	<b>43</b>
Outline of Program Costs.....	43
Details of Program Delivery System.....	43
Construction Schedule .....	44
Public Value.....	44
<b>Revenue</b>	<b>45</b>



## **Attachments**

1. Illustration of 'As-is' and 'To-be' Wholesale Logistics Network
2. Stakeholder list

### **Defence National Storage and Distribution Centre, Moorebank NSW**

3. Location Plan
4. Site Plan
5. Headquarters Floor Plan
6. General Storage Warehouse Floor Plan
7. Loan and Repair Pool Warehouse Floor Plan
8. Joint Operations Stores Floor Plan
9. Aerial Delivery Equipment Storage and Maintenance Floor Plan
10. Land Materiel Maintenance Workshop Ground Floor Plan
11. Land Materiel Maintenance Workshop First Floor Plan
12. Dangerous Goods Store Floor Plan

### **Joint Logistics Unit (South Queensland), RAAF Base Amberley, Ipswich QLD**

13. Location Plan
14. Site Plan
15. Headquarters Ground Floor Plan
16. Headquarters First Floor Plan
17. Combined General Storage Warehouse and Cargo Consolidation Point Floor Plan
18. Loan and Repair Pool Warehouse Floor Plan
19. Dangerous Goods Store Floor Plan
20. Land Materiel Maintenance Workshop Ground Floor Plan
21. Land Materiel Maintenance Workshop First Floor Plan

### **Joint Logistics Unit (North Queensland), Lavarack Barracks, Townsville QLD**

22. Location Plan
23. Site Plan
24. Headquarters Ground Floor Plan
25. Headquarters First Floor Plan
26. General Storage Warehouse Floor Plan
27. Loan and Repair Pool Warehouse Floor Plan
28. Land Materiel Maintenance Workshop Floor Plan
29. Dangerous Goods Store Floor Plan
30. Vehicle Shelters Floor Plan
31. Foodstuffs Facility Floor Plan

32. Mounting Base Floor Plan

**Joint Logistics Unit (North), Robertson Barracks, Palmerston NT**

33. Location Plan

34. Site Plan

35. Headquarters Floor Plan

36. General Storage Warehouse Floor Plan

37. Loan and Repair Pool Warehouse Floor Plan

38. Land Materiel Maintenance Workshop Floor Plan

39. Dangerous Goods Store Floor Plan

40. Regional Clothing/Kitting Store Floor Plan

41. Mounting Base Floor Plan

42. Vehicle Shelters Floor Plan

43. Small Quantity Facility Floor Plan

**Joint Logistics Unit (West), HMAS Stirling and Palmer Barracks WA**

44. Location Plan Palmer Barracks

45. Location Plan HMAS Stirling

46. Palmer Barracks Site Plan

47. HMAS Stirling Site Plan

48. Electronic Instrument and Radio (EIR) Repair Facility Floor Plan

**Joint Logistics Unit (South), RAAF Base Edinburgh, Edinburgh SA**

49. Location Plan

50. Site Plan

51. Headquarters (new build option) Floor Plan

52. Loan and Repair Pool Warehouse Floor Plan

53. Electronic Instrument and Radio (EIR) Repair Facility Floor Plan

**Joint Logistics Unit (Victoria), Wadsworth Barracks, East Bandiana VIC**

54. Location Plan

55. Site Plan

56. Combined Disposals, Loan and Repair Pool and Specialty Storage Warehouse Floor Plan

57. IT & Communications Building Floor Plan

# Defence Logistics Transformation Program

## Need for the Works

### Identified Need

1. The Defence logistics network is divided into two broad domains: wholesale and retail. In this context, the term 'retail' is defined as logistics services starting at the customer (the individual sailor, soldier or airman that requires inventory or an asset) and finishing at the Joint Logistics Unit which is the 'wholesale' activity in the Defence supply chain.
2. Joint Logistics Command delivers both wholesale and retail logistic support to the Australian Defence Force. Wholesale logistic support includes the acquisition, transport, storage, distribution, handling, repair, maintenance, return and management of a range of consumables, repair parts, specialist equipment, vehicles, weapons, electronic equipment, dangerous goods and items identified for disposal. Joint Logistics Command also provides mounting base support and cargo consolidation in support of various Australian Defence Force operations.
3. The current Defence wholesale storage network operates from outdated infrastructure spread across 201 warehouses in 24 locations as illustrated in Attachment 1. This system is not enabled by industry standard technology and automation, is relatively high cost and does not deliver efficient or effective outcomes when benchmarked with comparable commercial practices.
4. Similarly, the current maintenance system also operates from outdated infrastructure and facilities that fall short of comparable industry standards. In many cases the workshop facilities across the network are converted World War II warehouses. These outdated facilities are contributing to increased cost of service and suboptimal maintenance outcomes as the facilities are not purpose built for the function they currently serve.
5. As a whole, the existing network drives a relatively high operating cost and does not deliver efficient or effective outcomes when benchmarked against comparable commercial practice. While over recent years there has been some

investment in the wholesale network through various projects<sup>1</sup>, the majority of the existing network comprises World War II era infrastructure that is well past the end of its economic life, is no longer fit for purpose and lacks industry standard technology and automation. Around 23% of the available network warehousing space is underutilised (compared with comparable industry benchmarks) and inventory in excess of Defence's requirements is being stored in the network, estimated at 596,253 m<sup>3</sup> or 181,885 m<sup>2</sup> of warehouse space.

6. The 2009 Defence White Paper<sup>2</sup> identified an urgent need to create greater efficiencies and drive productivity benefits in the provision of logistic support. The Defence Logistics Transformation Program (formerly known as the Defence Logistics Services Project) is one of the key reform initiatives from the 2009 Defence White Paper, and is the vehicle for delivering the necessary deep reform to Defence's wholesale logistics network. The Defence Logistics Transformation Program will modernise and enhance the wholesale logistics functions to provide optimum support to Defence operations through efficient, effective and safe work practices. As illustrated in Attachment 1, the Defence Logistics Transformation Program will consolidate the wholesale logistics network to seven primary sites, supported by nine specialty/retail sites.
7. The Defence Logistics Transformation Program is a complex five-year program that will contribute approximately \$350m of the total Strategic Reform Program mandated savings in the Logistics Reform stream.

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<sup>1</sup> For example, the 'Enhanced Land Force Stage 1' project, considered by the Parliamentary Standing Committee on Public Works (Committee) in 2009 included facilities for Joint Logistics Unit (South) at Edinburgh and Joint Logistics Unit (North Queensland) at Lavarack Barracks. Similarly, the 'Construction of New Warehousing Facilities at Wadsworth Barracks' considered by the Committee in 2008 provided improved warehousing capacity for Joint Logistics Unit (Victoria) at East Bandiana.

<sup>2</sup> Commonwealth of Australia, 2009 '*Defending Australia in the Asia Pacific Century – Force 2030*'

## Options Considered for Fulfilling the Need

8. **Procurement options.** The 2009 Defence White Paper stated that Defence would ‘pursue the most cost-effective procurement option, which could potentially involve a public-private partnership arrangement’. Consequently, through late 2009 and early 2010, Defence considered a number of procurement options, including:
  - a. delivery of the facilities via a traditional delivery method and the procurement of the logistics services through one or more separate tender processes; and
  - b. delivery of the facilities and logistics services through a public-private partnership arrangement.
9. The options analysis found that the delivery of the facilities via a traditional delivery method and the procurement of the logistics services through one or more separate tender processes would offer better value for money for the Defence Logistics Transformation Program than a public-private partnership arrangement. Development of the traditional delivery option for the facilities commenced in mid 2010 to support this submission.
10. **Siting options.** Consistent with Defence planning policy, Defence has considered various siting options for the proposed facilities at each site, guided by existing base zone plans. Within the approved sites, various site layout options have been tested to ensure that the site layout is functional, cost effective and allows sufficient capacity for future expansion.
11. **Adaptive reuse / refurbishment options.** At the sites where Defence is redeveloping an existing precinct, Defence considered the refurbishment or adaptive reuse of existing infrastructure to meet the identified need. These options are discussed in more detail in the description of each project element.

## Historical Background

12. Seven specialist logistics units operate the current wholesale logistics network and will continue to operate the network post the Defence Logistics

Transformation Program (as illustrated by the seven 'nodes' in Attachment 1). Each of these logistics units are described in more detail below.

### **Defence National Storage and Distribution Centre**

13. The Defence National Storage and Distribution Centre is the Joint Logistic Command's largest logistics unit and maintains the largest warehousing capacity in the network, predominately at its Moorebank site. The Defence National Storage and Distribution Centre is the designated Australian Defence Organisation logistics hub, or cargo consolidation point and its primary role is to consolidate and provide materiel support to Australian Defence Force operations along with warehousing and distribution (nationally, regionally and locally) and the repair and maintenance of equipment.
14. At Moorebank, the Defence National Storage and Distribution Centre functions are spread across 72 separate facilities. Many of these facilities date back to the 1940s, including 15 timber post and beam warehouses prefabricated in the United States and shipped to Australia during World War II.
15. In 2003, the Commonwealth sold and leased-back the majority of the current site at Moorebank (some 83 hectares out of 110 hectares). This lease expires in March 2013, with two five-year extension options available to Defence. The Defence Logistics Transformation Program proposes to relocate and consolidate the Defence National Storage and Distribution Centre functions at Moorebank from the currently leased site to the northern, Defence owned, portion of the existing site (that was not sold in 2003) and the adjacent Defence owned property known as West Wattle Grove. The purpose of this relocation is to both:
  - a. provide the Defence National Storage and Distribution Centre with fewer, consolidated, modern storage and maintenance facilities which promote more efficient and effective work practices; and
  - b. realise ongoing financial savings in terms of reduced leased payments.
16. The Defence National Storage and Distribution Centre will also continue to provide direct regional logistics support to a number of other sites within New South Wales and Australian Capital Territory. These include Air Force bases at Williamstown and Richmond, Navy Bases at Nowra and Garden Island, and

Army bases at Singleton, Randwick and Duntroon. There are no capital infrastructure works proposed at these supporting sites under the Defence Logistics Transformation Program.

### **Joint Logistics Unit (South Queensland)**

17. Joint Logistics Unit (South Queensland) provides logistic support to Australian Defence Force elements in Southern Queensland and Northern New South Wales. This logistic support extends to customer units from Rockhampton, Queensland, in the north, to Lismore, New South Wales, in the south, and west to the Queensland/Northern Territory/South Australian border.
18. Joint Logistics Unit (South Queensland) is headquartered near the Brisbane Central Business district at Bulimba, Queensland, and operates from five other sites situated in the south-eastern pocket of Queensland including RAAF Base Amberley, Meeandah, Enoggera, Oakey and Wallangarra. The majority of facilities at Bulimba and Meeandah date back to World War II, are at the end of their economic life and no longer support efficient or effective work practices.
19. The Defence Logistics Transformation Program will consolidate the majority of the Joint Logistics Unit (South Queensland) functions to a new precinct at RAAF Base Amberley. The proposed works will enable Joint Logistics Unit (South Queensland) to vacate Bulimba, Meeandah and Oakey. The Joint Logistics Unit (South Queensland) will retain its presence at Wallangarra and Enoggera, however no works are proposed for these supporting sites under the Defence Logistics Transformation Program.

### **Joint Logistics Unit (North Queensland)**

20. Joint Logistics Unit (North Queensland) provides logistics support to Australian Defence Force elements in North Queensland. The unit is the designated logistic support source for around 44 units located throughout North Queensland from Mackay to the Torres Strait and west to the Northern Territory border.
21. Joint Logistics Unit (North Queensland) is headquartered at Lavarack Barracks, Townsville with operations currently conducted across Lavarack Barracks, RAAF Base Townsville, Ross Island, and Macrossan in Northern Queensland. At Lavarack Barracks, the unit occupies a number of permanent and temporary buildings. Many of the buildings were constructed in the 1970s, are at the end

of their economic life and are unsuitable for reuse or refurbishment as a result of their size, condition and location on the site.

22. In 2011, the Enhanced Land Force Stage 1 facilities project completed a new land materiel maintenance workshop and armoury at Lavarack Barracks for Joint Logistics Unit (North Queensland). These new facilities will be retained and have been incorporated into the design of the new precinct.
23. Joint Logistics Unit (North Queensland) will maintain a small footprint at RAAF Base Townsville to support regional explosive ordnance services requirements. Storage of bridging equipment will also remain at Macrossan and the marine repair capability which will remain at Ross Island. There are no capital infrastructure works proposed at these supporting sites under the Defence Logistics Transformation Program.

#### **Joint Logistics Unit (North)**

24. Joint Logistics Unit (North) provides logistic support to Australian Defence Force elements operating in the Northern Territory, the Kimberley region of Western Australia, and deployed forces on operations. The current Joint Logistics Unit (North) wholesale storage, distribution and land materiel maintenance network is dislocated from its major dependency at Robertson Barracks and is split across RAAF Base Darwin and three, separate leased sites at Winnellie, in Darwin. This physical separation of the business unit across multiple sites creates significant workforce inefficiencies.
25. The existing facilities at RAAF Base Darwin include the headquarters office accommodation, the storage of Defence technical and general stores, a cargo consolidation point, storage of special purpose vehicles and stores, facilities for the New Zealand National Support Element Detachment, working accommodation for the Regional Explosive Ordnance Services team and a small arms weapons storage and repair facility.
26. Across the three leased Winnellie properties, the Joint Logistics Unit (North) operates a vehicle maintenance facility and occupies a number of warehouses providing receipt, storage and central freight distribution of inventory, storage for returned goods stores (reverse logistics), rations, loan and repair pool and



camp earmark stores (typically, tentage and field accommodation items such as tables, chairs and field living essentials).

27. The proposed facilities works will enable the Joint Logistics Unit (North) to vacate the three leased sites at Winnellie and consolidate to a new greenfield site at Robertson Barracks, collocated with its major dependency. In addition, Joint Logistics Unit (North) will reduce its facilities footprint at RAAF Base Darwin, retaining the current facilities 'as-is' for the cargo consolidation point, storage of special purpose vehicles and stores for the New Zealand National Support Element Detachment.

### **Joint Logistics Unit (West)**

28. Joint Logistics Unit (West) provides logistic support to Australian Defence Force units in Western Australia from facilities in Perth at both HMAS Stirling and Palmer Barracks. Compared with many of the other business units, the facilities occupied by Joint Logistics Unit (West) are relatively modern and generally support the logistic unit's longer-term requirements Accordingly, only the following shortfalls are proposed to be addressed by the Defence logistics Transformation Program:
  - a. the armoury at Palmer Barracks, which lacks a test fire capability necessitating that the weapons be transported to another range off-site which is both inefficient and costly;
  - b. the Electronic Instrument and Radio (EIR) capability at Palmer Barracks which occupies a portion of the disused 'carpenters shop' and lacks the specialist secure storage and maintenance capability required to support future EIR fleets;
  - c. the vehicle hardstand at Palmer Barracks which is too small necessitating that vehicles and other equipment are parked or stored on unprepared areas; and
  - d. the warehouses at HMAS Stirling, which while the buildings are in good condition, could be operated more efficiently with some reconfiguration of the storage media.

**Joint Logistics Unit (South)**

29. Joint Logistics Unit (South) provides designated logistic support to Australian Defence Force elements in South Australia and Broken Hill. The current Joint Logistics Unit (South) wholesale storage, distribution and land materiel maintenance facilities, are split across two sites in Adelaide, those being RAAF Base Edinburgh and Warradale Barracks. The proposed infrastructure works will enable the Joint Logistics Unit (South) to vacate Warradale Barracks and consolidate the wholesale storage, distribution and land materiel maintenance activities at RAAF Base Edinburgh.
30. At RAAF Base Edinburgh the Joint Logistics Unit (South) occupies a relatively modern general storage warehouse (building 737) and new land materiel maintenance workshop and armoury facilities, which were completed in 2011, under the Enhanced Land Force Stage 1 facilities project. Each of these facilities will be retained.
31. The existing headquarters facility at RAAF Base Edinburgh is a converted World War II era saw-tooth roof, red brick warehouse. This facility is approaching the end of its useful and economic life. While this existing facility can accommodate the unit's immediate needs, there is a need to either undertake a major refurbishment of the existing facility, or construct a new facility in the short to medium term.

**Joint Logistics Unit (Victoria)**

32. Joint Logistics Unit (Victoria) provides logistic support to Australian Defence Force elements in Victoria and Tasmania. The logistics support responsibilities include warehousing, distribution, fleet services, loan pools, disposals and return stores, clothing stores, explosive ordnance services, and equipment maintenance and recovery support. The Victorian region spans from southern New South Wales to Tasmania including sites at Bandiana, Wirlinga, and Puckapunyal in Victoria, and Hobart in Tasmania.
33. The primary focus of Joint Logistics Unit (Victoria) is the provision of national materiel support for most of Army's armoured vehicles, general service vehicles, heavy armaments and electronic, optical and night vision equipment,

along with holding the national stocks of Defence clothing and personal equipment.

34. Joint Logistics Unit (Victoria) is currently spread across three sites at East Bandiana (Wadsworth Barracks), North and South Bandiana (Gaza Ridge Barracks). These sites provide maintenance, loan and repair pool storage, specialty storage and general storage of armoured vehicle repair parts, electronic, radio and optical equipment and general field and barracks stores. The majority of activity is at East Bandiana and this site has benefited from the recent construction in 2010 of the Soldier Support Warehouse and improvements to the Freight Distribution Centre.
35. The Puckapunyal site provides storage and distribution services including general store, vehicle hardstands, hazardous goods, and weapons storage and repair. At Hobart, the Joint Logistics Unit (Victoria) provides light and medium grade repair, warehousing, loan pool and weapon storage and repair support to local units.
36. The Defence Logistics Transformation Program proposes to construct additional storage and distribution infrastructure at Wadsworth Barracks, East Bandiana to support the longer-term consolidation of Joint Logistics Unit (Victoria) functions in the Albury-Wodonga area. Facilities at Hobart and Puckapunyal will be retained in their current form with no additional infrastructure investment.

## **Environment and Heritage Assessment Process**

37. Consistent with established Defence policies, Defence engaged a specialist environmental consultant to undertake an Initial Environmental Review of the proposed works. The purpose of the Initial Environmental Review was to assist Defence in determining whether a more substantive environmental impact assessment is required under the *Environment Protection and Biodiversity Conservation Act 1999* (Cth) or whether the project can proceed via the Defence's internal process of environmental clearance certificates subject to specified controls or mitigation measures being employed.
38. The Initial Environmental Review identified four areas of high environmental risk. These risk areas related to ecology, Indigenous heritage, historic heritage

and contamination. To mitigate these risks, Defence has undertaken additional site investigations to quantify whether these presented a legitimate risk within the proposed sites and to fully characterise the nature of the impact. These investigations are discussed in more detail below under ‘Environmental Impact’.

39. The remaining environment and heritage risks identified in the Initial Environmental Review were defined as minor and will be effectively managed through the preparation of a comprehensive Construction Environmental Management Plan, Operational Environmental Management Plan and implementation of existing site environmental management frameworks (environmental management system).
40. Based on the outcomes of the Initial Environmental Review, it is not anticipated that a referral will be required under the *Environment Protection and Biodiversity Conservation Act 1999* (Cth).

## **Heritage Impact**

41. The Initial Environmental Review noted that:
  - a. Both the Defence National Storage and Distribution Centre (Moorebank) and RAAF Base Amberley are listed for historic reasons on the Commonwealth Heritage List and Register of the National Estate. However, the proposed works are not affected by existing heritage controls nor do they adversely impact the heritage values of the site.
  - b. HMAS Stirling (Western Australia) has three individual listings on the Commonwealth Heritage List and two on the Register of the National Estate. These listings relate to natural and built heritage values. As the proposed works at HMAS Stirling are limited to internal reconfiguration works within the existing warehouses, the proposed works will not impact buildings currently exhibiting heritage values and hence the listings will not be impacted by this proposal.
  - c. Parts of the Edinburgh Defence Precinct are listed on the Register of the National Estate and have been allocated an indicative place on the Commonwealth Heritage List for historic reasons. The proposed works

will not adversely impact the heritage values of the site, as no works are planned on parts of the site with historic value.

42. The Initial Environmental Review also identified that there remains the possibility of uncovering Indigenous heritage sites at Moorebank, RAAF Bases Amberley and Edinburgh, and Robertson Barracks. As mitigation measures, specific site induction material will include details relating to Indigenous heritage sites, instructions for stop work orders, and a 'do's and don'ts' checklist. The Construction Environmental Management Plans at each of the above sites will include 'chance find' procedures to mitigate any potential disturbance of as yet undiscovered, Indigenous sites during construction.

## **Environmental Impact**

43. **Contamination.** Detailed site investigations have been completed at each site following completion of the Initial Environmental Review. These detailed investigations have identified areas of contaminated material at the following sites:
- a. **Moorebank.** Extensive site contamination surveys have been undertaken on site. There are 34 stockpiles located in the south west of the site and these have all been tested for contamination. Two stockpiles have been identified as containing asbestos fragments and the contaminated material will be handled and disposed of in accordance with the relevant legislative requirements. Four stockpiles have been identified as being contaminated with remnant building materials and metal and these will be removed for disposal to a suitable licensed landfill. Underground storage tanks and localised oil contamination on the existing northern part of the site will also be removed and disposed of at a licensed landfill, along with the surrounding sand fill and soil.
  - b. Further testing and air monitoring will be undertaken during removal of the stockpiles to ensure that any unidentified contamination is also removed from site for disposal at a licensed landfill.
  - c. The site has been cleared for unexploded ordnance, however a risk remains that some may be found under the stockpiles during

construction and an unexploded ordnance clearance will be undertaken as these stockpiles are removed.

- d. **Lavarack Barracks.** Hydrocarbon impacted soils and organochlorine pesticide (specifically *aldrin* and *dieldrin*) impacted concrete and soils have been discovered. Groundwater investigations also suggest the presence of possible soil and/or groundwater impact beneath the western half of Building J0732. The contaminated material will be removed from site and disposed of at a licensed landfill.
  - e. **RAAF Base Edinburgh.** Asbestos fragments have been discovered on the site. Topsoil and other material will be screened and the asbestos contaminated material will be handled and disposed of in accordance with the relevant legislative requirements.
44. In each case, the contamination is as a result of past practices at the sites. The project cost plan includes provision to remove or remediate the contaminated material (as applicable).
45. There is the possibility that other areas of contamination will be discovered during the course of constructing the works. The site-specific Construction Environmental Management Plans will incorporate appropriate environmental control measures to ensure that any contaminated material is handled in accordance with the relevant legislation, codes or standards. Development of these site-specific Construction Environmental Management Plans is the contractual responsibility of the construction contractor. Compliance with the approved plans will be periodically audited through the course of the project.
46. **Ecology.** Koalas (*Phascolarctos cinereus*) have recently become a heightened conservation issue in Australia and consequently across the Defence estate. On 30 April 2012, the Federal Environment Minister announced that koalas in Eastern Australia (including South East Queensland) would be classified as vulnerable and added to the threatened species list.
47. Koalas are known to reside at RAAF Base Amberley. While the proposed development is outside of the identified koala assessable development area, the proposed works do require a small amount of vegetation clearing to prepare the site. This includes the removal of a small number of non-juvenile koala habitat

trees. Compensatory habitat will be provided in accordance with the Australian Government Draft Offsets Policy and Queensland Government Environmental Offsets Policy.

48. Consistent with established Defence policy and procedures, an environmental clearance certification will be issued prior to any construction works commencing on site. Approval of the Construction Environmental Management Plans is a necessary precursor to any environmental clearance certificate being issued.

### **Key Legislation**

49. The following key legislation is relevant to this project:
- a. *Defence Act 1903* (Cth);
  - b. *Native Title Act 1992* (Cth);
  - c. *Environment Protection and Biodiversity Conservation Act 1999* (Cth);  
and
  - d. *Building and Construction Industry Improvement Act 2005* (Cth).
50. The design will comply with all relevant and current Defence Standards, Australian Standards, Codes and Guidelines including, but not limited to, the following:
- a. Building Code of Australia;
  - b. *Work Health and Safety Act 2011* (Cth);
  - c. *Disability Discrimination Act 1992* (Cth);
  - d. *Fair Work Act 2009* (Cth);
  - e. the Manual of Fire Protection Engineering; and
  - f. Defence Infrastructure Management polices and processes.

### **Impacts on Local Communities**

51. Similar to other major Defence infrastructure projects, the Defence Logistics Transformation Program will generate employment opportunities in the construction sector (and related sectors) in Western Sydney, Ipswich, Townsville, Darwin, Perth, Adelaide and Albury/Wodonga areas.

52. The Initial Environmental Review recommended that Defence commission an economic impact assessment to quantify and assist in communicating the impact of this proposal on local communities. Defence commissioned an economic impact assessment for the Defence Logistics Transformation Program which was completed in April 2012. The economic impact assessment found that:
- a. During the peak of construction in 2013-14, employment is estimated to be higher by approximately 6,100 jobs (directly and indirectly) and contribute approximately \$495 million (directly and indirectly) per annum to the national economy;
  - b. Ongoing benefits to the national economy post construction are estimated at approximately \$14.5 million per annum once the Defence Logistics Transformation Program is fully implemented.

## **Consultation with Stakeholders**

53. 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 the Defence Logistics Transformation Program.
54. Defence has engaged with a variety of internal and external stakeholders in each of the seven key regions impacted by this proposal. The consultation has been undertaken in accordance with the site-specific consultation plans developed for each region.
55. A list of stakeholders with whom Defence has, or plans to consult with is at Attachment 2.

## **Purpose of Works**

### **Program Objectives**

56. The purpose of the proposed infrastructure works is to deliver new or refurbished purpose-built infrastructure that enables the seven Joint Logistics Command units to provide enhanced support to Australian Defence Force elements and operations. The proposed facilities will also result in consistency



across all sites, with safe modern and sustainable work environments that meet current and anticipated future requirements.

## Site Selection

57. The selection of sites for each project element has been undertaken in accordance with Infrastructure Division planning policy requirements as set out on the Defence Estate Quality Management System.<sup>3</sup> The reviews conducted by site selection boards during the period April 2010 to May 2012 considered Defence policy, environment, heritage and operational considerations and existing planning guidance under the relevant zone plan or master plan for each site (where available).

## Program Locations

58. The proposed works will occur on eight sites as follows:

- a. Moorebank, NSW;
- b. RAAF Base Amberley, Ipswich, QLD;
- c. Lavarack Barracks, Townsville, QLD;
- d. Robertson Barracks, Palmerston, NT;
- e. HMAS Stirling, Rockingham, WA;
- f. Palmer Barracks, Guildford, WA;
- g. RAAF Base Edinburgh, Edinburgh, SA; and
- h. Wadsworth Barracks, East Bandiana, VIC.

59. All sites are Commonwealth owned and Defence controlled. Attachment 1 illustrates the location of each of the above eight sites.

## Program Scope of Works

60. The proposed scope of works includes a number of elements which are common across multiple sites. Descriptions of these common elements are as follows:
- a. **Headquarters.** The headquarters facility provides working accommodation for command and operations staff, generally

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<sup>3</sup> Available for review at [www.defence.gov.au/im](http://www.defence.gov.au/im)

comprising Australian Defence Force, Australian Public Service and contractor administrative personnel. The proposed headquarters facilities comprise predominately open plan work areas with a limited number of individual offices for the Commanding Officer, Executive Officer and branch heads. The headquarters facilities also include shared meeting and training rooms, breakout spaces, ablutions and other amenities. Each headquarters facility has been designed to achieve an occupational density less than 16 m<sup>2</sup> per occupied work point, as per the Department of Finance and Deregulation's Commonwealth Property Management Guidelines. They have also been designed to achieve a 4.5 star energy rating using the National Australian Built Environment Rating System (NABERS).

- b. **General Storage Warehouse.** The general storage warehouse is the 'hub' of warehousing activity on a site. The general storage warehouse provides for the receipt, inspection, storage, issue and inventory control of consumable items, serviceable equipment spares, non-serviceable equipment and items identified for disposal. The freight distribution centre within the general storage warehouse provides the central despatch function for the unit and is responsible for providing both intra-site and inter-site distribution services, order and load consolidation, specialist packaging, labelling and manifesting activities for both long haul and regional order management. The general storage warehouse layout is comprised of office accommodation, amenities, lay-down areas, inspection areas and storage capacity in various media, dependent upon inventory holdings. These storage media include wide aisle racking, narrow aisle racking, cantilever racking, wide span shelving, vertical carousels, bin storage, bulk floor storage and mezzanines. The general storage warehouse typically includes large canopies for the temporary storage of stock and to allow vehicles to be loaded and unloaded under cover.
- c. **Loan and Repair Warehouse.** A loan pool is a collective group of items that are available to units upon request. These items can include vehicles, technical equipment and camp earmark items. They are

loaned out for a period of time and, on return, are inspected to ensure they are still in working condition. A repair pool is a collective group of items that are available to units in the event of malfunction or damage to the 1st line equipment. A damaged item will be receipted and permanently swapped for a serviceable item from the repair pool, with the damaged item processed for repair and returned to service or disposed of.

- d. As with the general storage warehouse, the loan and repair pool warehouse comprise office accommodation, amenities, lay-down areas, inspection areas and storage capacity in various media, dependent upon inventory holdings.
- e. **Dangerous Goods Store.** Dangerous goods are stored separately to general stores in accordance with the Australian Dangerous Goods Code and Australian Standard 140. A dangerous goods store comprises compartmentalised storage for dangerous goods and provides for their receipt, inspection, storage, issue and inventory control.
- f. **Land Materiel Maintenance Workshop.** A land materiel maintenance workshop provides repair and maintenance of vehicles and equipment, such as artillery, mortars, small engines, generators and refrigerators. The workshop provides deeper level maintenance on regional vehicles and equipment than that performed at unit workshops. The land materiel maintenance workshop comprises of office accommodation, a transition parts storage area, servicing, repair, general engineering workbays along with welding, painting, grit blasting and electrical workbays and a component wash facility.

61. To meet the program objectives, the scope of works for each of the seven logistic units are outlined below.

### **Project Element 1 - Defence National Storage and Distribution Centre, Moorebank, NSW**

62. **Location of the Proposed Works.** The Defence Logistics Transformation Program intends to relocate the Defence National Storage and Distribution

Centre functions at Moorebank from the currently leased site to the northern, Defence owned portion of the existing site and the adjacent Defence owned property known as West Wattle Grove. A location plan is at Attachment 3 and a site plan is at Attachment 4.

63. **Description of the Proposed Works.** To facilitate this relocation, the Defence Logistics Transformation Program proposes to construct:
- a. **A New Entry Precinct.** The existing entry to the site is off Moorebank Avenue, with staff parking provided opposite the entry on the western side of the road. The entry will be relocated to the north such that the entry road is on the Defence owned portion of the property and to avoid additional traffic on ANZAC road. The new entry precinct will include a dedicated staff car park (approximately 360 car spaces), a reception building with pass office and meeting rooms and a gatehouse to provide shelter for the guards as they control traffic into and out of the site.
  - b. **Headquarters Facility.** A single-storey office building is proposed that will accommodate around 211 personnel. In addition to the office accommodation and associated shared spaces, the proposed facility will include a small cafeteria (managed by Frontline Defence Services), dining area and shared meeting / training rooms to cater for the site-wide demands. A floor plan is provided at Attachment 5.
  - c. **General Storage Warehouse.** The proposed general storage warehouse will be the largest building on the site. The building will comprise a steel framed structure with a combination of metal sheet cladding and precast concrete panels (to 3m). The steel reinforced concrete slab will be finished to a high degree of flatness to assist the materials handling equipment to operate efficiently and safely. A cantilevered canopy will run across the southern face of the warehouse to provide a covered area for loading and unloading vehicles. A floor plan is provided at Attachment 6.
  - d. **Loan and Repair Pool Warehouse.** The proposed loan and repair pool warehouse will be the primary customer interface point on the site and will be located at the entry to the warehousing/maintenance precinct. The building will include large cantilevered canopies on two sides to assist

with the receipt and issue of equipment to customer units. A floor plan is provided at Attachment 7.

- e. **Joint Operations Storage Warehouse.** From the Joint Operations storage warehouse, the Defence National Storage and Distribution Centre will provide support to Australian Defence Force operations, humanitarian aid and national emergency and disaster relief through the storage and consolidation of specialist items. The proposed facility will be located adjacent to the headquarters facility and in proximity to the general storage warehouse. The facility will include office accommodation, ablutions and storage areas utilising various storage methods. The storage areas are comprised of large open plan floor space, interspersed with columns on grid to support the steel frame. A floor plan is provided at Attachment 8.
- f. **Aerial Delivery Equipment Storage and Maintenance Facility.** The Aerial Delivery Equipment Storage and Maintenance Facility at the Defence National Storage and Distribution Centre is responsible for the storage and maintenance of a quantity of aerial delivery equipment. The proposed facility includes office accommodation, ablutions, specialist climate controlled storage areas, maintenance workshop and a parachute drying tower. A floor plan is provided at Attachment 9.
- g. **Secure Storage and Maintenance Facility.** A new secure storage and maintenance facility is proposed. The facility includes both weapon storage and repair, and electronic instrument and radio repair functions. For security reasons, a floor plan has not been provided.
- h. **Land Materiel Maintenance Workshop.** The land materiel maintenance workshop is the hub of maintenance activity. The proposed workshop is a predominately single storey structure, with individual workbays, and an office component, which will occupy an area both on the ground floor and a mezzanine to minimise the building footprint and to provide the maintenance supervisors with improved visibility of the workshop floor. Floor plans are provided at Attachments 10 and 11.
- i. **Dangerous Goods Storage Facility.** A new dangerous goods storage facility is proposed, comprising of individual storage compartments for

items such as batteries and lubricants. A floor plan is provided at Attachment 12.

- j. **Hardstand.** The project proposes to provide hardstand for the storage of vehicles and other equipment.
- k. **Supporting Site Works and Engineering Services.** The site works and engineering services to support the above building elements include new gas, sewer, water, high voltage and communications connections to local supply authority mains (or the equivalent). For each service, ring-mains will be provided around the site in a common trench with connection points provided to allow for possible future expansion at the site.

## **Project Element 2 - Joint Logistics Unit (South Queensland), RAAF Base Amberley, QLD**

- 64. **Location of the Proposed Works.** The proposed works are contained within the existing boundary of RAAF Base Amberley. A location plan is at Attachment 13 and a site plan is provided at Attachment 14.
- 65. **Description of the Proposed Works.** To enable the consolidation of Joint Logistics Unit (South Queensland), the Defence Logistics Transformation Program proposes to construct the following:
  - a. **New Headquarters Facility.** A new two-storey office building is proposed at RAAF Base Amberley. The facility will accommodate around 135 persons in a predominately open-plan office environment. To mitigate the impact of aircraft noise within the facility, the facade has been designed to control noise intrusion with a combination of specialist wall and roof constructions, with acoustically rated glazing and doors. The headquarters building will also feature a concrete roof to attenuate aircraft noise levels. Floor plans are provided at Attachments 15 and 16.
  - b. **Combined General Storage Warehouse and Cargo Consolidation Point.** The proposed general storage warehouse building will comprise a steel framed structure clad in metal sheet. The office component of the warehouse will include noise attenuation measures to reduce the impact of aircraft noise. The steel reinforced concrete slab will be finished to a high degree of flatness to assist the materials handling equipment to operate

efficiently and safely. A 10m deep cantilevered canopy will provide a covered area for loading and unloading vehicles. A floor plan is provided at Attachment 17.

- c. **Loan and Repair Pool Warehouse.** The proposed loan and repair pool warehouse will be the primary customer interface point on the site and will be located at the entry to the warehousing/maintenance precinct. The building will include large cantilevered canopies on two sides to assist with the receipt and issue of equipment to customer units. The office component of the warehouse will include noise attenuation measures to reduce the impact of aircraft noise. A floor plan is provided at Attachment 18.
- d. **Dangerous Goods Store.** A new dangerous goods storage facility is proposed, comprising of individual storage compartments for items such as batteries and lubricants. A floor plan is provided at Attachment 19.
- e. **Secure Storage and Maintenance Facility.** A new secure storage and maintenance facility is proposed that includes both the weapon storage and repair, and electronic instrument and radio repair functions. The facility will include noise attenuation measures to reduce the impact of aircraft noise. For security reasons, a floor plan has not been provided.
- f. **Land Materiel Maintenance Workshop.** A new land materiel maintenance workshop with individual workbays is proposed. The office accommodation will be provided over two levels to minimise the building footprint and to provide the maintenance supervisors with improved visibility of the workshop floor. The office component of the workshop will also include noise attenuation measures to reduce the impact of aircraft noise. Floor plans are provided at Attachments 20 and 21.
- g. **Hardstand.** The project proposes to provide hardstand for the storage of vehicles and other equipment.
- h. **Supporting Site Works and Engineering Services.** Existing base infrastructure services will be extended to allow connection of the new facilities. There is sufficient capacity in the existing base services and no supply authority upgrades are required.

### **Project Element 3 - Joint Logistics Unit (North Queensland), Lavarack Barracks, QLD**

66. **Location of the Proposed Works.** The proposed works are located at the eastern end of Lavarack Barracks in the logistics precinct as illustrated in the location plan at Attachment 22 and site plan at Attachment 23.
67. **Description of the Proposed Works.** The proposed works for Joint Logistics Unit (North Queensland) at Lavarack Barracks includes the following:
- a. **Headquarters Facility.** A new two-storey office building is proposed to accommodate around 83 persons in a predominately open-plan office environment. Ground and first floor plans are provided at Attachments 24 and 25 respectively.
  - b. **General Storage Warehouse.** The proposed general storage warehouse will be a single pitch metal roof and metal wall cladding over 11m high, matching the Lavarack Barracks architectural design aesthetics. It will be constructed from expressed structural steel framing and have a reinforced concrete floor slab for 10m tall palletised racking storage. The concrete floor slab will be finished to a high degree of flatness to assist the materials handling equipment to operate efficiently and safely. A 10m deep cantilevered canopy will provide a covered area for loading and unloading vehicles. A floor plan is provided at Attachment 26.
  - c. **Loan and Repair Pool Warehouse.** The proposed loan and repair pool warehouse will be the primary customer interface point on the site and will be located adjacent to the hardstand on which the loan vehicles and other equipment will be stored. The building will include large cantilevered canopies on two sides to assist with the receipt and issue of equipment to customer units. A floor plan is provided at Attachment 27.
  - d. **Land Materiel Maintenance Workshop.** The Enhanced Land Force Stage 1 project delivered a new land materiel maintenance workshop in 2010 at Joint Logistics Unit (North Queensland) to cater for the increased demand associated with the relocation of the 3<sup>rd</sup> Battalion, the



Royal Australian Regiment and growth in other 3<sup>rd</sup> Brigade units. The Defence Logistics Transformation Program proposes to construct a second land materiel maintenance workshop, in proximity to this new workshop. This additional workshop is required to enable the unit to effectively deliver the maintenance work not associated with the growth under the Enhanced Land Force initiative and to provide an improved electronic instrument and radio repair capability. The electronic instrument and radio repair storage and maintenance capability will be integrated with the other land materiel maintenance capabilities in the new workshop. A floor plan is provided at Attachment 28.

- e. **Dangerous Goods Store.** Defence has considered the option of retaining the existing dangerous goods store. The existing dangerous goods store is not compliant with contemporary codes and standards, lacks the necessary receipt and inspection areas and is not located in proximity to the new general storage warehouse, creating workforce inefficiencies under the proposed operating regime. For these reasons, a new dangerous goods storage facility is proposed, comprising of individual storage compartments for items such as batteries and lubricants. A floor plan is provided at Attachment 29. The existing facility will be demolished.
- f. **Hardstand and Vehicle Shelters.** The project proposes to provide hardstand for the storage of vehicles and other equipment. Part of this hardstand will be covered to protect the vehicles and other equipment from the elements in the tropical environment so as to avoid premature degradation of the equipment. A plan for the vehicles shelters is provided at Attachment 30.
- g. **Foodstuffs Facility.** The existing Defence Support Group/10th Force Support Battalion foodstuffs facility is located within the Joint Logistics Unit (North Queensland) compound. This function must be relocated to make room for construction of the new general storage warehouse. Defence proposes to construct a new facility adjacent to the 10<sup>th</sup> Force Support Battalion compound, over the site of the existing building 700. The functions in building 700 will be absorbed into the new general

storage warehouse. The new foodstuffs facility will include temperature controlled freezers and cool room storage, bulk dry goods pallet storage and covered loading and unloading areas, associated administration offices and support spaces and external hardstand for covered container equipment storage. A floor plan is provided at Attachment 31.

- h. **Mounting Base.** A mounting base is controlled by a Joint Logistics Unit and is an area which acts as a focal point for the preparation and sustainment of a deployed force. Townsville is one of two primary mounting bases for Australian Defence Force operations. To enable Joint Logistics Unit (North Queensland) to fulfil its role in supporting the mounting of operations, a new mounting base facility is proposed. The proposed facility includes warehouse storage, office accommodation and ablutions and external hardstand for the temporary storage of vehicles and other equipment. A floor plan is provided at Attachment 32.
- i. **Site Works and Engineering Services.** Existing in-ground engineering services will be extended to allow connection of the new facilities. Due to the age and condition of the infrastructure and the presence of asbestos cement products, the existing in-ground infrastructure in the Joint Logistics Unit (North Queensland) precinct will be replaced with new services infrastructure.

#### **Project Element 4 - Joint Logistics Unit (North), Robertson Barracks, NT**

- 68. **Location of the Proposed Works.** The proposed works are located at a greenfield site in north-western sector of Robertson Barracks. A location plan is provided at Attachment 33 and a site plan is provided at Attachment 34.
- 69. **Description of the Proposed Works.** The proposed works include the following:
  - a. **Headquarters Facility.** A new single-storey office building is proposed that will accommodate around 80 persons in a predominately open-plan office environment. The Regional Explosive Ordnance Services team will also be collocated with the unit headquarters staff

and the design includes a storage area and secure vehicle garage for the team's equipment. A floor plan is provided at Attachment 35.

- b. **General Storage Warehouse.** The proposed general storage warehouse will comprise a steel framed structure with metal sheet wall and roof cladding. The steel reinforced concrete slab will be finished to a high degree of flatness to assist the materials handling equipment to operate efficiently and safely. A cantilevered canopy will provide a covered area for loading and unloading vehicles. A floor plan is provided at Attachment 36.
- c. **Loan and Repair Pool Warehouse.** The proposed loan and repair pool warehouse will be the primary customer interface point on the site and will be located at the entry to the warehousing/maintenance precinct. The building will include large cantilevered canopies to assist with the receipt and issue of equipment to customer units. A floor plan is provided at Attachment 37.
- d. **Land Materiel Maintenance Workshop.** A new combined land materiel maintenance and electronic, instrument and radio repair workshop is proposed. The building will contain individual work bays. A 30 tonne overhead gantry crane will also be provided in Darwin to enable the Joint Logistics Unit (North) to support M1A1 Abrams tank maintenance requirements. A floor plan is provided at Attachment 38.
- e. **Secure Storage and Maintenance Facility.** A new secure storage and maintenance facility is proposed incorporating various weapon storage and repair functions. For security reasons, a floor plan has not been provided.
- f. **Dangerous Goods Store.** A new dangerous goods storage facility is proposed, comprising of individual storage compartments for items such as batteries and lubricants. A floor plan is provided at Attachment 39.
- g. **Regional Clothing / Kitting Store.** A new regional clothing store to support kitting of 1st Brigade elements prior to deployment is proposed. A floor plan is provided at Attachment 40.

- h. **Mounting Base.** Darwin is one of two primary mounting bases for Australian Defence Force operations. To enable Joint Logistics Unit (North) to fulfil its role in supporting the mounting of operations, a new mounting base facility is proposed. The proposed facility includes warehouse storage, office accommodation and ablutions and an external hardstand for the temporary storage of vehicles and other equipment. A floor plan is provided at Attachment 41.
- i. **Hardstand and Vehicle Shelters.** The project proposes to provide hardstand for the storage of vehicles and other equipment. Part of this hardstand will be covered to protect the vehicles and other equipment from the elements in the tropical environment so as to avoid premature degradation of the equipment. A plan for the vehicles shelters is provided at Attachment 42.
- j. **Small Quantity Facility.** The Regional Explosive Ordnance Services team requires ready access to a small quantity facility for the storage of explosive ordnance. This team is responsible for the safe disposal of any World War II munitions found by members of the public and explosive ordnance work and inspections for Defence units. It is proposed to construct a facility comprising multiple storage compartments. A floor plan is provided at Attachment 43.
- k. **Robertson Barracks – New Western Entrance.** While not directly related to the relocation of Joint Logistics Unit (North) to Robertson Barracks, the project will construct a new western entrance road and access point to ease traffic congestion around the barracks during peak times. The design of this facility is in accordance with Defence security upgrades being separately delivered elsewhere under the Base Security Improvement Programme.
- l. **Site Works and Engineering Services.** Existing in-ground engineering services will be extended to allow connection of the new facilities.

## **Project Element 5 - Joint Logistics Unit (West), Palmer Barracks and HMAS Stirling, WA**

70. **Location of the Proposed Works.** The proposed works are located at both Palmer Barracks (Guildford) and HMAS Stirling (Garden Island, Rockingham). Location plans for Palmer Barracks and HMAS Stirling are provided at Attachments 44 and 45 respectively.
71. **Description of the Proposed Works.** At HMAS Stirling, the proposed works are limited to internal reconfiguration of the existing warehouses 5, 6 and 76 to improve the efficiency of the warehousing operations and storage media. Site plans for Palmer Barracks and HMAS Stirling are provided at Attachments 46 and 47 respectively.
72. **Description of the Proposed Works.** The proposed works include the following:
- a. **Electronic Instrument and Radio Repair Facility.** The electronic instrument and radio repair facility provides a variety of specialist workshops and secure storage areas for the maintenance of various fleets of electronic instruments and radio equipment. Two options were considered at Palmer Barracks; the construction of a new facility and the adaptive reuse of the existing facility which occupies part of the old carpenters shop. The adaptive reuse and extension of the existing facility proved to demonstrate better value for money. The proposed works include gutting the internals of the existing facility, extending the building envelope and reconstructing the new office, workshop, secure storage, plant, communications and ablution spaces within the extended structure. A floor plan is provided at Attachment 48.
  - b. **Indoor Weapon Test Fire Facility.** Constructed as an extension to the existing armoury, the proposed indoor weapon test fire facility will provide Joint Logistics Unit (West) with the capability to test fire a variety of weapons following maintenance of the weapon, without having to transport the weapon off-site. This will improve maintenance efficiency, shorten repair times and potentially reduce the number of high-cost high security item moves between the East and West coasts. The proposed

facility includes two 25 m firing lanes for weapons up to and including 0.50 calibre machine guns. The structure will be acoustically treated to minimise the noise emanating from the facility. High-performance mechanical systems will be provided to extract and filter the airborne contaminants created during the test fire procedure. For security reasons, a floor plan has not been provided.

- c. **Hardstand.** The project proposes to provide hardstand for the storage of vehicles and other equipment.
- d. **Climate Controlled Storage.** Joint Logistics Unit (West) requires additional climate controlled storage for the storage of chemical, biological, radiological and nuclear Defence equipment. Various options were considered, the most cost effective option being to refit an existing cool-room in the main warehouse with a new air-conditioning plant.

#### **Project Element 6 - Joint Logistics Unit (South), RAAF Base Edinburgh, SA**

- 73. **Location of the Proposed Works.** The proposed works are predominately located at RAAF Base Edinburgh, in proximity to the new land materiel maintenance workshop and weapon storage and repair facility recently completed for Joint Logistics Unit (South) under the Enhanced Land Force Stage 1 project. Limited works are proposed at the adjacent Defence Science and Technology Organisation property. A location plan is provided at Attachment 49.
- 74. **Description of the Proposed Works.** A site plan illustrating the proposed works is provided at Attachment 50. The proposed works include the following:
  - a. **Headquarters.** The existing Joint Logistics Unit (South) headquarters requires six additional workstations as a result of the changes to the unit structure under the Defence Logistics Transformation Program. Defence proposes to reconfigure the existing open plan office accommodation to provide six more workstations.
  - b. The existing headquarters facility is however, approaching the end of its economic life and will require either replacement or a major refurbishment in the short to medium term. Defence has developed a design for a new

headquarters facility. At this stage of the project, this new facility is not included in the project cost-cap of \$752.7 million. Should funds become available later in delivery of the project as risk is retired and contingency is released, then Defence proposes to incorporate this new headquarters facility into the works. If sufficient funds do not become available, then Defence intends to deliver this facility at a later date under another project. A floor plan of the proposed new headquarters facility is provided at Attachment 51.

- c. **Loan and Repair Pool Warehouse.** The proposed loan and repair pool warehouse will be the primary customer interface point on the site. The building will include large cantilevered canopies on two sides to assist with the receipt and issue of equipment to customer units. A hardstand will be constructed adjacent to the loan and repair warehouse for the storage of vehicles and other equipment. A floor plan for the proposed warehouse is provided at Attachment 52.
- d. **Electronic Instrument and Radio Repair.** The proposed electronic instrument and radio repair facility provides a variety of specialist workshops and secure storage areas for the maintenance of various fleets of electronic instruments and radio equipment. The building will consist of offices, storage, secure workshops and an external covered area for the loading / unloading of stores. A floor plan is provided at Attachment 53.
- e. **Site works and Engineering Services.** To support the above works, existing in-ground engineering services networks constructed under the recent Hardened and Networked Army Facilities Project are proposed to be extended to allow connection of the new facilities.
- f. **Ultra Wide Band Test Facility.** The existing Ultra Wide Band Test Facility must be relocated to allow the construction of the above works. The test facility is operated by the Defence Science and Technology Organisation (DSTO) and is proposed to be relocated to the adjacent DSTO property. The new facility will be of a similar size as the existing facility and will be a steel framed structure with metal wall cladding over a

concrete slab. It will be predominately open space with a small office component.

**Project Element 7 - Joint Logistics Unit (Victoria), East Bandiana, VIC**

75. **Location of the Proposed Works.** The proposed works are located within Wadsworth Barracks, East Bandiana. A location plan is provided at Attachment 54.
76. **Description of the Proposed Works.** The proposed works at Wadsworth Barracks are illustrated on the site plan provided at Attachment 55 and include:
- a. **Combined Loan and Repair Pool, Disposals and Slow-Moving Stock Warehouse.** In addition to the loan pool function, Joint Logistics Unit (Victoria) is also responsible for the provision of a centralised disposal service and forms one of three major nodes in the wholesale logistics network for the long-term storage of slow moving stock. Defence proposes to construct a new warehouse facility to accommodate these three functions. The warehouse has been designed to provide ease of future modification, expansion, or adaptive re-use to suit the needs of these three discrete functions. The proposed warehouse will front Whytes Road to allow ease of access for both customer units (for loan and repair pool) and the public (for disposal activities). The warehouse will include large cantilevered canopies on two sides to assist with the receipt and issue of equipment to customer units. A floor plan is provided at Attachment 56.
  - b. **Weapon Storage and Repair Facility.** Joint Logistics Unit (Victoria) provides a long-term -storage function within the wholesale logistics network for small-arms and weapon parts. Defence proposes to construct a new weapons storage and repair facility at East Bandiana. For security reasons, a floor plan has not been provided.
  - c. **Vehicle Shelters.** Joint Logistics Unit (Victoria) is required to maintain and provide long-term storage of a variety of armoured vehicles. Defence proposes to construct vehicle shelters to protect these armoured vehicles from premature degradation as a result of exposure to the elements and to reduce the maintenance liability associated with the stored vehicles. The vehicle shelters will be constructed over a new hardstand.



- d. **Improvements to the Barracks Entry Precinct.** To construct the above proposed works, Defence must realign the existing base perimeter fence and entry point. This involves the construction of a new gatehouse, guardhouse and pass office and staff car park. The existing staff car park will be reused as hardstand for storage of vehicles and other equipment.
- e. **Communications and IT.** The existing IT / Communications building at Wadsworth Barracks is almost fully utilised and cannot sustain the additional requirements associated with this project. Defence proposes to construct a new facility as an extension to the existing facility. The new building will be a one storey facility and will incorporate the aesthetics of the other new small buildings on the site. Although a separate building, it will have a direct undercover connection to the existing IT/Communications facility. A floor plan is provided at Attachment 57.
- f. **Site works and engineering services.** Significant upgrades to the base engineering services are required to support this proposed development, including the provision of new water, gas and sewer connections to the supply authority mains. High voltage demand has been checked and the additional load associated with this development will be accommodated by the existing supply arrangement.

## **Public Transport**

- 77. There are limited public transport services available at Moorebank, Lavarack Barracks, RAAF Base Edinburgh, Palmer Barracks and HMAS Stirling. Accordingly, there is a high reliance on the use of private vehicles for transport to and from the sites.
- 78. There are no public transport options at Wadsworth Barracks, Robertson Barracks or RAAF Base Amberley. Adequate car parking is proposed at all sites to address the lack of public transport.

## **Local Road and Traffic Concerns**

- 79. **Moorebank.** The Defence Logistics Transformation Program is not expected to increase the number of vehicles entering or exiting the new site. A traffic study has been completed to support the design of the new entrance off Moorebank

Avenue. Defence has consulted with the Roads and Maritime Services of New South Wales, in respect to the location and design of the new entrance, and it expressed no concerns with the proposed designs. In addition, no entry will be provided off ANZAC Avenue, thus addressing concerns of local residents with respect to heavy vehicles using this road.

80. **RAAF Base Amberley.** It is expected that there will be an increase in traffic accessing RAAF Base Amberley as a result of the proposal to relocate Joint Logistics Unit (South Queensland) (approximately 320 staff and 10 vehicle deliveries per day). The majority of vehicles currently access RAAF Base Amberley from the Cunningham Highway along either Southern Amberley Drive or Rosewood Road. The intersections are currently operating within acceptable performance limits and it is not expected that the volume increases will be high enough to exceed the operational capacity thresholds of these intersections.
81. The Queensland Department of Transport and Main Roads is however currently planning to upgrade at some time in the future the existing Cunningham Highway/Ipswich/Rosewood Road intersection to alleviate congestion. Defence will consult with the Queensland Department of Transport and Main Roads with respect to the increase of traffic accessing RAAF Base Amberley as a result of the proposal to relocate Joint Logistics Unit (South Queensland).
82. **Lavarack Barracks.** The Defence Logistics Transformation Program is not expected to increase the number of vehicles entering or exiting Lavarack Barracks. Vehicles will continue to use the existing access points off University Drive, including the Cluden Drive access which was recently upgraded under the Enhanced Land Force Stage 1 project. It is anticipated that construction traffic will enter the site directly off University Drive. Defence will consult with the Queensland Department of Transport and Main Roads to gain approval of the construction traffic management plans.
83. **Robertson Barracks.** It is expected that there will be an increase in traffic accessing Robertson Barracks as a result of the proposal to relocate Joint Logistics Unit (North ) (approximately 160 staff and 10 vehicle deliveries per day). A traffic study was completed in early 2012 to inform the planning

process which concluded that the proposed development had a negligible impact on traffic in or around the barracks due to the proposed construction of a new western access to the barracks.

84. Notwithstanding this finding, Defence acknowledges the concerns of nearby residents with respect to traffic accessing McMillans Road from Robertson Barracks via Brandt and Farrer Roads. The proposed western access to the base will re-distribute traffic away from these roads. Defence has consulted with the Northern Territory Department of Lands and Planning, Litchfield Shire Council, Northern Territory Land Development Corporation, Northern Territory Roads and the Northern Territory Department of Natural Resources Environment The Arts and Sport, in respect to the alignment of the new western entrance. There is agreement to the general alignment and consultation is ongoing to ensure the design meets all statutory requirements. Defence also intends in the near future, to consult with nearby residents on the proposed western access to the barracks.
85. **Palmer Barracks and HMAS Stirling.** There is no increase in traffic anticipated at either Palmer Barracks or HMAS Stirling. Accordingly, there are no changes planned to the existing entrances at either site.
86. **RAAF Base Edinburgh.** There is expected to be a negligible increase in traffic at RAAF Base Edinburgh as a result of this proposal. Vehicles will continue to use the existing base entrances, some of which were upgraded as part of the Hardened and Networked Army Initiative and RAAF Base Edinburgh Redevelopment Stage 2 project.
87. **Wadsworth Barracks.** There is expected to be a negligible increase in traffic as a result of this proposal. Vehicles will continue to use the existing base entrance off Whytes Road.

## **Zoning, Local Approvals and Land Acquisition**

88. With the exception of where the new western access at Robertson Barracks intersects with McMillan's Road all project elements are located within the boundaries of Commonwealth owned and Defence controlled land. For these elements, no civilian authority design or construction approvals are required, although the works will comply with the relevant standards and regulation (where applicable).

89. In the case of the intersection of the new western access road and McMillan's Road, Defence will seek the necessary approvals from the Northern Territory Government and local Council prior to works commencing.
90. There is no land acquisition associated with this proposal.

### **Planning and Design Concepts**

91. Where there is an established character and typology of construction at the site, for example at RAAF Base Edinburgh, Robertson Barracks and Lavarack Barracks, the facilities will be of an aesthetic style consistent with the surrounding buildings and precincts. Proposed designs have also given consideration to the impact of materials, equipment, finishes, construction techniques and building efficiencies suitable for the local climate conditions. The designs present solutions that offer sustainability, flexibility, minimise the environmental impact and address whole of life issues.

### **Structural Design**

92. During the planning process, Defence commissioned detailed geotechnical investigations at each site to inform the building foundation designs.
93. Across the Defence Logistics Transformation Program, the proposed facilities will generally be steel framed structures with metal sheet wall and roof cladding. Floors are generally traditionally reinforced concrete slabs, finished to a high degree of flatness in the warehousing facilities to enable safe and efficient operation of the materials handling equipment.
94. In each of the warehouses, the structure has been designed to allow for future expansion. The smaller warehouses are generally column-free spaces, with rows of internal columns introduced into the larger warehouse facilities. During the planning process, the design teams have tested various column configurations to maximise the flexibility of the floor space and racking layouts, while minimising the cost of the structure.

## **Materials and Furnishings**

95. Materials and furnishings will be selected from those readily available locally for their functionality, durability, low maintenance and ecologically sustainable design properties.

## **Mechanical Services**

96. The mechanical services works involve a number of systems. Air-conditioning will be provided to areas where climate and usage dictates a need. The selection of building services and associated equipment to new air-conditioned facilities has targeted an economic balance between capital cost, operation and maintenance costs. System selection has been based on life cycle costing analysis and particular consideration has been given to energy efficient design solutions employing passive solar and natural ventilation. All new facilities will incorporate building management systems, metering and other provisions to measure and monitor energy use and to allow regular energy audits.

## **Hydraulic Services**

97. At RAAF Base Amberley, Lavarack Barracks, Robertson Barracks, Palmer Barracks and RAAF Base Edinburgh, existing sewer and water supply infrastructure will be extended to accommodate the proposed works at each site.
98. At Moorebank, the proposed site is brownfield with no services and Defence proposes to:
- a. install a new 150mm water supply connection from the existing Sydney Water 150mm water supply main infrastructure located under ANZAC Road;
  - b. construct new sewer drainage provisions for the site consisting of a new 150mm gravity drainage connection, achieved via an extension of the existing 250mm Sydney Water sewer main infrastructure located at the corner of ANZAC Rd and Yulong Close.
99. At Wadsworth Barracks, due to the ageing condition of the existing infrastructure, the project proposes to install a new 150mm connection to the existing authority supply main infrastructure located under Whyte's Road.

## **Electrical Services**

100. There is sufficient capacity in the high voltage supply to each site to support the proposed developments. Generally, new pad-mounted kiosk style substations, or building substations in the case of Robertson Barracks, will be provided and connected to the existing site high voltage network to support the increase in demand associated with the new buildings. In the case of Moorebank, a new high voltage ring main will be constructed and connected to the existing zone substation.
101. Lighting, power, lightning protection and fire detection will be provided in accordance with the relevant Australian Standards and any additional Defence requirements. Electrical infrastructure and switchboards will have modest spare capacity to allow for some future growth or demand. Fire detection systems, indication panels, emergency and exit lighting will be provided to suit the existing site systems.

## **Fire Protection**

102. All construction and fire protection requirements will, as a minimum, be in accordance with the provisions of the Building Code of Australia, the Manual of Fire Protection Engineering and all other applicable codes and standards. The Manual of Fire Protection Engineering details Defence fire protection policies for asset protection and building function protection.
103. Where required (for example at Moorebank), a bushfire assessment has been completed for the site to ensure the design:
  - a. achieves the required minimum bushfire protection measures;
  - b. satisfies the legislative requirements for the assessment of development in bushfire prone land;
  - c. addresses the assessment and reporting requirements in Defence's Manual of Fire Protection Engineering; and
  - d. is compliant with any required Asset Protection Zone (APZ) building setbacks to bushland, building construction standards for bushfire protection, fire access and water supply requirements.

## Acoustics

104. The proposed new facilities will comply with the relevant codes and standards including the:

- e. Building Code of Australia 2011 (BCA);
- f. Defence Construction Security Reference Manual 2nd Edition, 2007 (DCSRM);
- g. Worksafe National Standard for Occupational Noise (NOHSC:1007(2000));
- h. National Code of Practice for Noise Management and Protection of Hearing at Work (NOHSc:2009 (2000));
- i. Environment Protection Policy (Noise) 2008;
- j. AS/NZS ISO 717.1:2004 Acoustics – Rating of sound insulation in buildings and of building elements –Airborne sound insulation;
- k. Australian Standard AS2021:2000 Acoustics – Aircraft noise intrusion – Building siting and construction;
- l. Australian Standard AS2107:2000 Acoustics – Recommended design sound levels and reverberation times for building interiors; and
- m. Australian Standard AS2670.2:1990 Evaluation of human exposure to whole-body vibration – Continuous and shock-induced vibration in buildings (1-80 kHz).

105. At RAAF Bases Edinburgh and Amberley, aircraft noise is the dominant noise source. Additional attenuation measures have been incorporated into the design of the facilities at these sites to mitigate the impacts of aircraft noise on the building occupants.

## Landscaping

106. Landscaping works will restore areas disturbed during construction. Precautions will be taken to avoid compromising existing environmental sensitivities by adopting landscaping practices in keeping with local environmental conditions. Landscaping design will have regard to minimising potable water usage.

107. At Moorebank, it is proposed to regenerate the portion of ANZAC Creek which runs along the eastern boundary of the site and borders the West Wattle Grove Community. The regeneration works will include replanting and revegetation works along the western boundary.

### **Other Civil Works**

108. The proposed works includes significant pavements for the storage of vehicles and equipment and the extent of new pavement works varies between sites. At each site, the pavement type has been selected to balance the capital construction cost and ongoing maintenance liability having regard to the climatic and geotechnical conditions and the types of vehicles and other equipment to be stored on the hardstand.
109. The project has adopted water sensitive urban design principles in the design of the hardstands. At all sites, the hardstands will include measures to remove suspended solids and entrained hydrocarbons from the stormwater runoff. The civil works have been designed to limit the impact of the proposed development on the off-site drainage systems by ensuring that the post development flows of each catchment will be limited to match the predevelopment flow rate, utilising detention basins and the like.

### **Water and Energy Conservation Measures**

110. The Commonwealth is committed to Ecologically Sustainable Development and the reduction of greenhouse gas emissions. Defence reports annually to Parliament on its energy management performance and on its progress in meeting the energy efficiency targets established by the Government as part of its commitment to improve Ecologically Sustainable Development. Defence also implements policies and strategies in energy, water and waste to improve natural resource efficiency and to support its commitment in the reduction of energy consumption, potable water consumption and waste diversion to landfill. This project has addressed this policy by adopting cost effective Ecologically Sustainable Development as a key objective in the design development and delivery of new facilities.



111. The ecologically sustainable development targets and measures for the project have been balanced with other requirements for Defence buildings (e.g. security, heritage considerations and workplace health and safety) to ensure that, first and foremost, Defence's operational capability is not compromised.
112. All buildings included in this project will be designed, constructed, operated and maintained to ensure that they use energy efficiently. To achieve this, as a minimum, the buildings will comply with:
  - a. Part I.2 and Section J of Volume One of the Building Code of Australia;
  - b. Part 3.12 of Volume Two of the Building Code of Australia;
  - c. the Energy Efficiency in Government Operations (EEGO) policy; and
  - d. Defence Green Building Requirements Part 1 as applicable to the classification of each building.
113. All buildings will comply with the relevant energy efficiency provisions in the Building Code of Australia, except where there are energy efficiency requirements imposed by Defence that are of a higher standard. In this project, each building is subject to the higher standards of the Defence Green Building Requirements Part 1 which requires a 20% improvement on the Building Code of Australia minimum energy efficiency performance requirements.
114. Defence has adopted the principles of the Energy Efficiency in Government Operations policy in relation to office accommodation. The new headquarters facilities at Moorebank, RAAF Base Amberley, Lavarack Barracks and Robertson Barracks each exceed 2,000 m<sup>2</sup>. In each case, the whole headquarters building will target 4.5 stars using the National Australian Built Environment Ratings System (NABERS) Energy for Offices as required by Defence Green Building policy.
115. For the remaining mixed-use buildings that have office floor area of less than 2000m<sup>2</sup>, separate digital on market status metering will be installed and office lighting will not exceed 10 W/m<sup>2</sup>. Where available, fit for purpose and cost-effective appliances will be United States Environmental Protection Agency 'Energy Star' compliant with power management features enabled at the time of supply.

116. Each new building will be modelled to determine the predicted energy consumption and design targets will be determined for each building, depending on the building classification. Energy management is a key aspect in the design of the new facilities and the initiatives which will be included are:
- a. orientating the buildings to minimise east and west solar gain;
  - b. installing a Building Management System in each building, linked to the site wide Regional Utilities Management System where available;
  - c. in-building load control devices such as motion sensors where practical;
  - d. natural ventilation and mixed mode systems wherever feasible and cost effective;
  - e. installation of ceiling fans in selected areas to enhance comfort without the use of air conditioning;
  - f. separate digital energy metering for tenanted areas, central services and computer (data) centres;
  - g. energy efficient lighting (T5 fluorescent light fittings in office areas) supplemented by energy efficiency techniques such as occupancy sensing and after-hours automatic shut-off controls; and
  - h. energy efficient appliances.
117. Efficient water use is a key aspect of the design. Key water saving measures will include where practical:
- a. all tap ware and fittings compliant with the Water Efficiency Labelling Standards scheme to provide a minimum of a 3 Star water conservation rating;
  - b. pressure limiting valves to limit pressure at all appliances;
  - c. provision for separate internal and external reticulation of cold water to all toilets and urinal flushing for future connection to non-potable water supply infrastructure;
  - d. sub-metering of all major water supplies to each new building; and

- e. rainwater harvesting from roof areas complete with storage tanks and pressure pumping to supply localised landscaping, wash down areas and toilet flushing.
118. Defence will consult with the Department of Climate Change and Energy Efficiency in respect to these energy efficiency requirements.

## **Demolition and Disposal of Existing Structures**

119. **Moorebank.** The redevelopment of the northern portion of the current Defence National Storage and Distribution Centre necessitates that the existing vehicle workshop, paint shop and grit-blast facility and hardstand be demolished. These buildings are beyond the end of their economic life and are not fit for reuse or refurbishment. This demolition work is required to allow the construction of the new entrance to the site, staff car park, gatehouse, guardhouse, headquarters building and the Joint Operations Stores warehouse.
120. **Lavarack Barracks.** The redevelopment of the existing Joint Logistics Unit (North Queensland) precinct necessitates the demolition of the majority of the existing structures on the site. Options were considered during the planning process to retain and reuse the existing warehousing facilities and dangerous goods store. This option was discounted on a value for money basis when further investigations highlighted the extent of refurbishment / reconstruction works necessary to bring these facilities into compliance with current codes and standards.
121. **RAAF Base Edinburgh.** The existing 600m<sup>2</sup> Defence Science and Technology Organisation Ultra-Wide Band Test Facility will be demolished and relocated to make room for the Loan and Repair Pool warehouse and associated hardstand. In addition, if the new headquarters facility is delivered under this project, the existing headquarters building will be demolished.

## **Provisions for People with Disabilities**

122. Disabled access and facilities will be provided where necessary in accordance with the Building Code of Australia, Australian Standard AS1428 and Defence's policy 'Disabled Access and Other Facilities for Disabled Persons'. Where

possible, the use of existing facilities and access has been identified and incorporated in the design.

123. Dispensations will only be sought where operational requirements are inconsistent with Building Code of Australia requirements.

## **Childcare Provisions**

124. An existing Childcare Centre is located at RAAF Base Amberley. Demand for additional childcare places is yet to be determined and will be dependant upon the demographic of the workforce. The remaining project elements have no direct impact on the demand for childcare services at the other sites.

## **Security**

125. In accordance with Government initiatives to improve physical security arrangements across Government departments, advice from both the engaged specialist SCEC-endorsed security design consultants and the designated security authorities has and will continue to be incorporated in the design solutions for the proposed works.
126. Site-specific security threat assessments and security risk assessments have been completed, and appropriate security protection will be provided in accordance with the electronic Defence Security Manual and other specific project requirements including ASIO technical notes. The security threat assessment will be reviewed during the detailed design phase and the facilities would be secured as appropriate to the classification level required for activities conducted within.

## **Occupational Health and Safety Measures**

127. The proposed facilities will comply with the requirements of the *Work Health and Safety Act 2011* (Cth), the Department of Defence Occupational Health and Safety Manual and relevant State Government Occupational Health and Safety legislation and operate in accordance with an approved Occupational Health and Safety Plan.
128. The Australian Government is committed to improving occupational health and safety outcomes in the building and construction industry. In accordance with

S35(4) of the *Building and Construction Industry Improvement Act 2005* (Cth), contractors will hold full occupational health and safety accreditation from the Office of the Federal Safety Commissioner under the Australian Government Building and Construction Occupational Health and Safety Accreditation Scheme.

129. All construction sites will be appropriately secured to prevent public access during the construction period. No special or unusual public safety risks have been identified.

## **Cost-Effectiveness and Public Value**

### **Outline of Program Costs**

130. The estimated out-turned cost of this project is \$752.7 million, excluding Goods and Services Tax. This cost estimate includes construction costs, management and design fees, furniture, fittings and equipment, contingencies and an escalation allowance.
131. There is an estimated decrease in annual net operating costs as a result of this proposal, arising primarily as a result of reduced lease payments at Moorebank and Winnellie.

### **Details of Program Delivery System**

132. The proposed delivery system comprises six works packages, utilising both Managing Contractor and Head Contractor contracts as follows:
- a. Works Package 1 (Moorebank and Wadsworth Barracks) – Managing Contractor (MCC-1-2003).
  - b. Works Package 2 (RAAF Base Amberley) – Managing Contractor (MCC-1-2003).
  - c. Works Package 3 (Lavarack Barracks) – Managing Contractor (MCC-1-2003).
  - d. Works Package 4 (Robertson Barracks) – Design Services Contract (DSC-1-2003) and Head Contractor (Construct Only) (HC-1 2003).

- e. Works Package 5 (RAAF Base Edinburgh) – Design Services Contract (DSC-1-2003) and Head Contractor (Construct Only) (HC-1 2003).
  - f. Works Package 6 (HMAS Stirling and Palmer Barracks) – Design Services Contract (DSC-1-2003) and Head Contractor (Construct Only) (HC-1 2003).
133. The delivery mechanism for each site was selected on the basis of the scope, the risk of disruption of operational activities at the site locations, the value of the works, any interdependencies with other concurrent projects and capacity of industry at each location.
134. Each works package will be administered by a Project Manager / Contract Administrator engaged under Defence’s Infrastructure Panel arrangements.

### **Construction Schedule**

135. Subject to Parliamentary approval of the project, construction is expected to commence in late 2012 at Moorebank, Wadsworth Barracks and Lavarack Barracks with other sites to follow through early to mid 2013. All construction works are expected to be complete by mid 2015.

### **Public Value**

136. The proposed works will enable the Joint Logistics Command to more effectively provide logistics support to Australian Defence Force operations and deliver the financial savings mandated under the Government’s Strategic Reform Program.
137. This proposal also delivers significant economic benefits as a result of construction activities. The economic modelling commissioned by Defence indicates that this proposal, directly and through flow-on affects, is estimated to provide employment for approximately 6,100 people and contribute around \$495 million towards Gross Domestic Product (GDP) at the peak of construction. By area these are approximately as follows<sup>4</sup>:

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<sup>4</sup> Around 40 jobs and \$9 million in GDP occur outside of the regions listed above.

- a. **Moorebank.** 1,870 personnel employed directly and indirectly and contributing around \$130 million to Gross Regional Product (GRP) in the Sydney area at the peak of construction;
- b. **Ipswich.** 1,210 personnel employed directly and indirectly and contributing around \$93 million to the GRP in the Ipswich / Brisbane area at the peak of construction;
- c. **Townsville.** 1,220 personnel employed directly and indirectly and contributing around \$94 million to the GRP in the Townsville region at the peak of construction;
- d. **Darwin.** 1,215 personnel employed directly and indirectly and contributing around 127 million to the GRP in the Darwin region at the peak of construction;
- e. **Rockingham and Guildford.** 100 personnel employed directly and indirectly and contributing around \$14 million to the GRP in the Perth region at the peak of construction;
- f. **Edinburgh.** 135 personnel employed directly and indirectly and contributing around \$10 million to the GRP in the Adelaide region at the peak of construction; and
- g. **East Bandiana.** 310 personnel employed directly and indirectly and contributing around \$19 million to the GRP in the Albury / Wodonga region at the peak of construction.

## Revenue

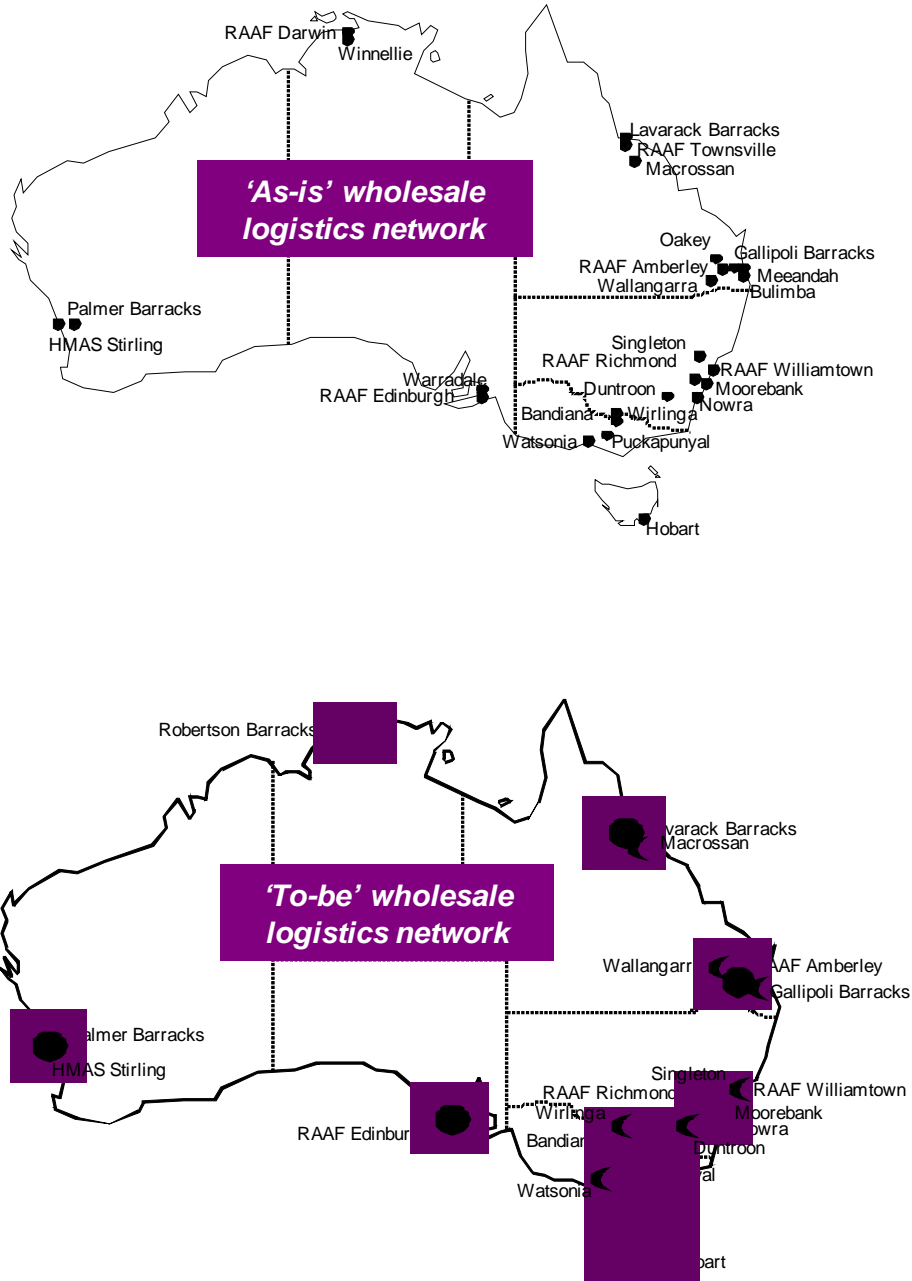
138. No revenue will be derived from this proposal.

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# ATTACHMENT 1

## ILLUSTRATION OF 'AS-IS' AND TO BE DEFENCE WHOLESALE LOGISTICS NETWORK



## **ATTACHMENT 2**

### **STAKEHOLDER LIST**

#### Defence National Storage and Distribution Centre

- Mr Craig Kelly MP, Federal Member for Hughes
- Ms Melanie Gibbons MLA, State Member for Menai
- Liverpool City Council
- Sydney Water
- Integral Electricity
- New South Wales Roads and Maritime Services
- Mr Jim McGoldrick , South West Sydney Community Alliance (nointermodal.com)
- Mr Roy Carter, Thousand Signs to Save Liverpool
- Local Community

#### Joint Logistics Unit (South Queensland)

- Mr Shane Neumann MP, Federal Member for Blair
- Mr Ian Berry MLA, State Member for Ipswich
- Ipswich City Council
- Queensland Urban Utilities
- Energex
- Queensland Department of Transport and Main Roads
- Australian Koala Foundation
- Local Community

#### Joint Logistics Unit (North Queensland)

- Mr Ewen Jones MP, Federal Member for Herbert
- Mrs Rosemary Menkens MLA, State Member for Burdekin
- Townsville City Council
- Ergon Energy, Electricity provider
- Queensland Department of Transport and Main Roads
- Local Community

#### Joint Logistics Unit (North)

- Mrs Natasha Griggs MP, Federal Member for Solomon
- Mr Gerry Wood MLA, Member for Nelson
- Litchfield Council

- Northern Territory Power and Water Corporation
- Northern Territory Land Development Corporation
- Department of Lands and Planning
- Department of Natural Resources Environment The Arts and Sports
- Local Community

Joint Logistics Unit (West), Palmer Barracks and HMAS Stirling

- Mr Ken Wyatt MP, Federal Member for Hasluck
- Ms Michelle Hopkins Roberts MLA, State Member for Midland
- Mr Gary Gray MP, Federal Member for Brand
- Mr Mark McGowan MLA, State Member for Rockingham
- City of Rockingham Council
- City of Swan Council
- Water Corporation
- Western Power , Electricity provider
- Main Roads Western Australia

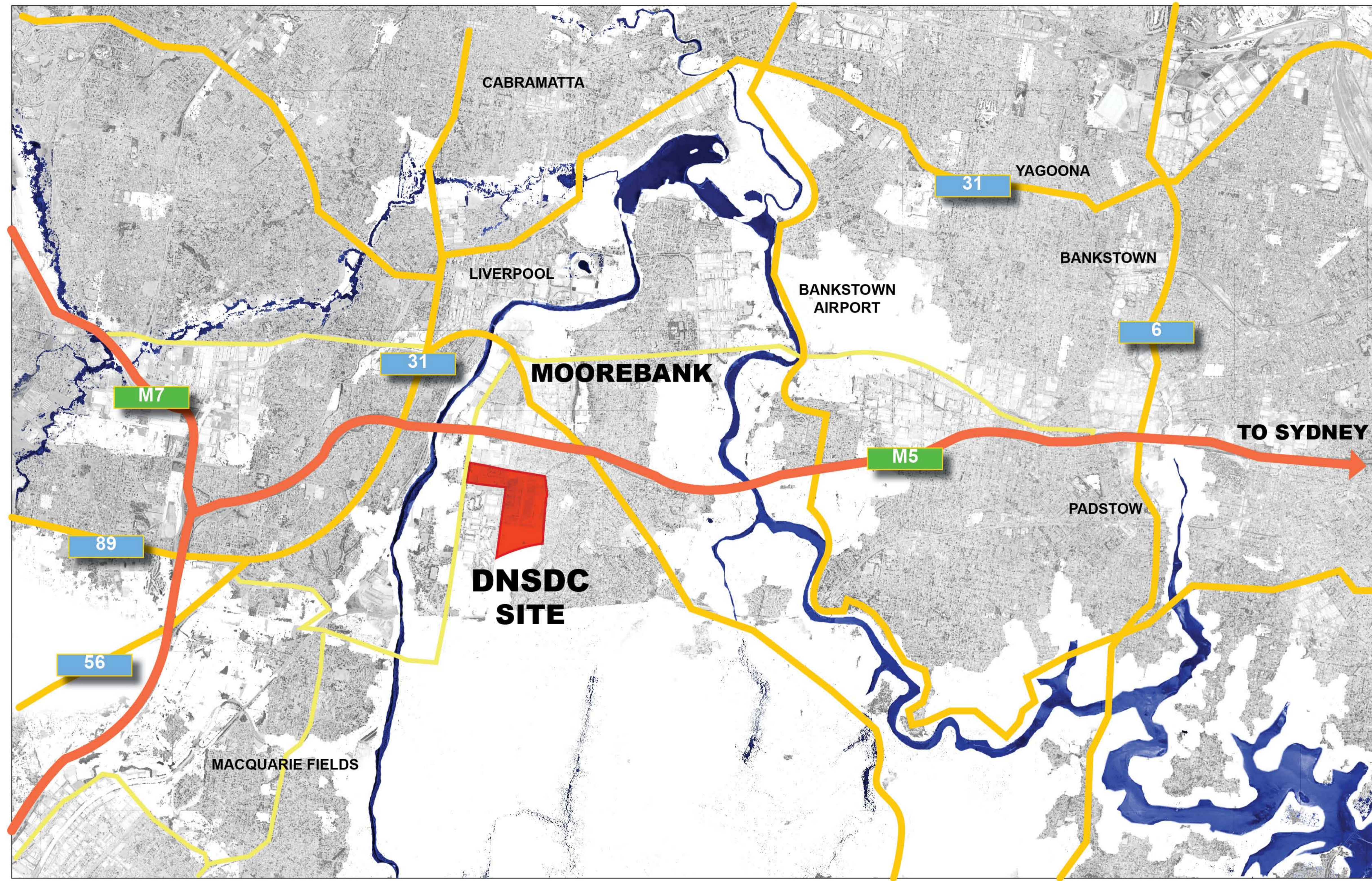
Joint Logistics Unit (South)

- Mr Nick Champion MP, Federal Member for Wakefield
- Ms Patricia White MLA, State Member for Taylor
- Salisbury City Council

Joint Logistics Unit (Victoria)

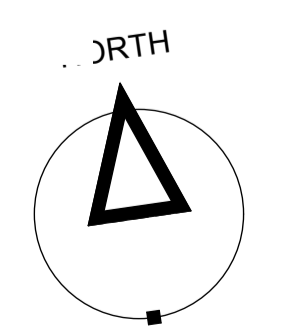
- Mrs Sophie Indi MP, Federal Member for Indi
- Mr Bill Tilley MLA, State Member for Benambra
- Wadonga City Council
- North East Water
- SP Ausnet, Electricity provider
- VicRoads
- Local Community





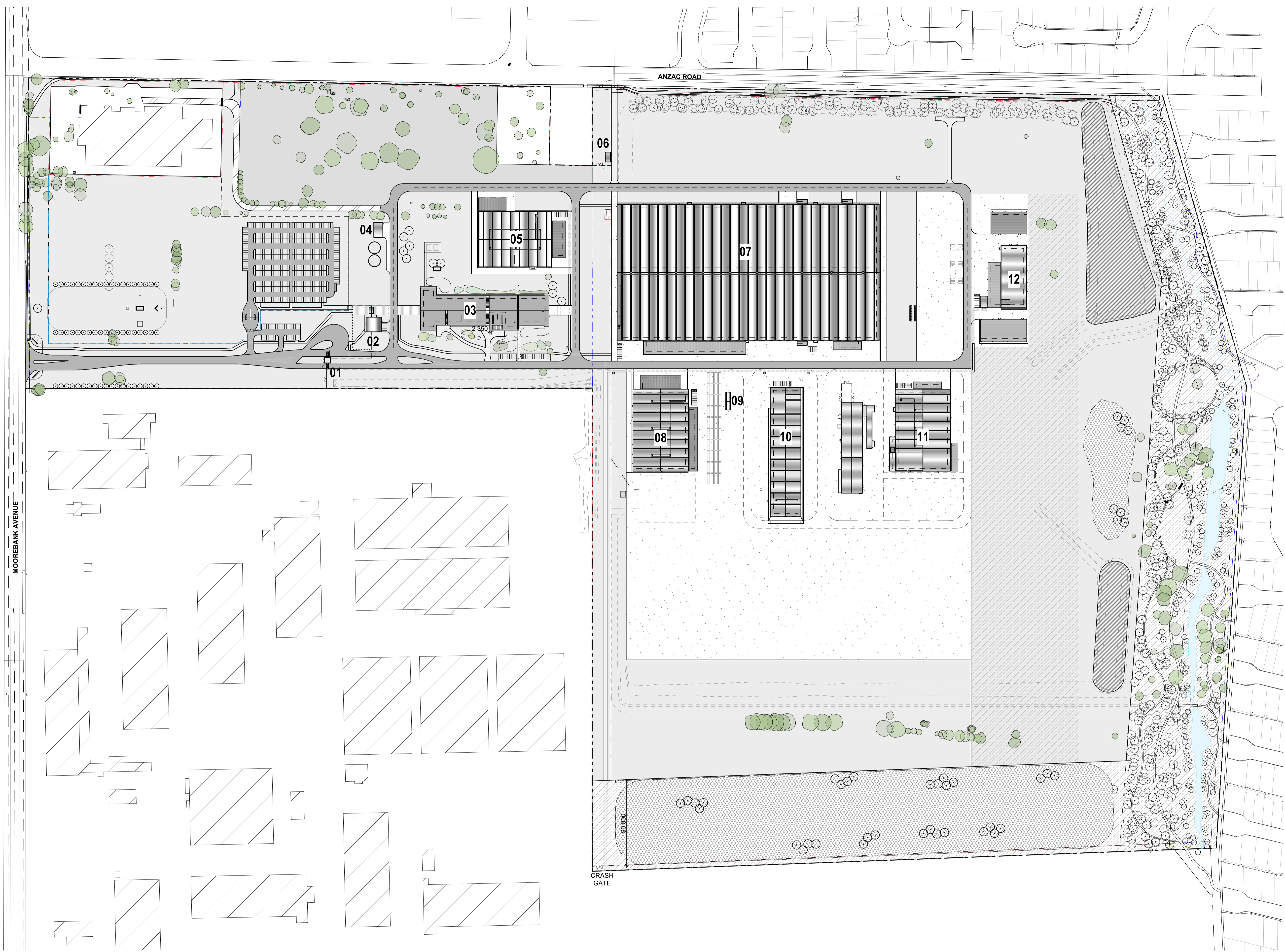
- M7 MOTORWAY (STATE)
- 31 PRIMARY ROADS (REGIONAL)
- SECONDARY ROADS (LOCAL)

# Defence National Storage and Distribution Centre, Moorebank NSW - LOCATION PLAN

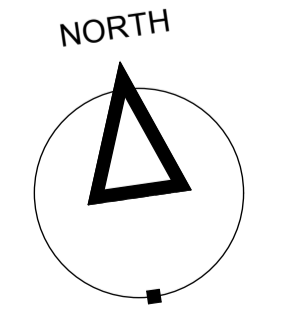




- BUILDING LEGEND**
- 01 GATEHOUSE
  - 02 GUARDHOUSE
  - 03 HEADQUARTERS
  - 04 PUMPHOUSE
  - 05 JOINT OPERATIONS STORES
  - 06 HV SWITCHROOM
  - 07 GENERAL STORAGE WAREHOUSE
  - 08 LOAN AND REPAIR POOL WAREHOUSE
  - 09 LOADING RAMP
  - 10 LAND MATERIEL MAINTENANCE WORKSHOP
  - 11 AERIAL DELIVERY EQUIPMENT STORAGE AND MAINTENANCE
  - 12 DANGEROUS GOODS STORE

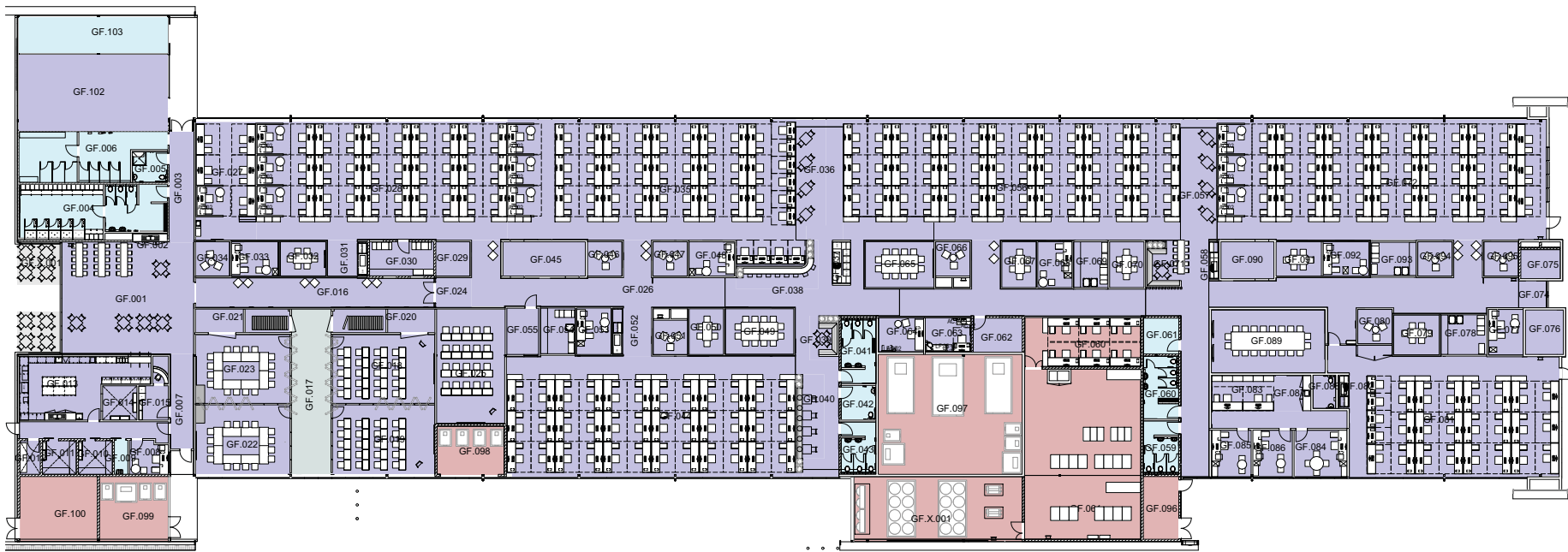


**Defence National Storage and Distribution Centre, Moorebank NSW -  
SITE PLAN**



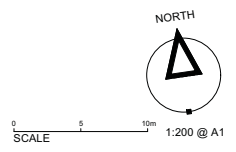
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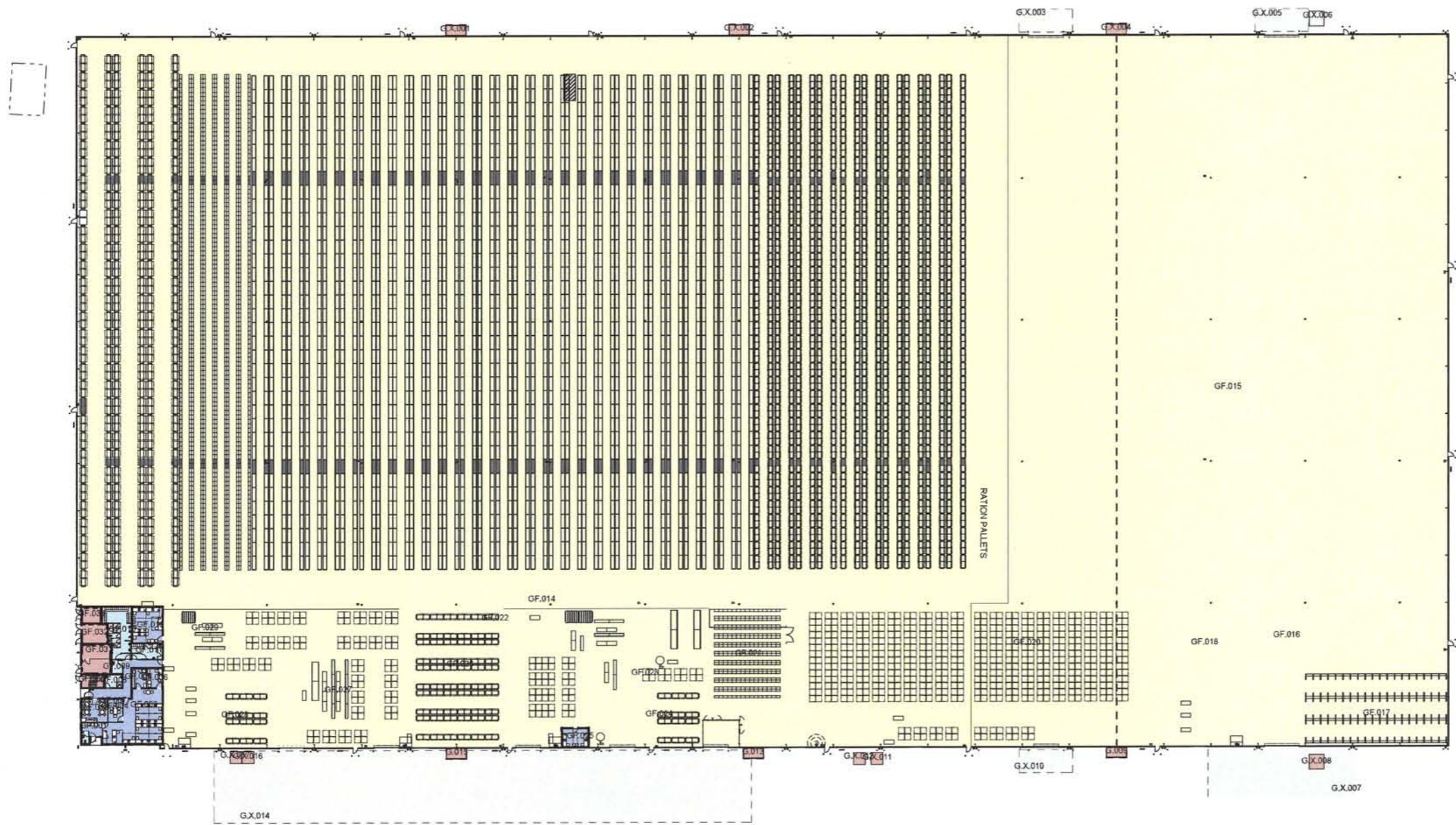




- COLOUR LEGEND**
- STORES, WORK AREA - NON A/C
  - OFFICE, WORK AREA - A/C
  - SALS
  - SECURE
  - SERVICES
  - EXTERIOR
  - EXISTING

# Defence National Storage and Distribution Centre, Moorebank NSW - HEADQUARTERS FLOOR PLAN





- COLOUR LEGEND**
- STORES, WORK AREA - NON A/C
  - OFFICE, WORK AREA - A/C
  - SALs
  - SECURE
  - SERVICES
  - EXTERIOR
  - EXISTING



0 5 10m  
SCALE 1:500 @ A1

# Defence National Storage and Distribution Centre, Moorebank NSW - GENERAL STORAGE WAREHOUSE FLOOR PLAN

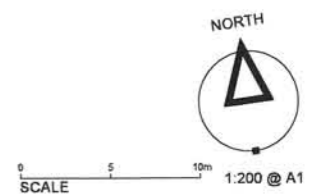




**COLOUR LEGEND**

- STORES, WORK AREA - NON A/C
- OFFICE, WORK AREA - A/C
- SALs
- SECURE
- SERVICES
- EXTERIOR
- EXISTING

**Defence National Storage and Distribution Centre, Moorebank NSW -  
LOAN REPAIR POOL WAREHOUSE FLOOR PLAN**



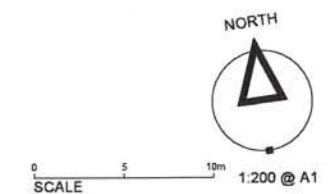


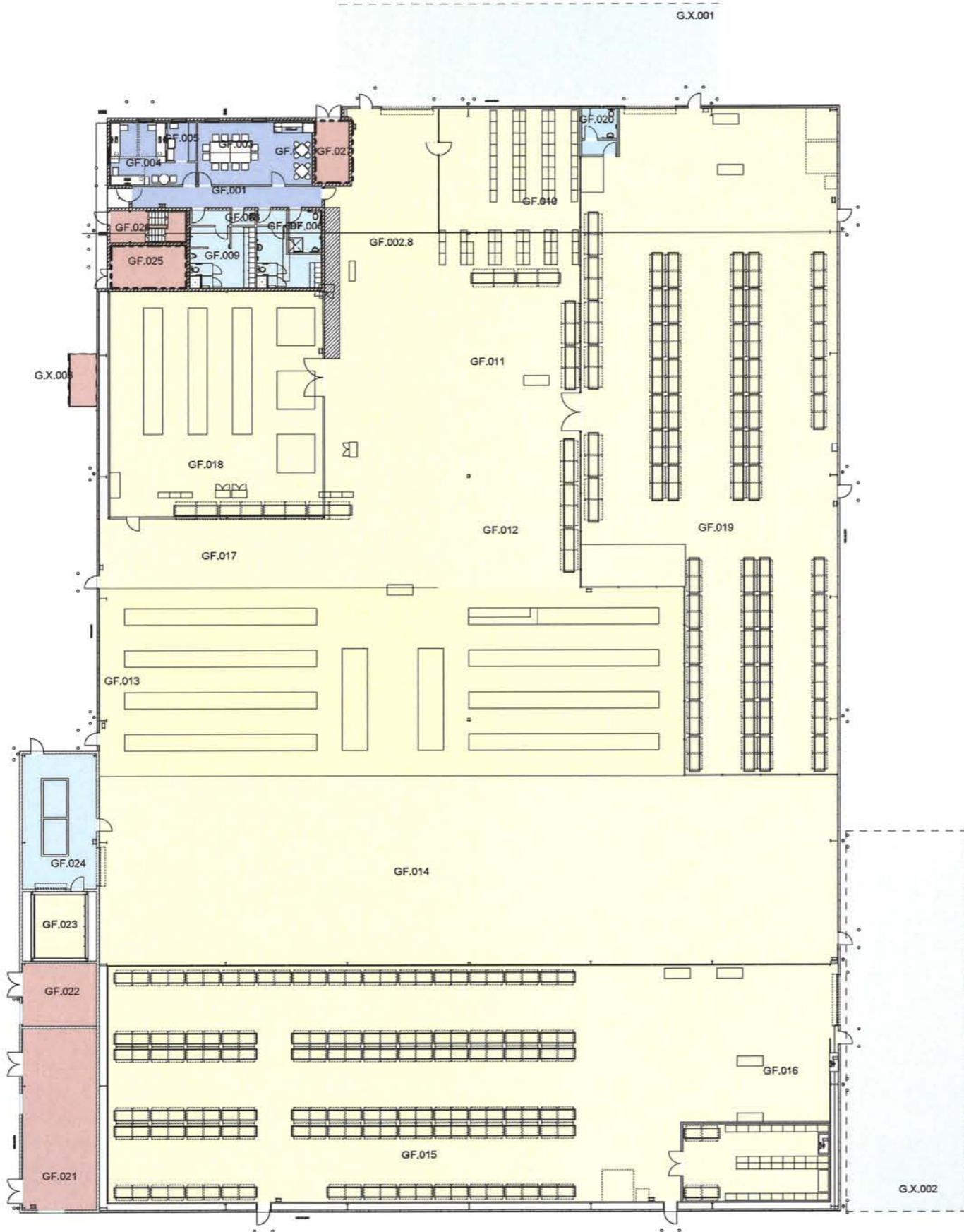


**COLOUR LEGEND**

- STORES, WORK AREA - NON A/C
- OFFICE, WORK AREA - A/C
- SALs
- SECURE
- SERVICES
- EXTERIOR
- EXISTING

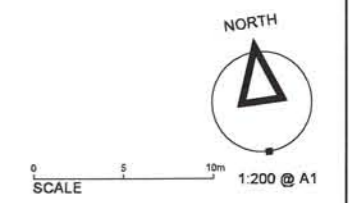
**Defence National Storage and Distribution Centre, Moorebank NSW - JOINT OPERATIONS STORES FLOOR PLAN**

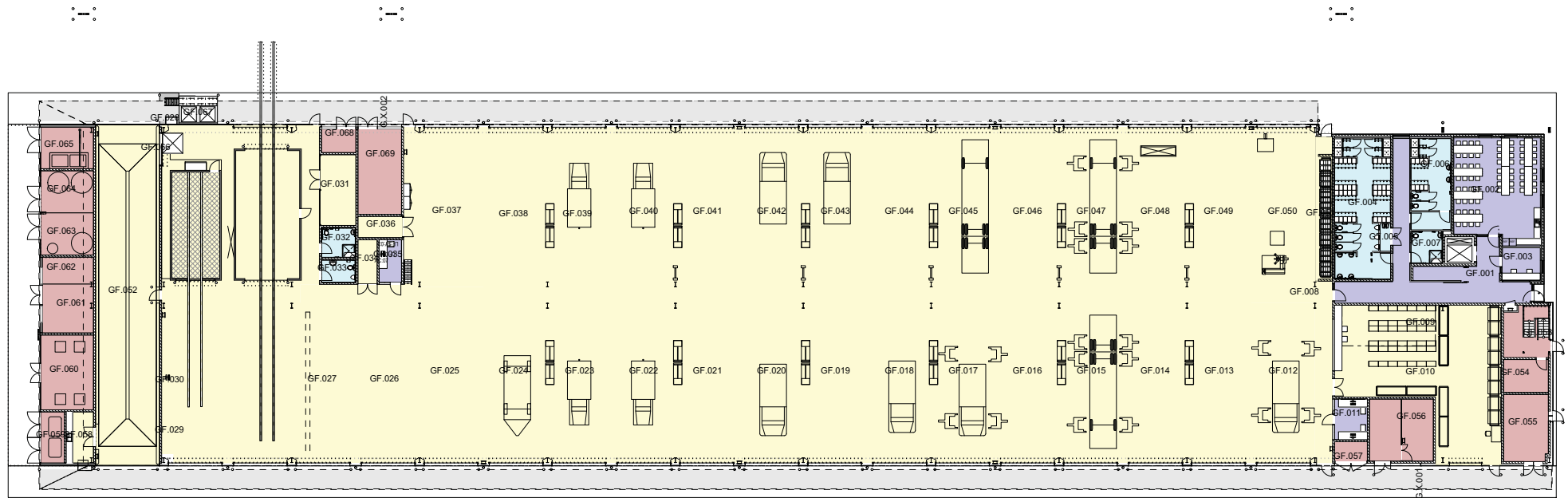




- COLOUR LEGEND**
- STORES, WORK AREA - NON A/C
  - OFFICE, WORK AREA - A/C
  - SALs
  - SECURE
  - SERVICES
  - EXTERIOR
  - EXISTING

# Defence National Storage and Distribution Centre, Moorebank NSW - AERIEL DELIVERY EQUIPMENT STORAGE AND MAINTENANCE FLOOR PLAN

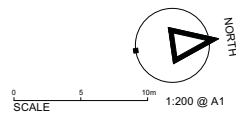


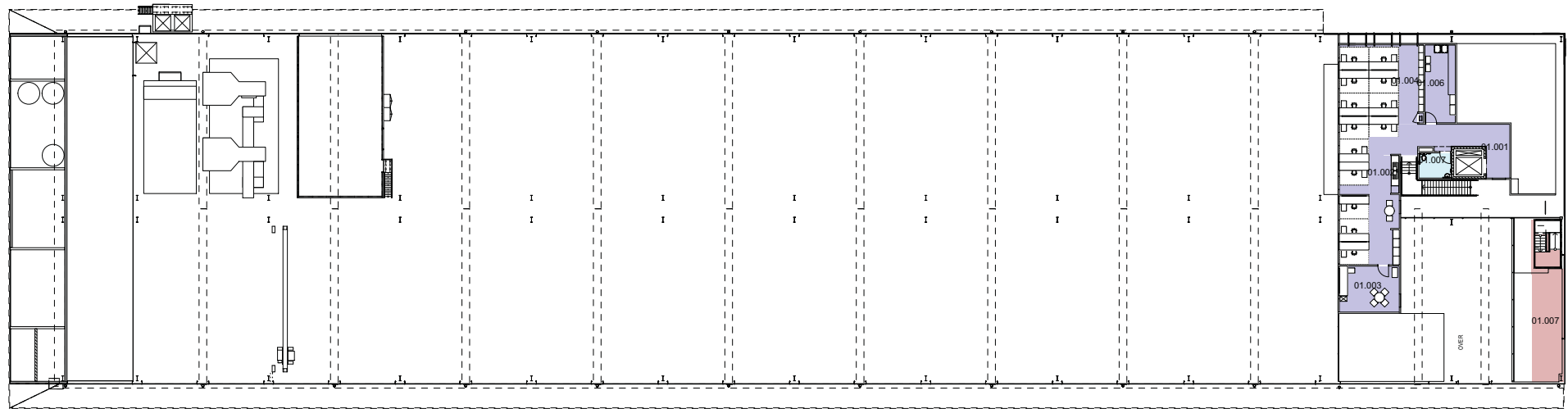


**COLOUR LEGEND**

- STORES, WORK AREA - NON A/C
- OFFICE, WORK AREA - A/C
- SALs
- SECURE
- SERVICES
- EXTERIOR
- EXISTING

**Defence National Storage and Distribution Centre, Moorebank NSW -  
LAND MATERIEL MAINTENANCE WORKSHOP GROUND FLOOR PLAN**

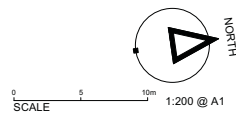




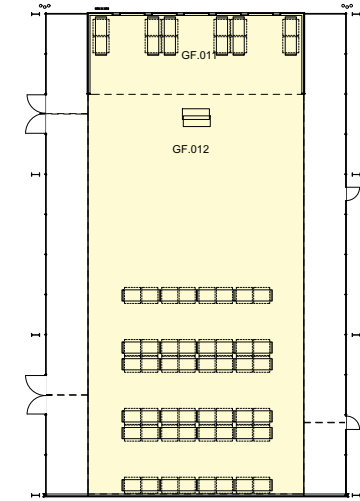
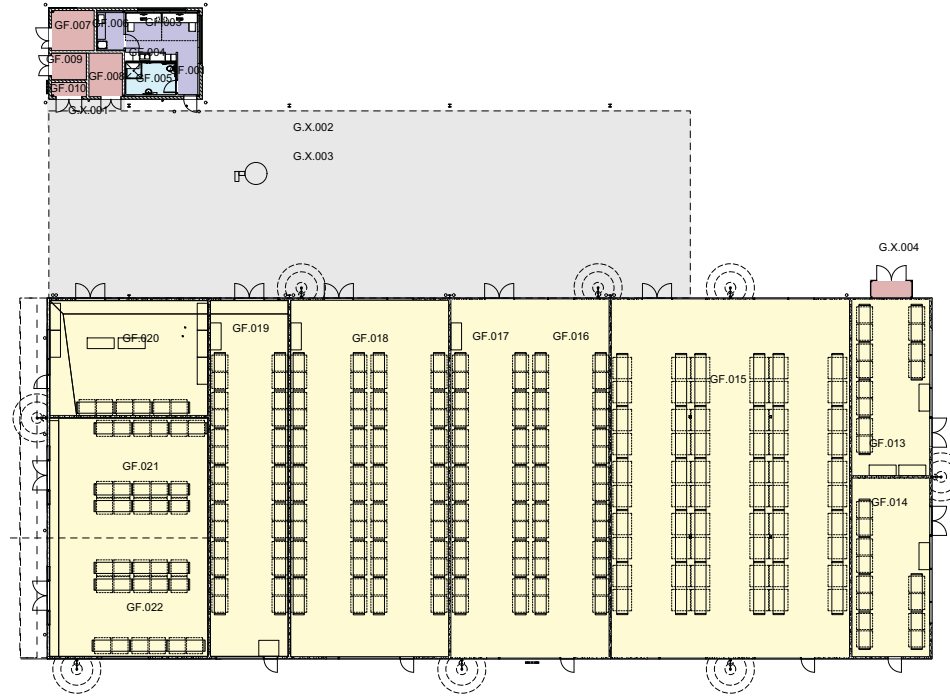
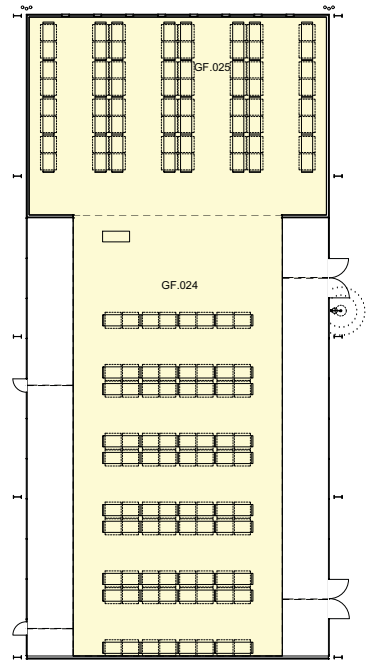
**COLOUR LEGEND**

- STORES, WORK AREA - NON A/C
- OFFICE, WORK AREA - A/C
- SALs
- SECURE
- SERVICES
- EXTERIOR
- EXISTING

**Defence National Storage and Distribution Centre, Moorebank NSW -  
LAND MATERIEL MAINTENANCE WORKSHOP FIRST FLOOR PLAN**

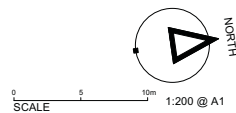


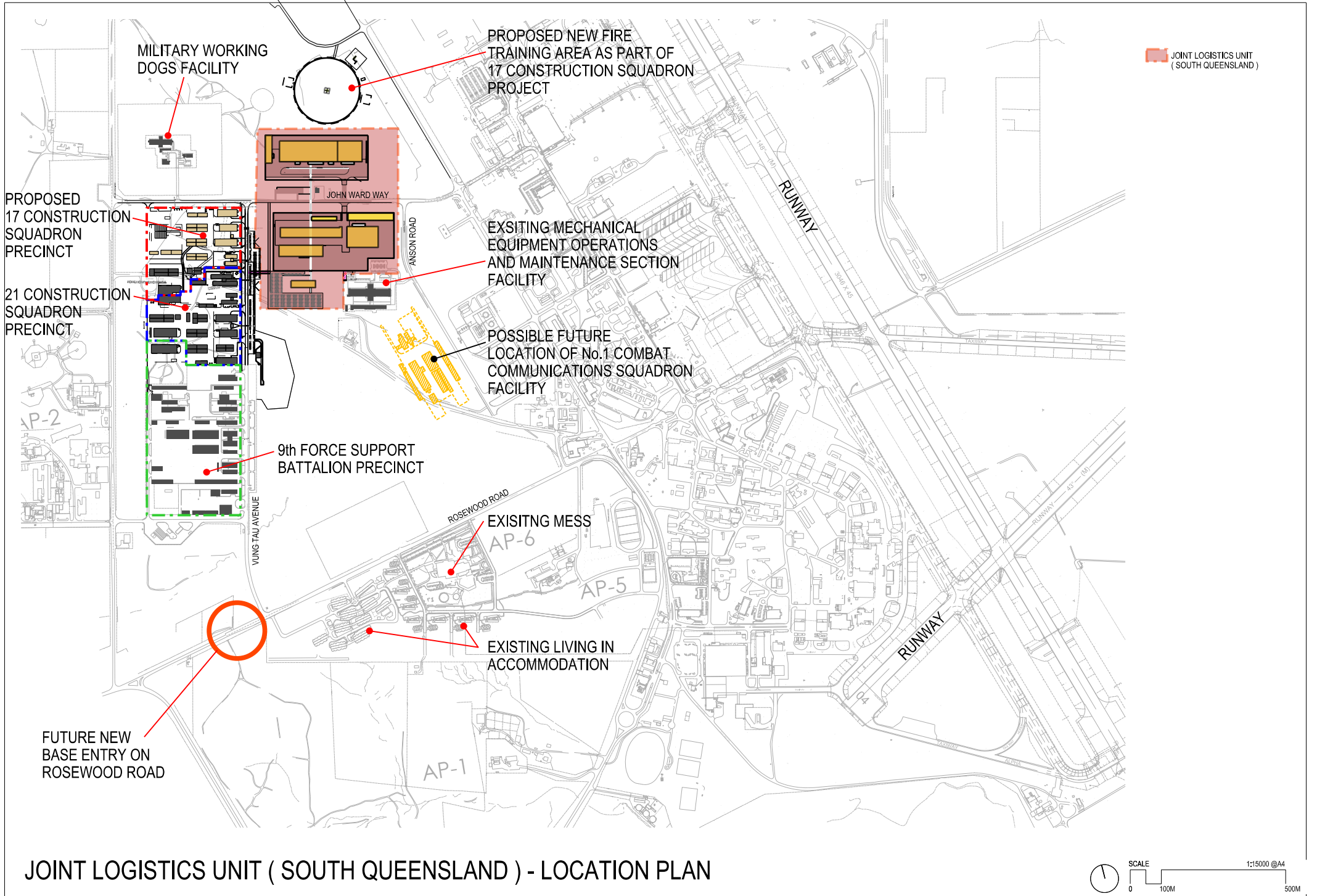




- COLOUR LEGEND**
- STORES, WORK AREA - NON A/C
  - OFFICE, WORK AREA - A/C
  - SALs
  - SECURE
  - SERVICES
  - EXTERIOR
  - EXISTING

# Defence National Storage and Distribution Centre, Moorebank NSW - DANGEROUS GOODS STORE FLOOR PLAN





JOINT LOGISTICS UNIT  
(SOUTH QUEENSLAND)

MILITARY WORKING  
DOGS FACILITY

PROPOSED NEW FIRE  
TRAINING AREA AS PART OF  
17 CONSTRUCTION SQUADRON  
PROJECT

PROPOSED  
17 CONSTRUCTION  
SQUADRON  
PRECINCT

21 CONSTRUCTION  
SQUADRON  
PRECINCT

9th FORCE SUPPORT  
BATTALION PRECINCT

EXISTING MECHANICAL  
EQUIPMENT OPERATIONS  
AND MAINTENANCE  
SECTION  
FACILITY

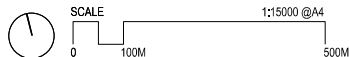
POSSIBLE FUTURE  
LOCATION OF No.1 COMBAT  
COMMUNICATIONS SQUADRON  
FACILITY

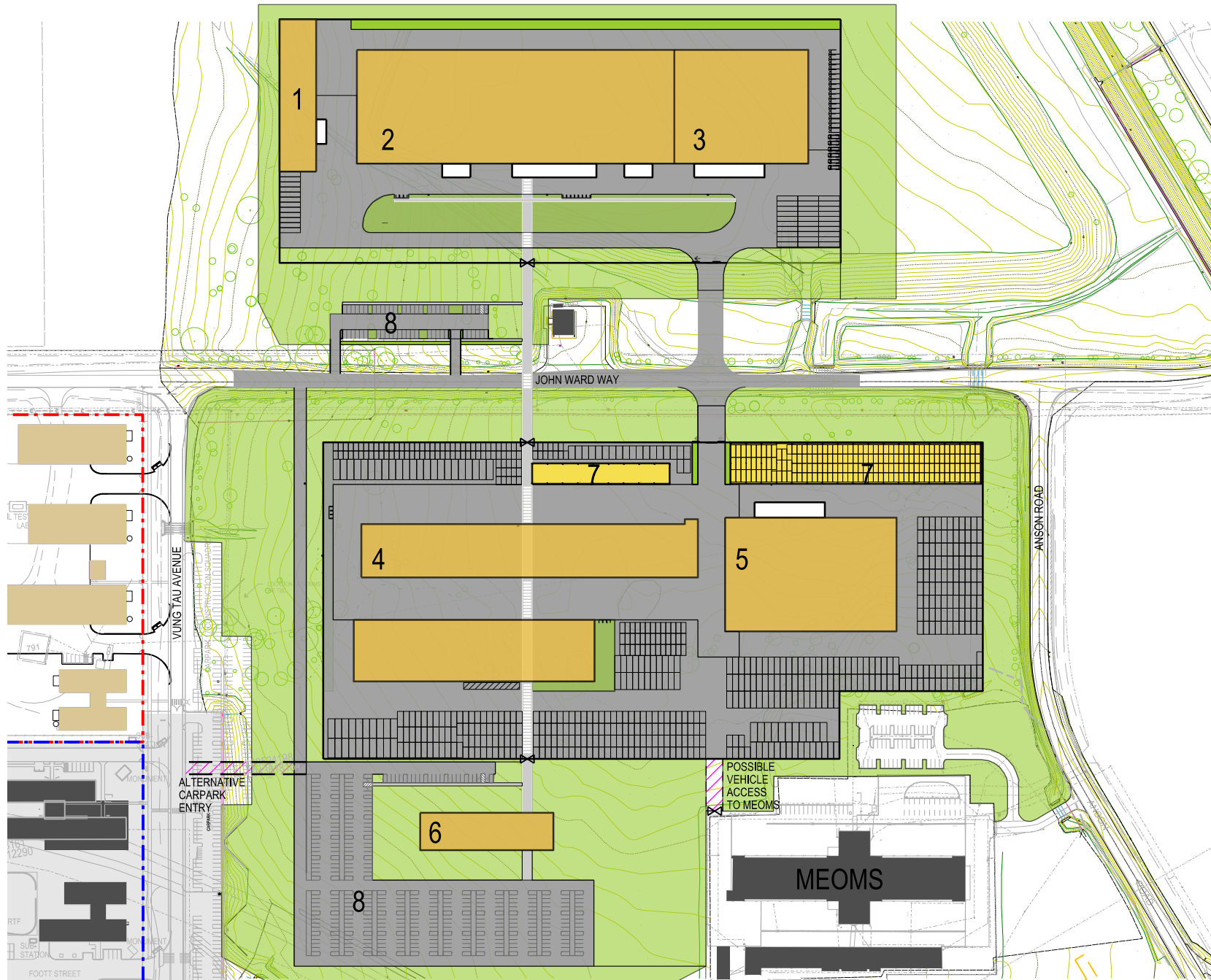
EXISTING MESS

EXISTING LIVING IN  
ACCOMMODATION

FUTURE NEW  
BASE ENTRY ON  
ROSEWOOD ROAD

JOINT LOGISTICS UNIT ( SOUTH QUEENSLAND ) - LOCATION PLAN



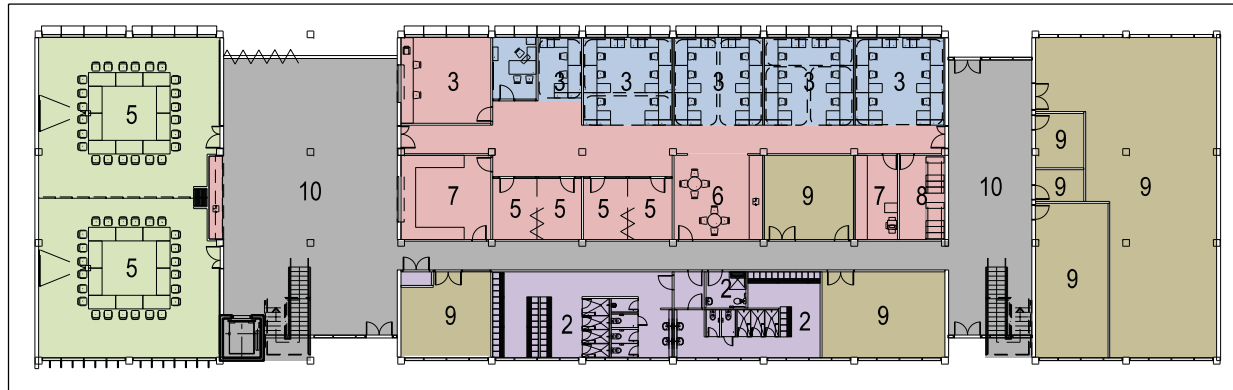


- BUILDING LEGEND**
- 1 HAZARDOUS GOODS STORE
  - 2 GENERAL STORAGE WAREHOUSE
  - 3 CARGO CONSOLIDATION POINT
  - 4 LAND MATERIEL MAINTENANCE WORKSHOP
  - 5 LOAN AND REPAIR POOL
  - 6 HEADQUARTERS
  - 7 VEHICLE AND EQUIPMENT SHELTER
  - 8 PERSONNEL AND VISITOR CARPARKING

- COLOUR LEGEND**
- NEW BUILDING
  - NEW SHELTER
  - PAVEMENT HARDSTAND
  - FUTURE 17 CONSTRUCTION SQUADRON BUILDINGS
  - EXISTING BUILDINGS

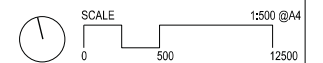
JOINT LOGISTICS UNIT ( SOUTH QUEENSLAND ) - SITE PLAN



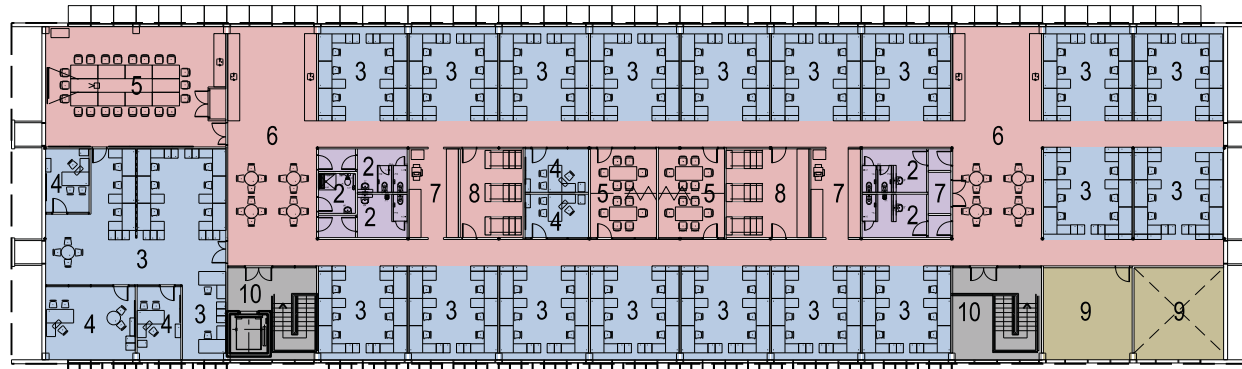


- COLOUR LEGEND
- STORAGE / WORKSHOP
  - OFFICE AREAS
  - CIRCULATION/ANCILLARY SPACES
  - CONFERENCE/BRIEFING/TRAINING
  - WET AREAS
  - BUILDING SERVICES
  - UNDERCOVER EXTERNAL AREAS

# HEADQUARTERS GROUND FLOOR PLAN

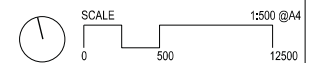


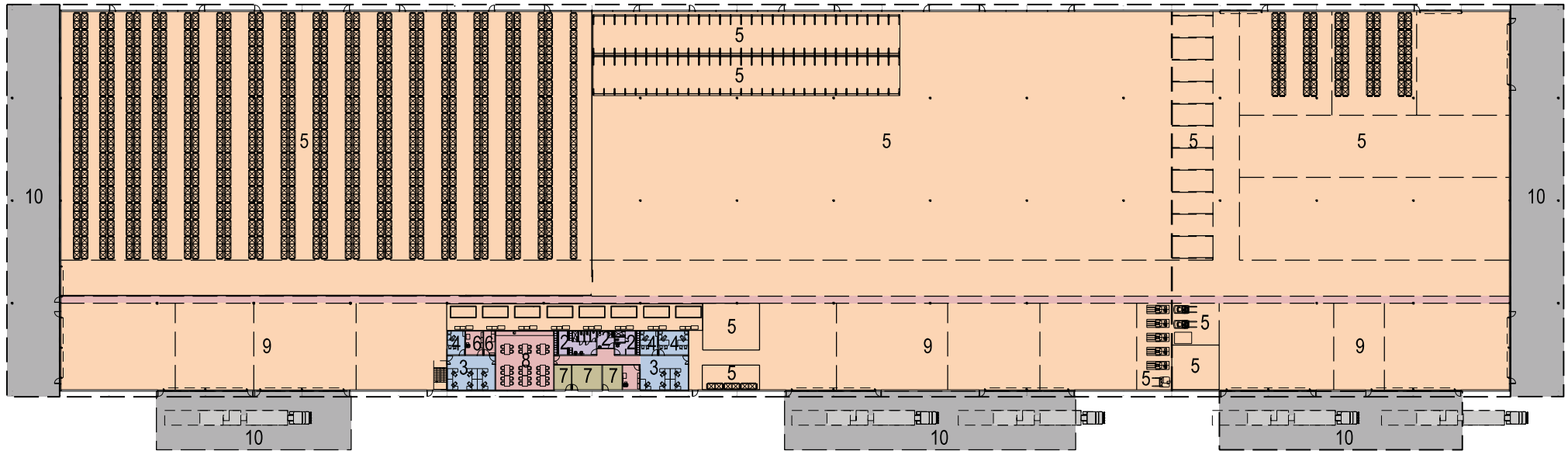




- COLOUR LEGEND
- STORAGE / WORKSHOP
  - OFFICE AREAS
  - CIRCULATION/ANCILLARY SPACES
  - CONFERENCE/BRIEFING/TRAINING
  - WET AREAS
  - BUILDING SERVICES
  - UNDERCOVER EXTERNAL AREAS

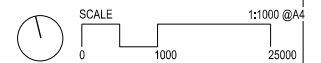
# HEADQUARTERS FIRST FLOOR PLAN

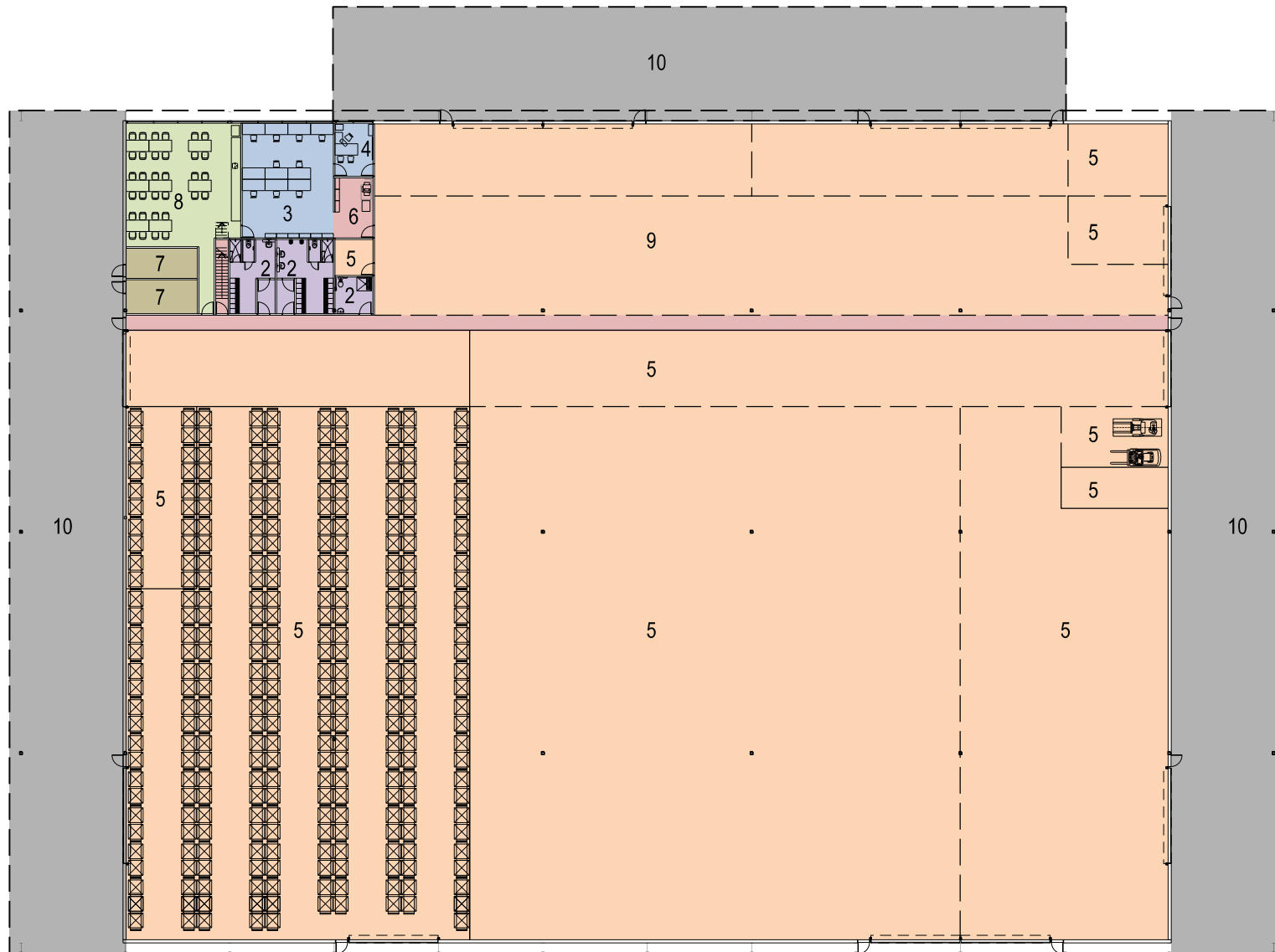




- COLOUR LEGEND
- STORAGE / WORKSHOP
  - OFFICE AREAS
  - CIRCULATION/ANCILLARY SPACES
  - CONFERENCE/BRIEFING/TRAINING
  - WET AREAS
  - BUILDING SERVICES
  - UNDERCOVER EXTERNAL AREAS

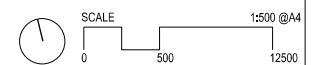
COMBINED GENERAL STORAGE WAREHOUSE AND CARGO CONSOLIDATION POINT FLOOR PLAN

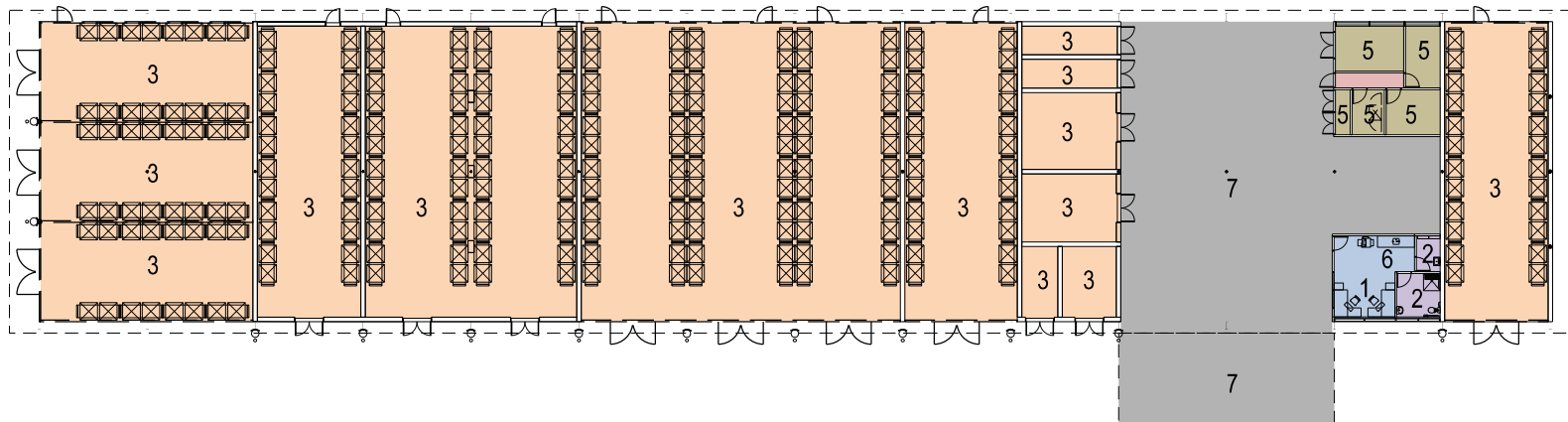




- COLOUR LEGEND
- STORAGE / WORKSHOP
  - OFFICE AREAS
  - CIRCULATION/ANCILLARY SPACES
  - CONFERENCE/BRIEFING/TRAINING
  - WET AREAS
  - BUILDING SERVICES
  - UNDERCOVER EXTERNAL AREAS

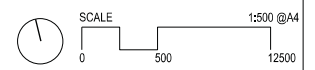
LOAN AND REPAIR POOL WAREHOUSE FLOOR PLAN

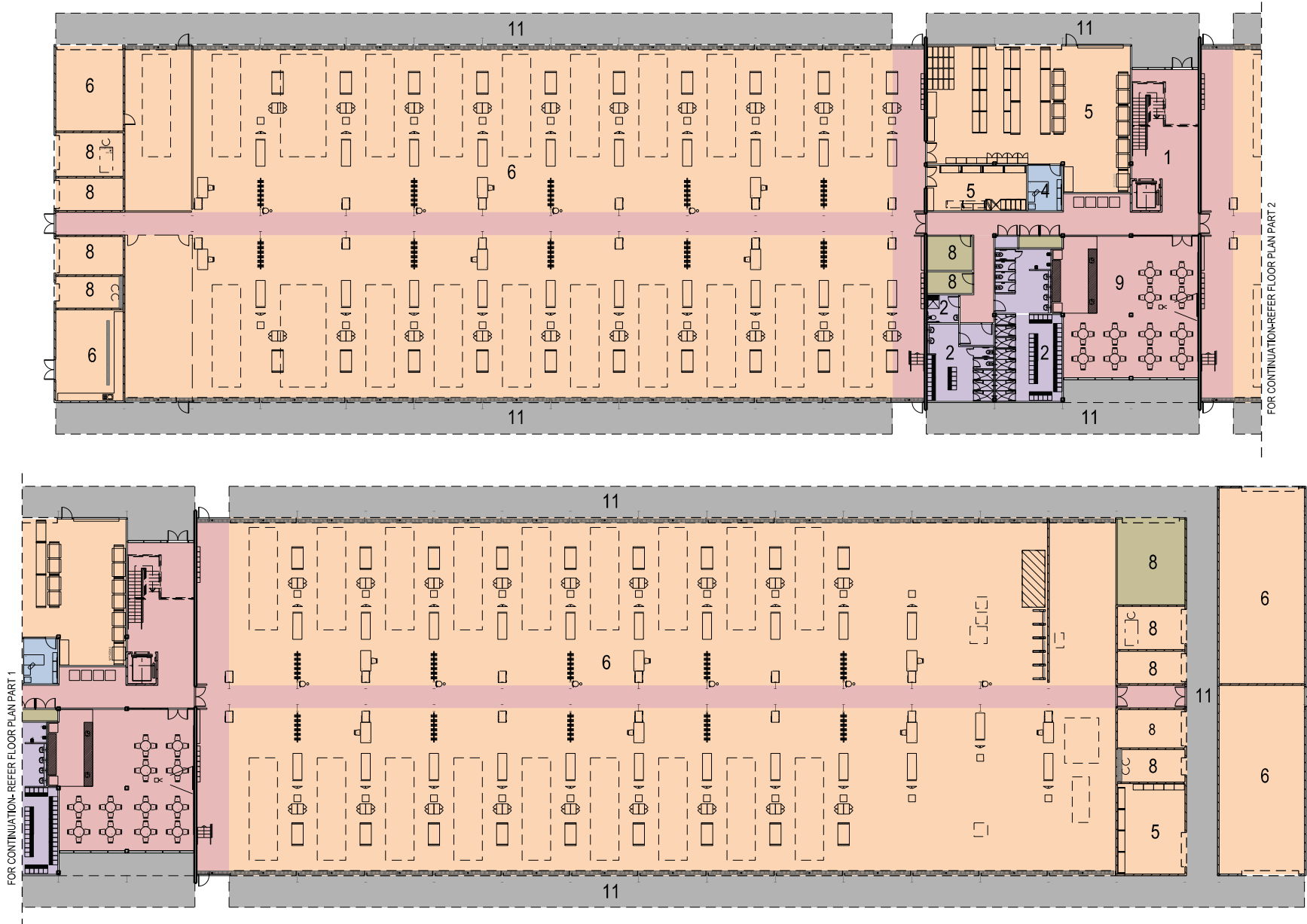




- COLOUR LEGEND
- STORAGE / WORKSHOP
  - OFFICE AREAS
  - CIRCULATION/ANCILLARY SPACES
  - CONFERENCE/BRIEFING/TRAINING
  - WET AREAS
  - BUILDING SERVICES
  - UNDERCOVER EXTERNAL AREAS

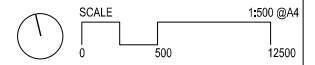
# DANGEROUS GOODS STORE FLOOR PLAN

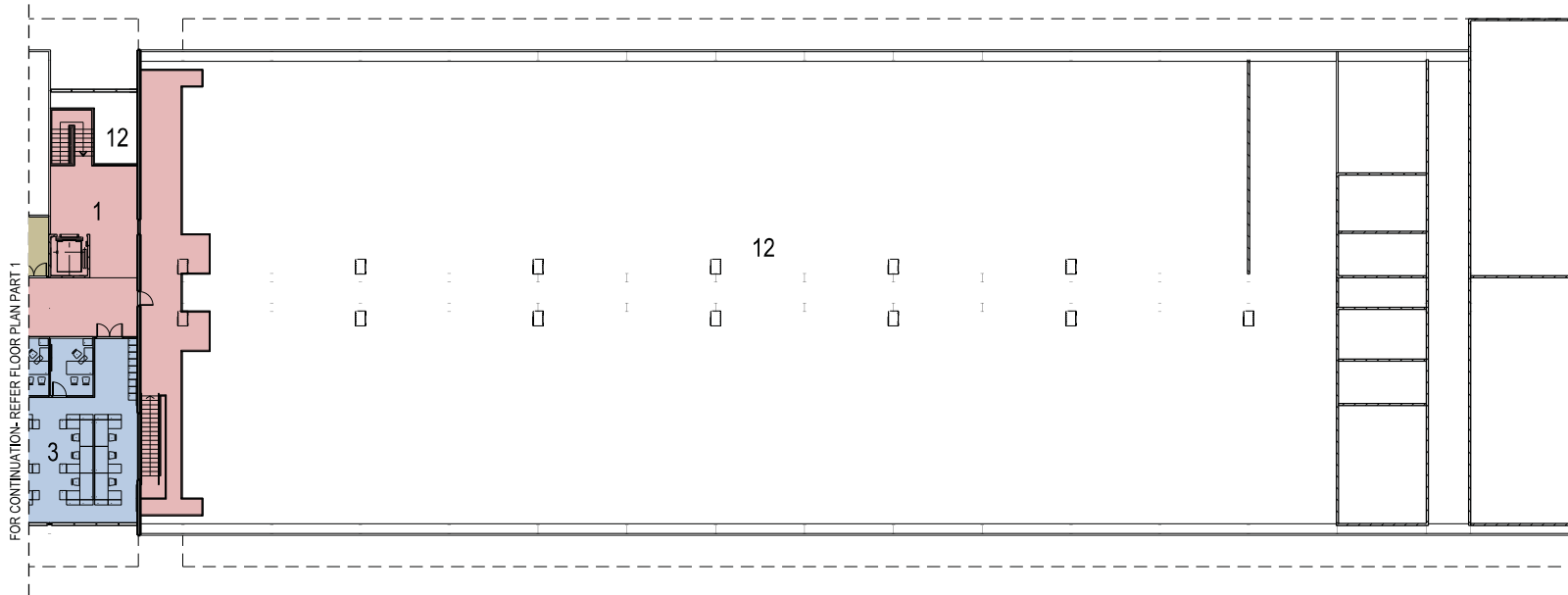
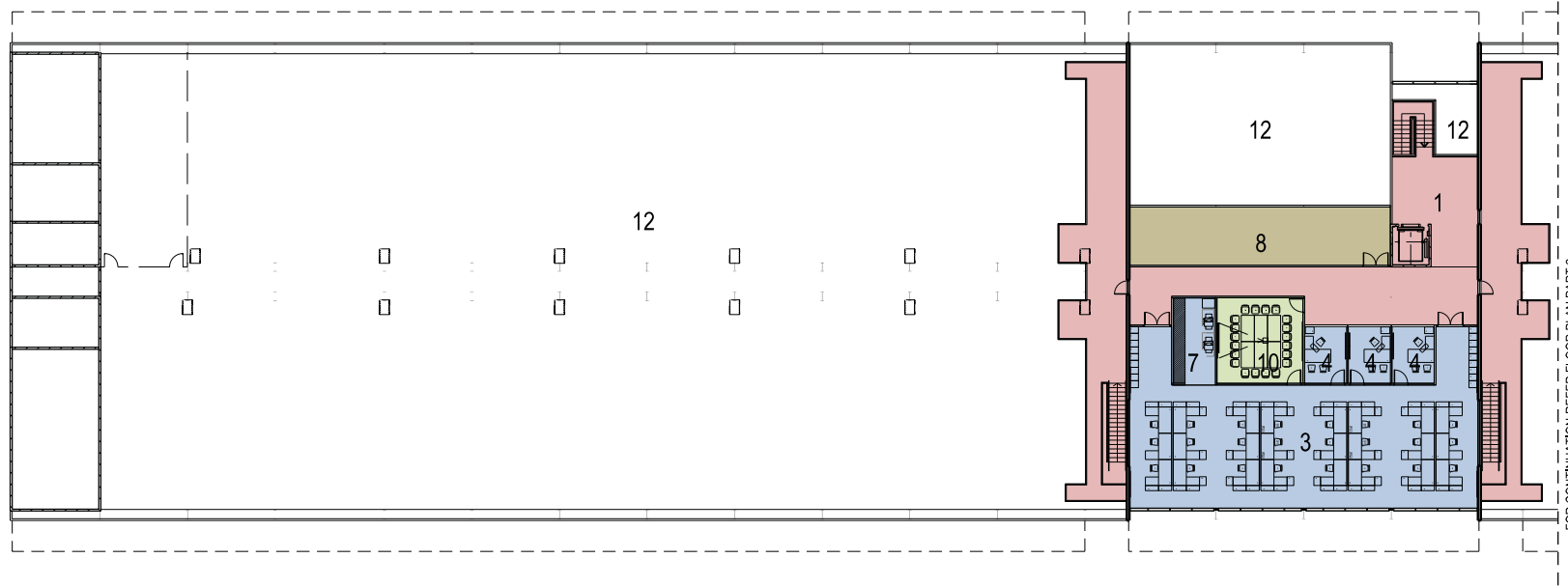




- COLOUR LEGEND
- STORAGE / WORKSHOP
  - OFFICE AREAS
  - CIRCULATION/ANCILLARY SPACES
  - CONFERENCE/BRIEFING/TRAINING
  - WET AREAS
  - BUILDING SERVICES
  - UNDERCOVER EXTERNAL AREAS

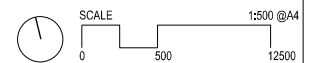
LAND MATERIEL MAINTENANCE WORKSHOP GROUND FLOOR PLAN

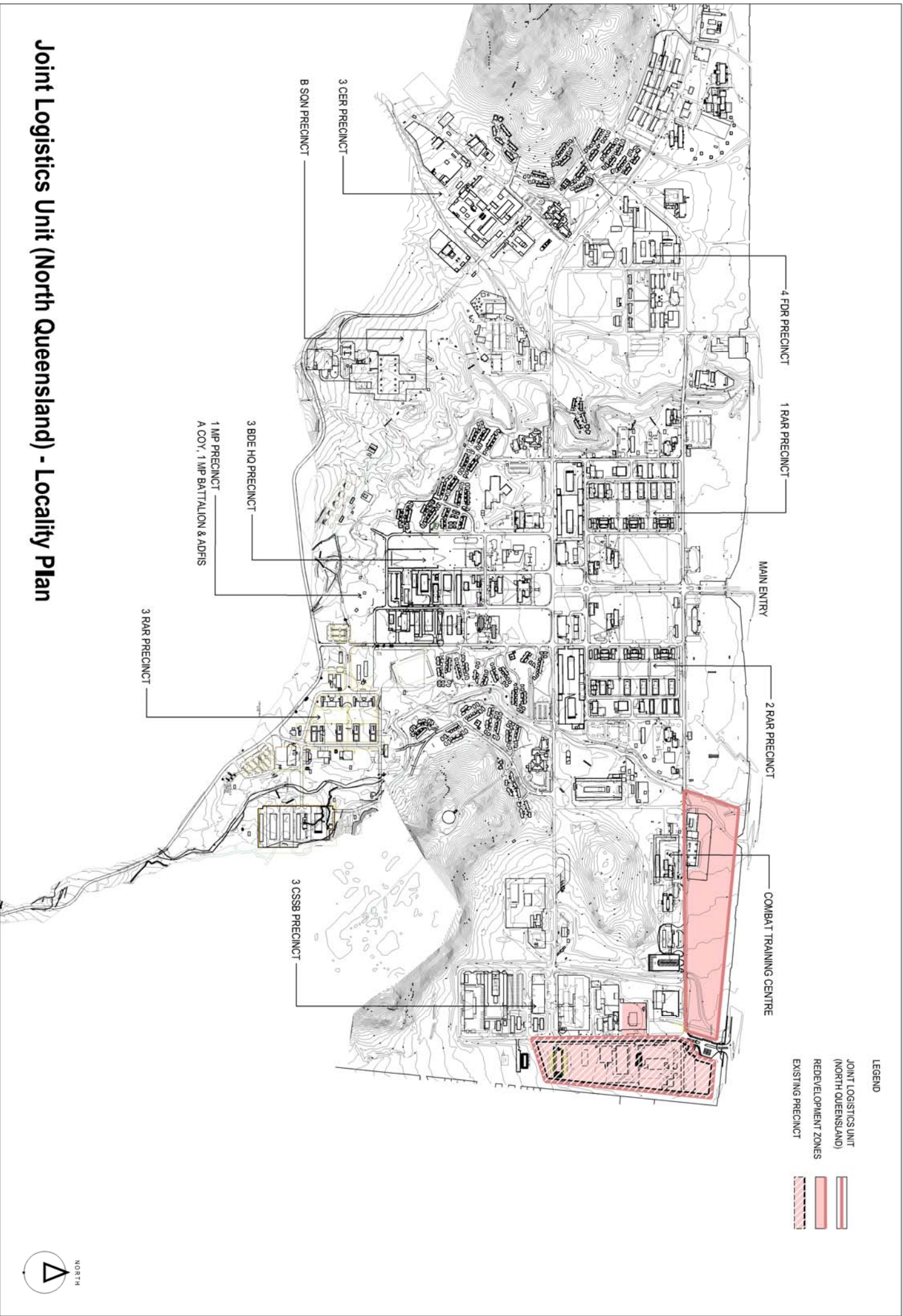




- COLOUR LEGEND
- STORAGE / WORKSHOP
  - OFFICE AREAS
  - CIRCULATION/ANCILLARY SPACES
  - CONFERENCE/BRIEFING/TRAINING
  - WET AREAS
  - BUILDING SERVICES
  - UNDERCOVER EXTERNAL AREAS

LAND MATERIEL MAINTENANCE WORKSHOP FIRST FLOOR PLAN





# Joint Logistics Unit (North Queensland) - Locality Plan

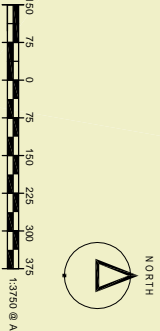






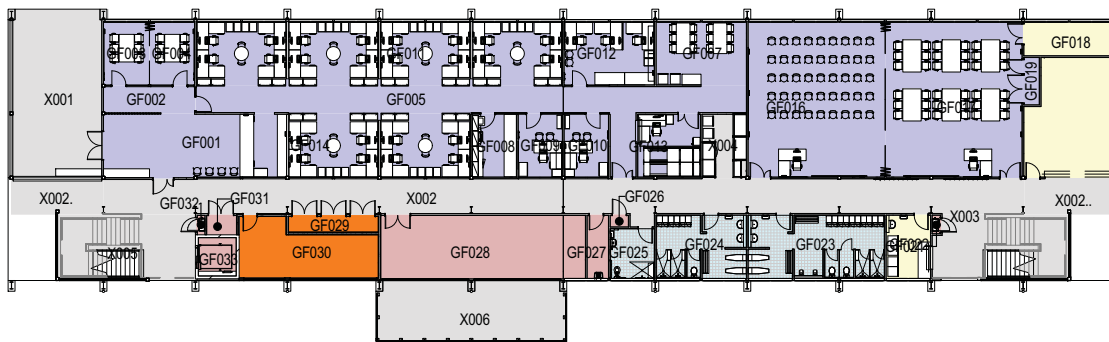
- BUILDING LEGEND**
- 01 MOUNTING BASE
  - 02 VEHICLE & EQUIPMENT SHELTER
  - 03 LOAN & REPAIR POOL
  - 04 HEADQUARTERS
  - 05 GENERAL STORAGE WAREHOUSE
  - 06 DANGEROUS GOODS STORE
  - 07 WEAPONS TEST FIRE FACILITY
  - 08 LAND MATERIAL MAINTENANCE
  - 09 FOOD STUFFS FACILITY

- COLOUR LEGEND**
- NEW BUILDING
  - ADAPTIVE REUSE
  - EXISTING BUILDING
  - PAVEMENT HARDSTAND
  - EXISTING, OTHER



**Joint Logistics Unit (North Queensland) - Site Plan**

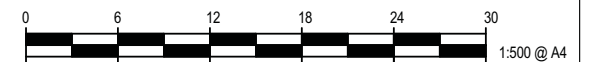




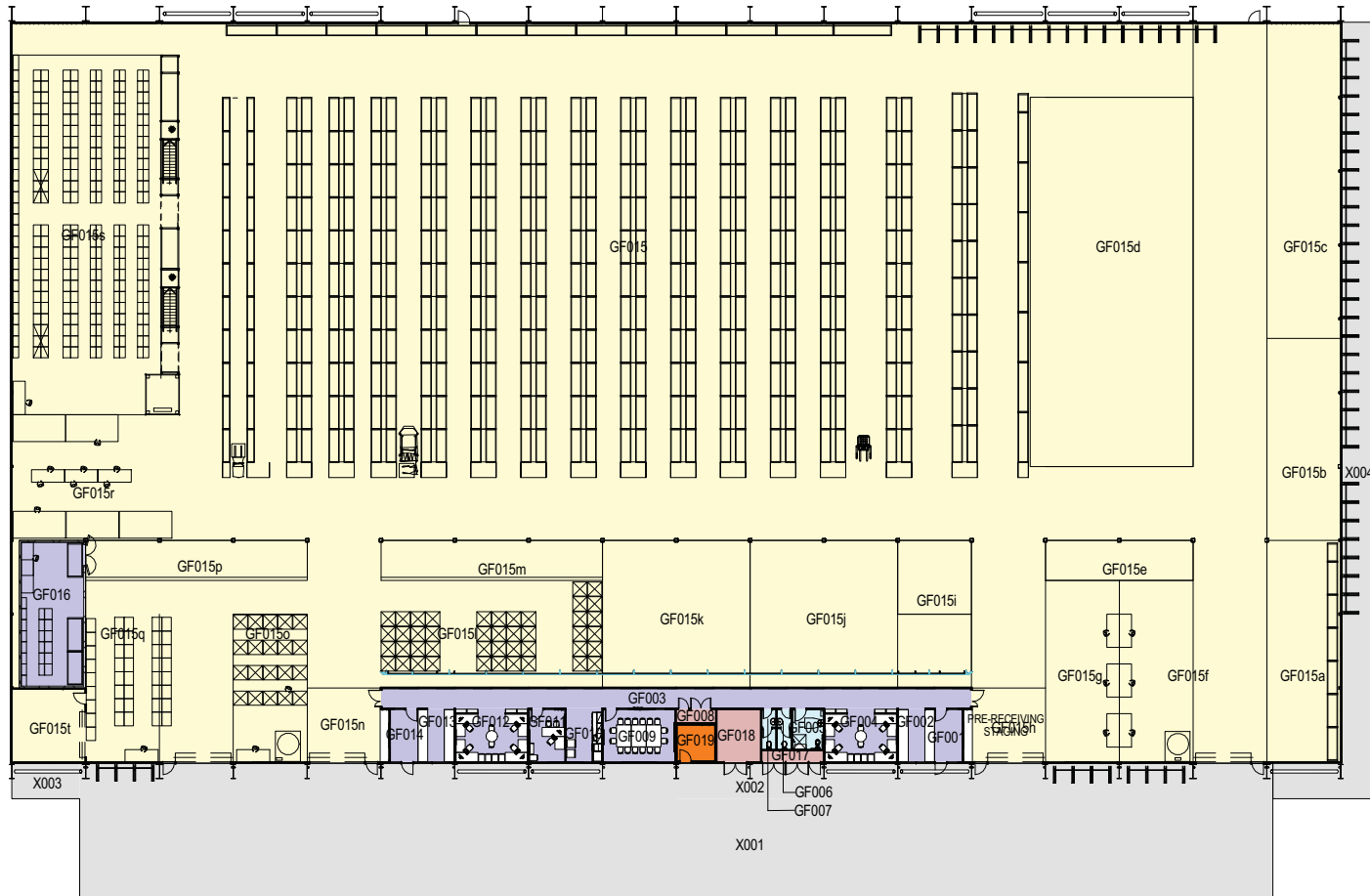
**Ground Floor**

- COLOUR LEGEND
- ABLUTIONS, DP1 STORE & LOCKERS
  - AIR CONDITIONED SPACES
  - PATHS, EXT. DECKS & STAIRS
  - SECURE STORE
  - SERVICES
  - STORES, GEN. WORK AREAS

**Joint Logistic Unit (North Queensland) - Headquarters**



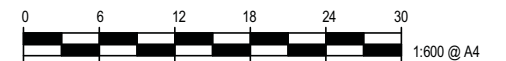


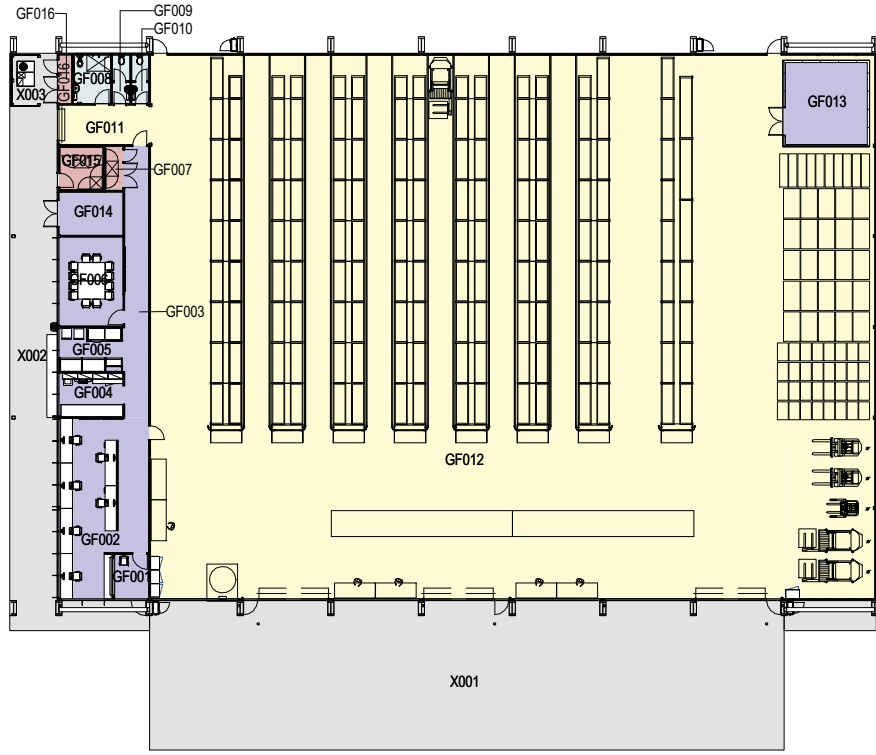


- COLOUR LEGEND
- ABLUTIONS, DP1 STORE & LOCKERS
  - AIR CONDITIONED SPACES
  - PATHS, EXT. DECKS & STAIRS
  - SECURE STORE
  - SERVICES
  - STORES, GEN. WORK AREAS



## Joint Logistic Unit (North Queensland) - General Storage Warehouse

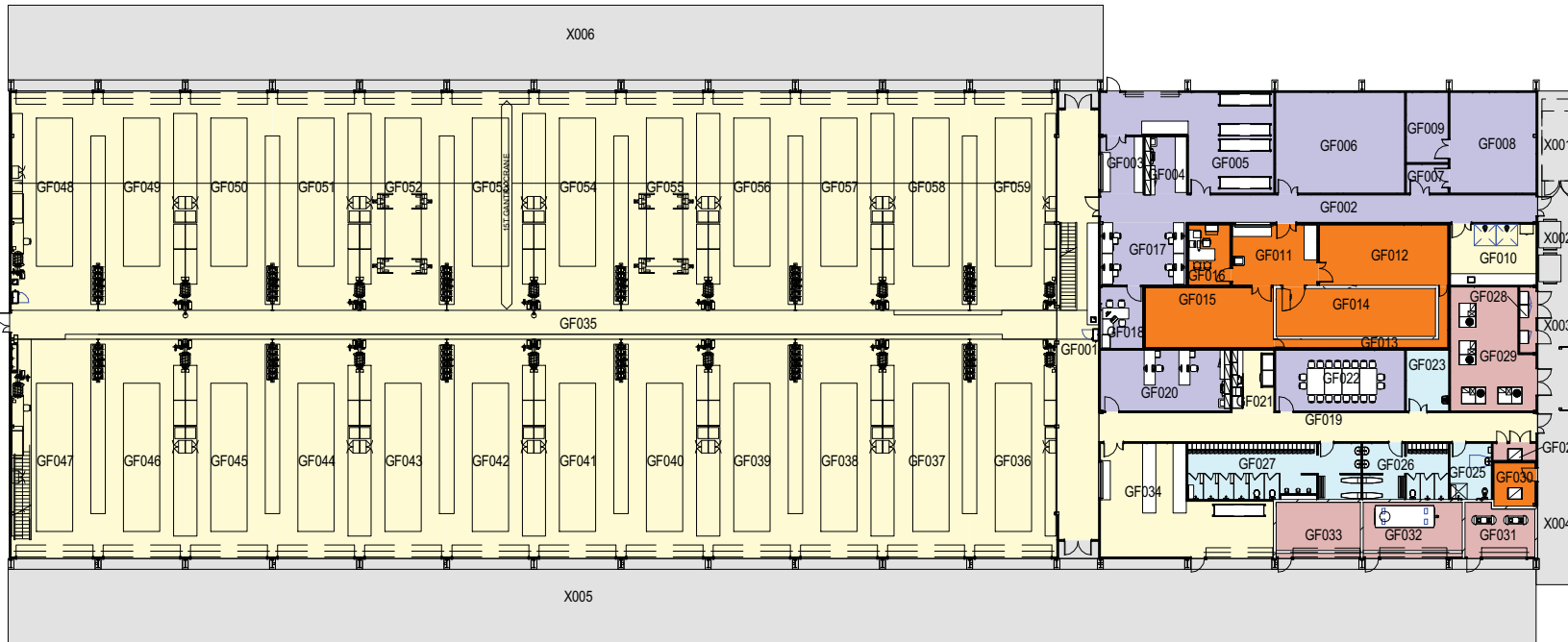




- COLOUR LEGEND
- ABLUTIONS, DP1 STORE & LOCKERS
  - AIR CONDITIONED SPACES
  - PATHS, EXT. DECKS & STAIRS
  - SERVICES
  - STORES, GEN. WORK AREAS



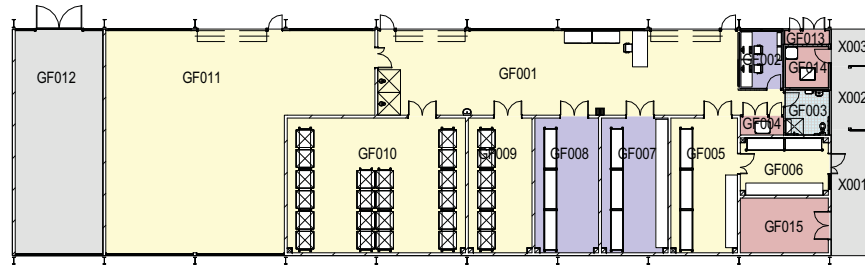
## Joint Logistic Unit (North Queensland) - Loan & Repair Pool



# Joint Logistic Unit (North Queensland) - Land Materiel Maintenance

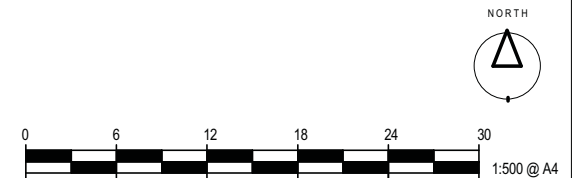
- COLOUR LEGEND
- ABLUTIONS, DP1 STORE & LOCKERS
  - AIR CONDITIONED SPACES
  - PATHS, EXT. DECKS & STAIRS
  - SECURE STORE
  - SERVICES
  - STORES, GEN. WORK AREAS

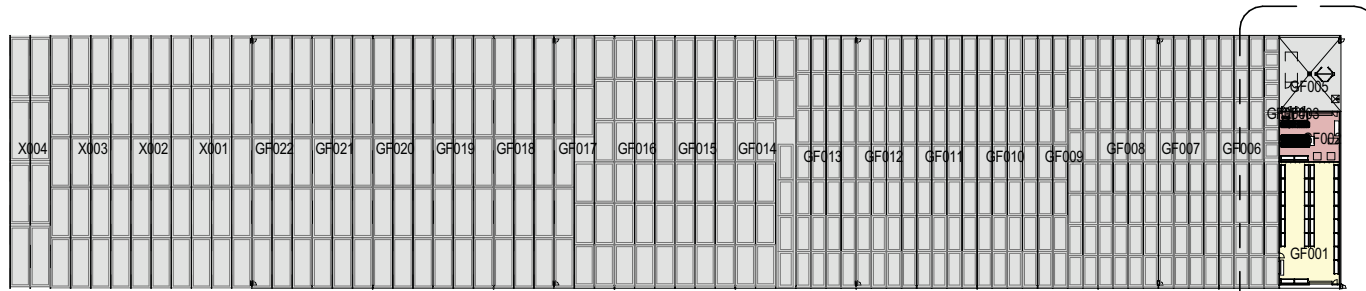




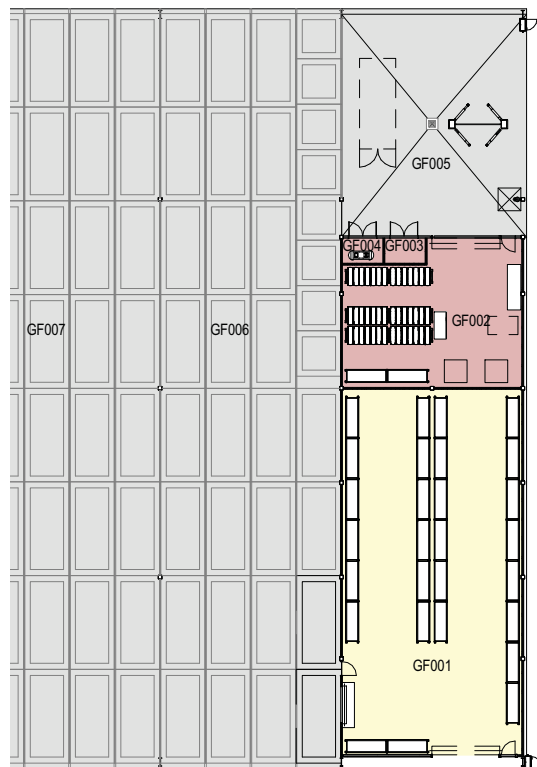
- COLOUR LEGEND
- ABLUTIONS, DP1 STORE & LOCKERS
  - AIR CONDITIONED SPACES
  - PATHS, EXT. DECKS & STAIRS
  - SERVICES
  - STORES, GEN. WORK AREAS

## Joint Logistic Unit (North Queensland) - Dangerous Goods Store





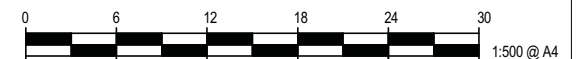
**Overall Vehicle & Equipment Shelter**

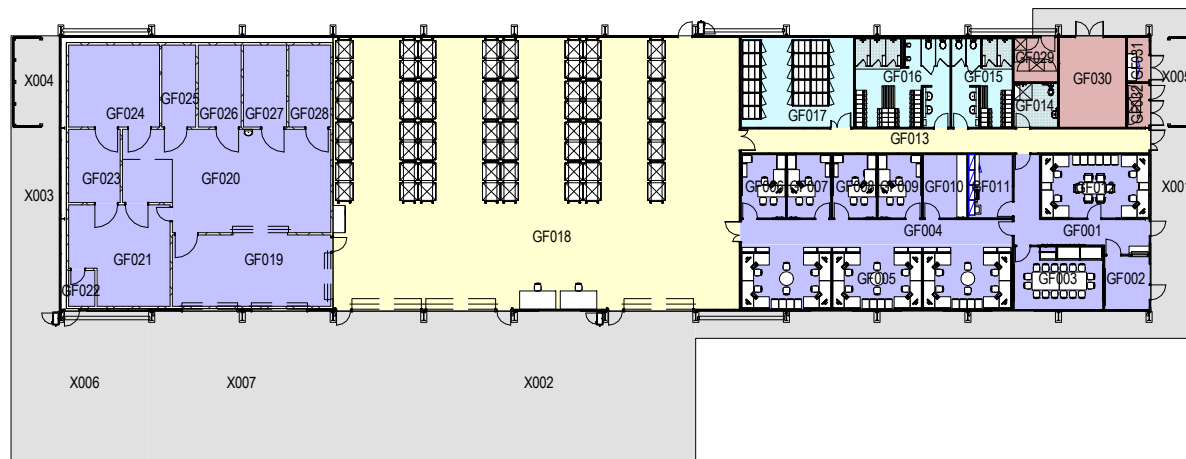


**1 - Part Vehicle & Equipment Shelter**

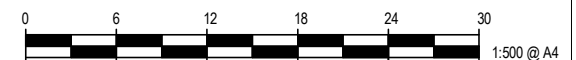
**Joint Logistic Unit (North Queensland) - Vehicle & Equipment Shelter**

- COLOUR LEGEND
- PATHS, EXT. DECKS & STAIRS
  - SERVICES
  - STORES, GEN. WORK AREAS



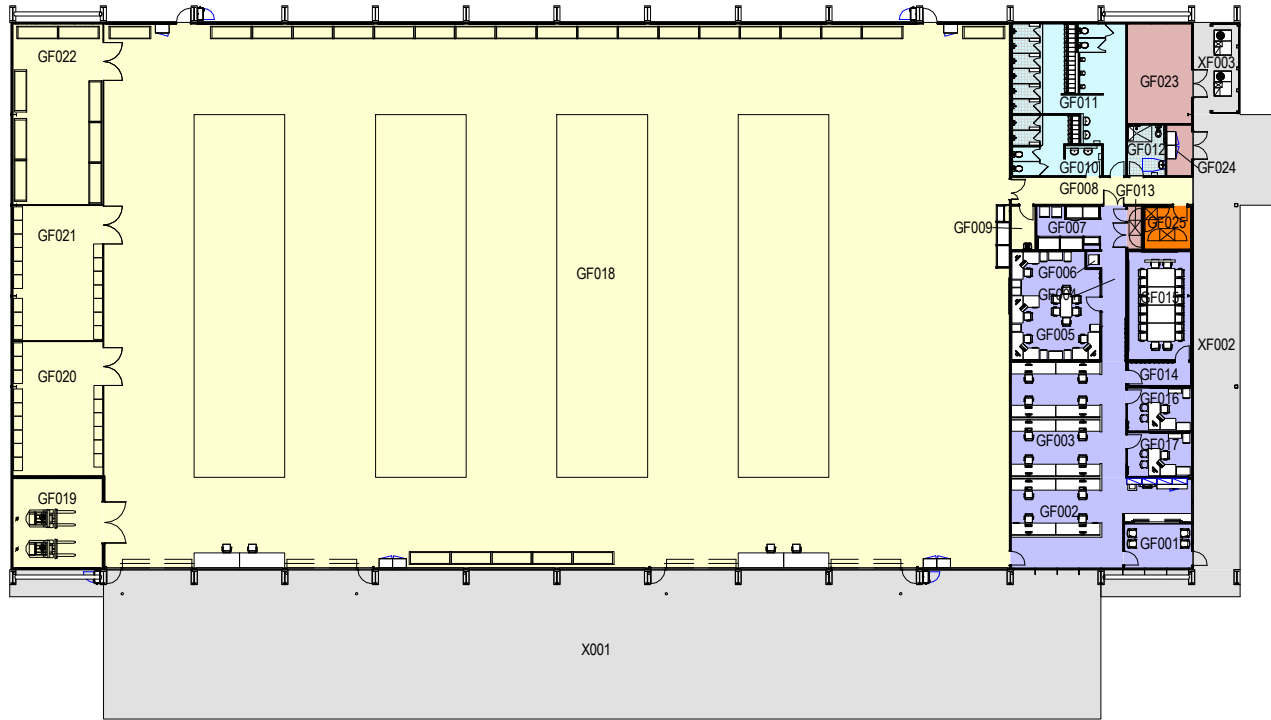


- COLOUR LEGEND
- ABLUTIONS, DP1 STORE & LOCKERS
  - AIR CONDITIONED SPACES
  - PATHS, EXT. DECKS & STAIRS
  - SERVICES
  - STORES, GEN. WORK AREAS



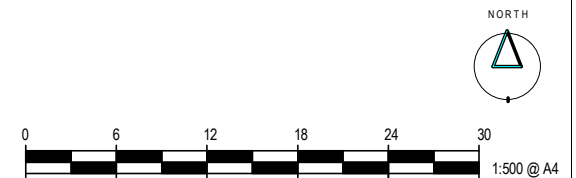
## Joint Logistic Unit (North Queensland) - Food Stuffs Facility

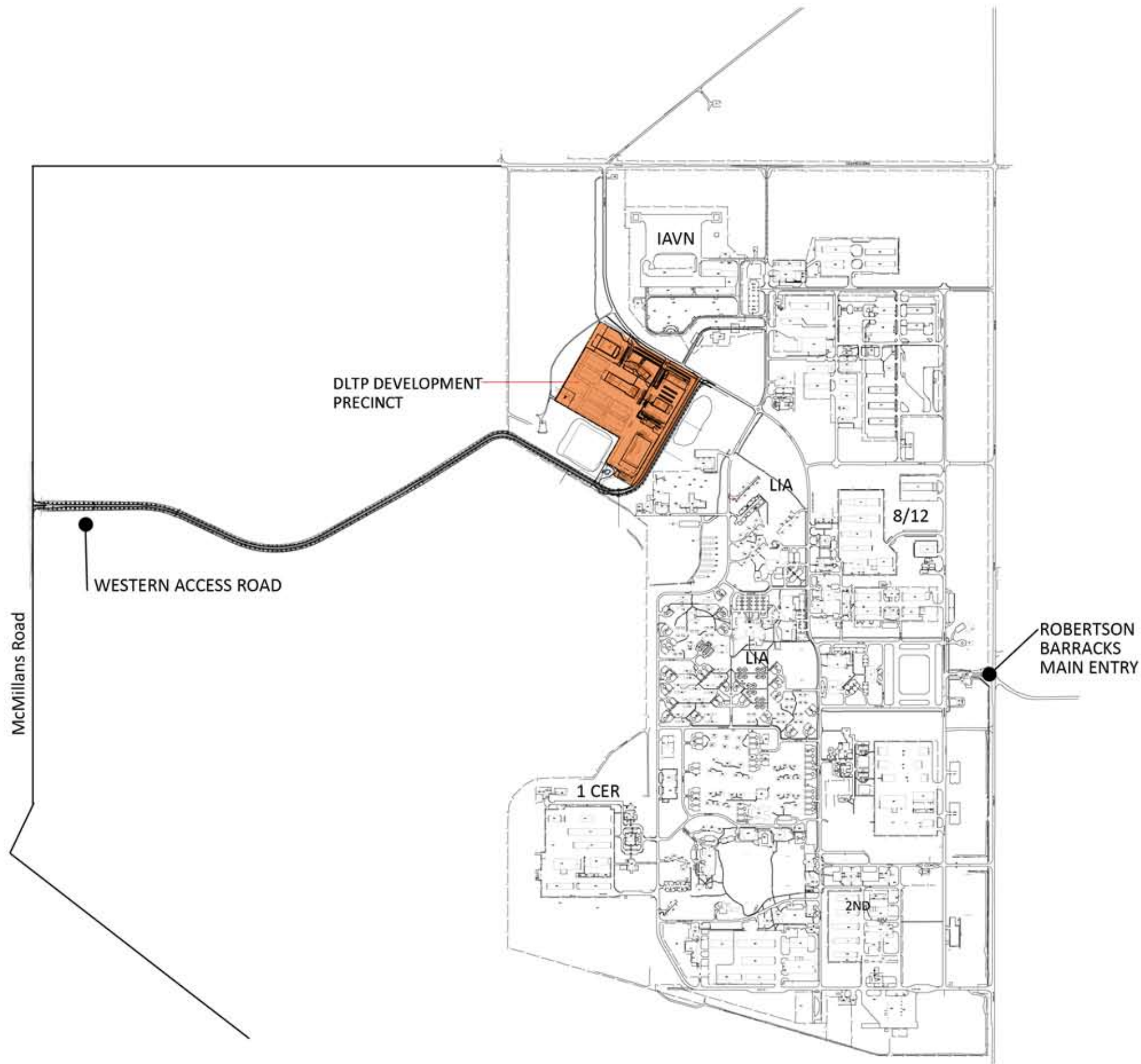




- COLOUR LEGEND
- ABLUTIONS, DP1 STORE & LOCKERS
  - AIR CONDITIONED SPACES
  - PATHS, EXT. DECKS & STAIRS
  - SECURE STORE
  - SERVICES
  - STORES, GEN. WORK AREAS

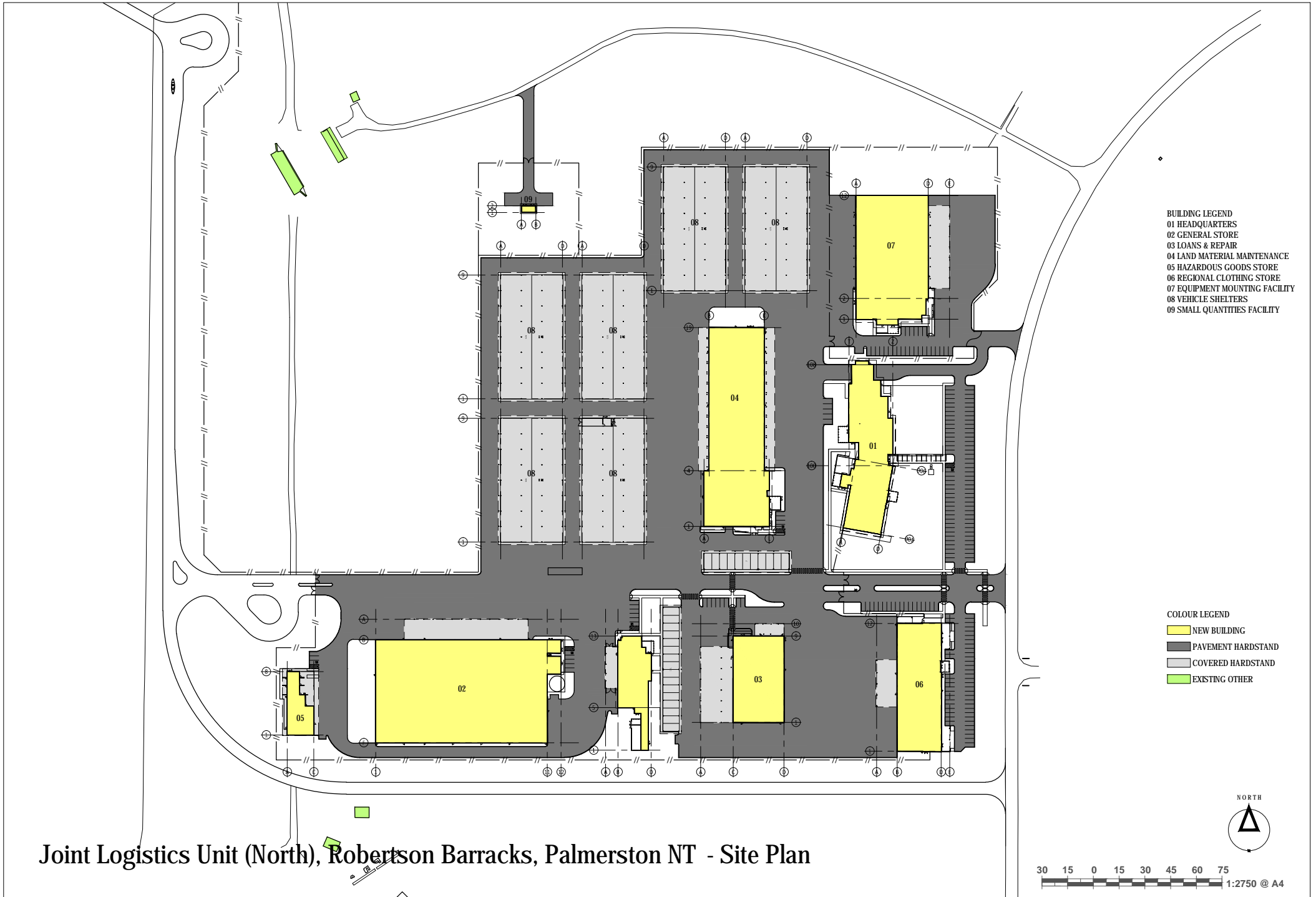
## Joint Logistic Unit (North Queensland) - Mounting Base





**Joint Logistics Unit (North), Robertson Barracks, Palmerston NT - Location Plan**

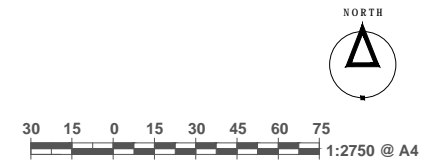


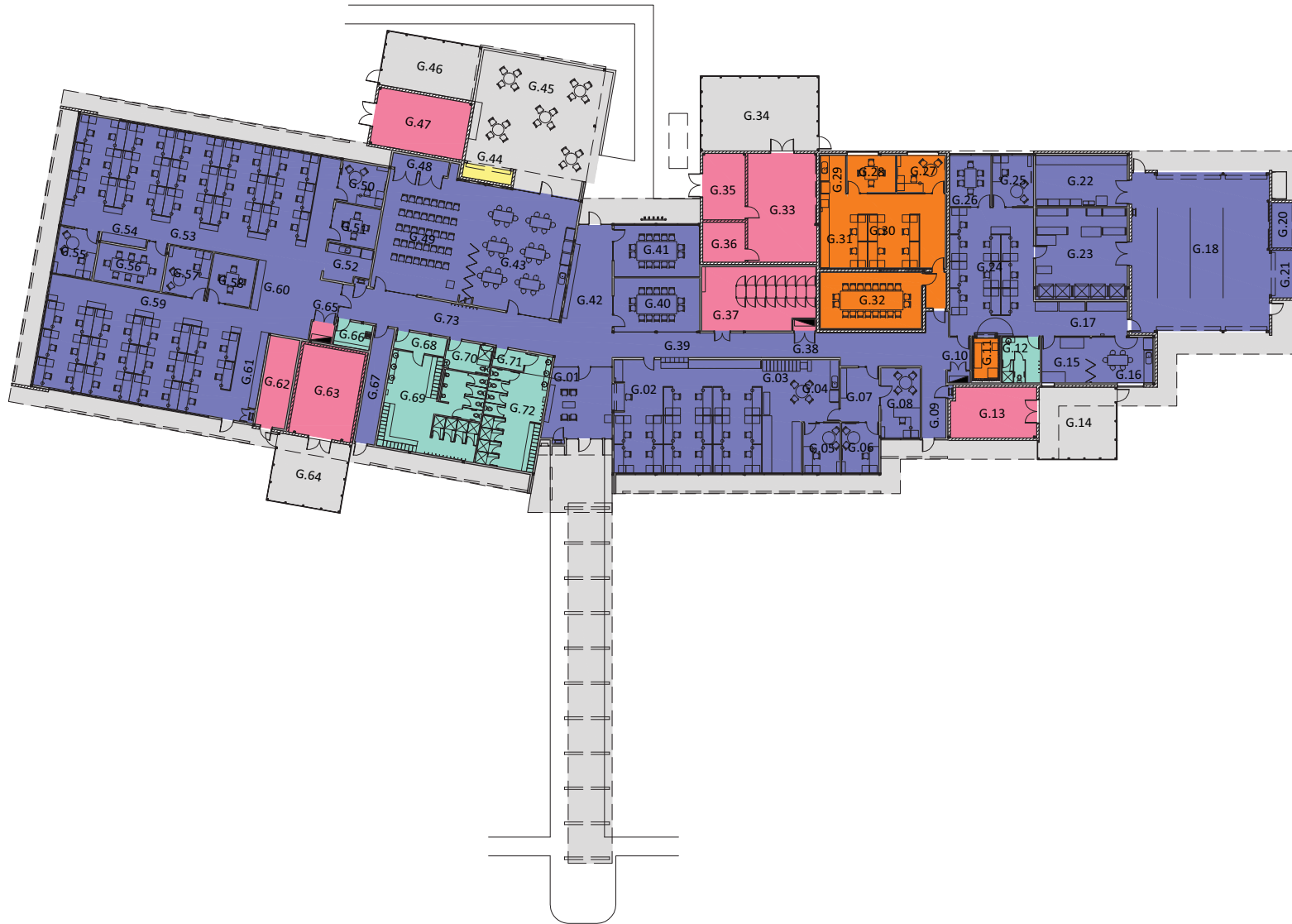


- BUILDING LEGEND**
- 01 HEADQUARTERS
  - 02 GENERAL STORE
  - 03 LOANS & REPAIR
  - 04 LAND MATERIAL MAINTENANCE
  - 05 HAZARDOUS GOODS STORE
  - 06 REGIONAL CLOTHING STORE
  - 07 EQUIPMENT MOUNTING FACILITY
  - 08 VEHICLE SHELTERS
  - 09 SMALL QUANTITIES FACILITY

- COLOUR LEGEND**
- NEW BUILDING
  - PAVEMENT HARDSTAND
  - COVERED HARDSTAND
  - EXISTING OTHER

Joint Logistics Unit (North), Robertson Barracks, Palmerston NT - Site Plan

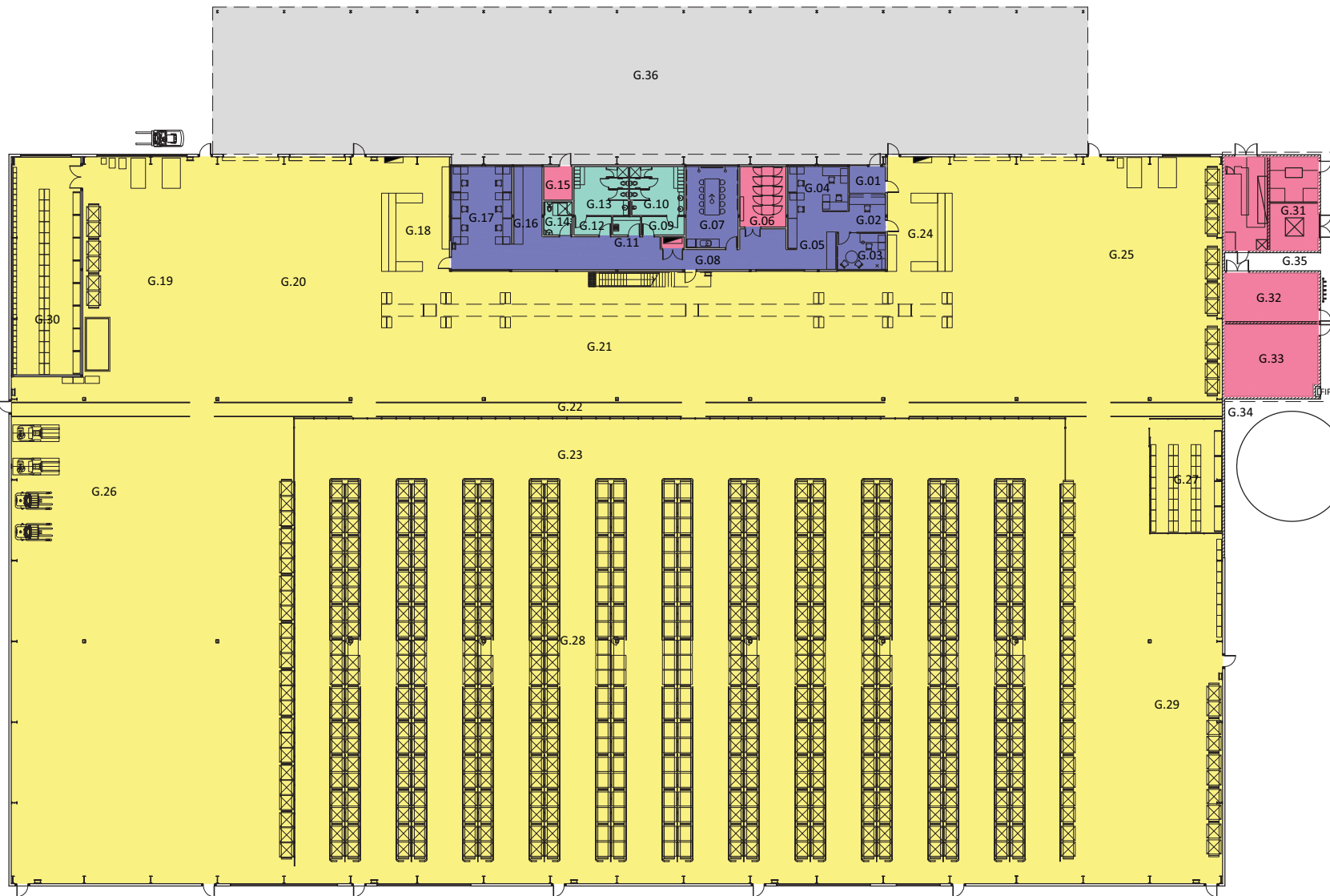




- COLOUR LEGEND
- STORES, WORK AREA - NON AC
  - OFFICE, WORK AREA - AC
  - SALs
  - SECURE
  - SERVICES
  - EXTERIOR



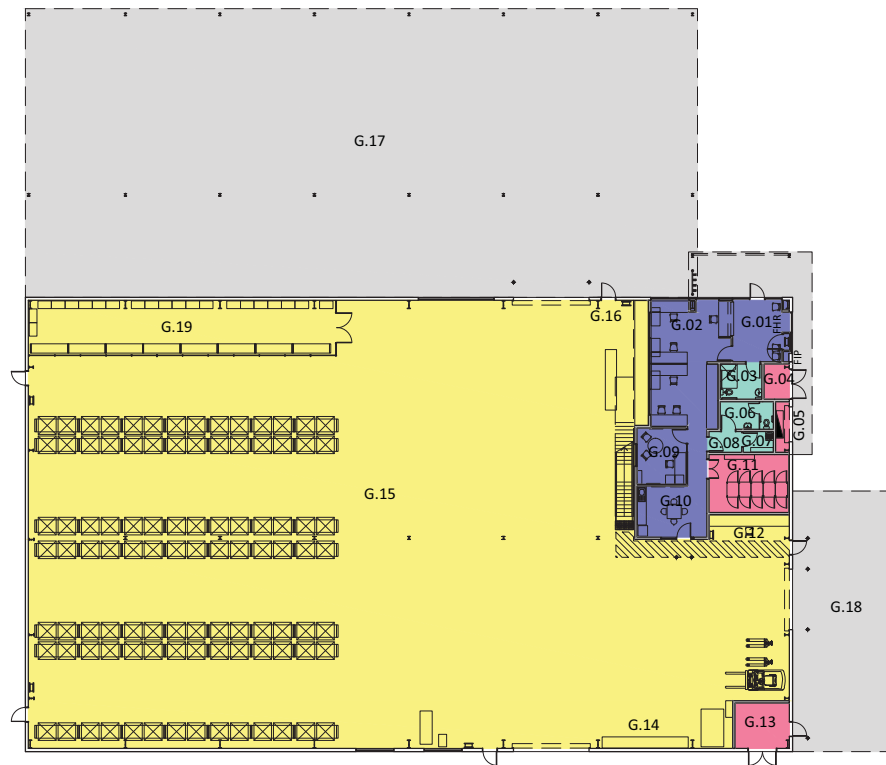
## Joint Logistics Unit (North), Robertson Barracks, Palmerston NT - Headquarters Floor Plan



**Joint Logistics Unit (North), Robertson Barracks, Palmerston NT  
General Storage Warehouse Ground Floor Plan**

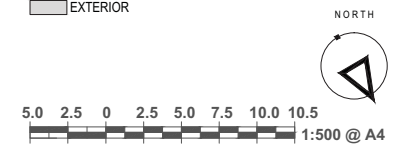
- COLOUR LEGEND
- STORES, WORK AREA - NON AC
  - OFFICE, WORK AREA - AC
  - SALS
  - SECURE
  - SERVICES
  - EXTERIOR

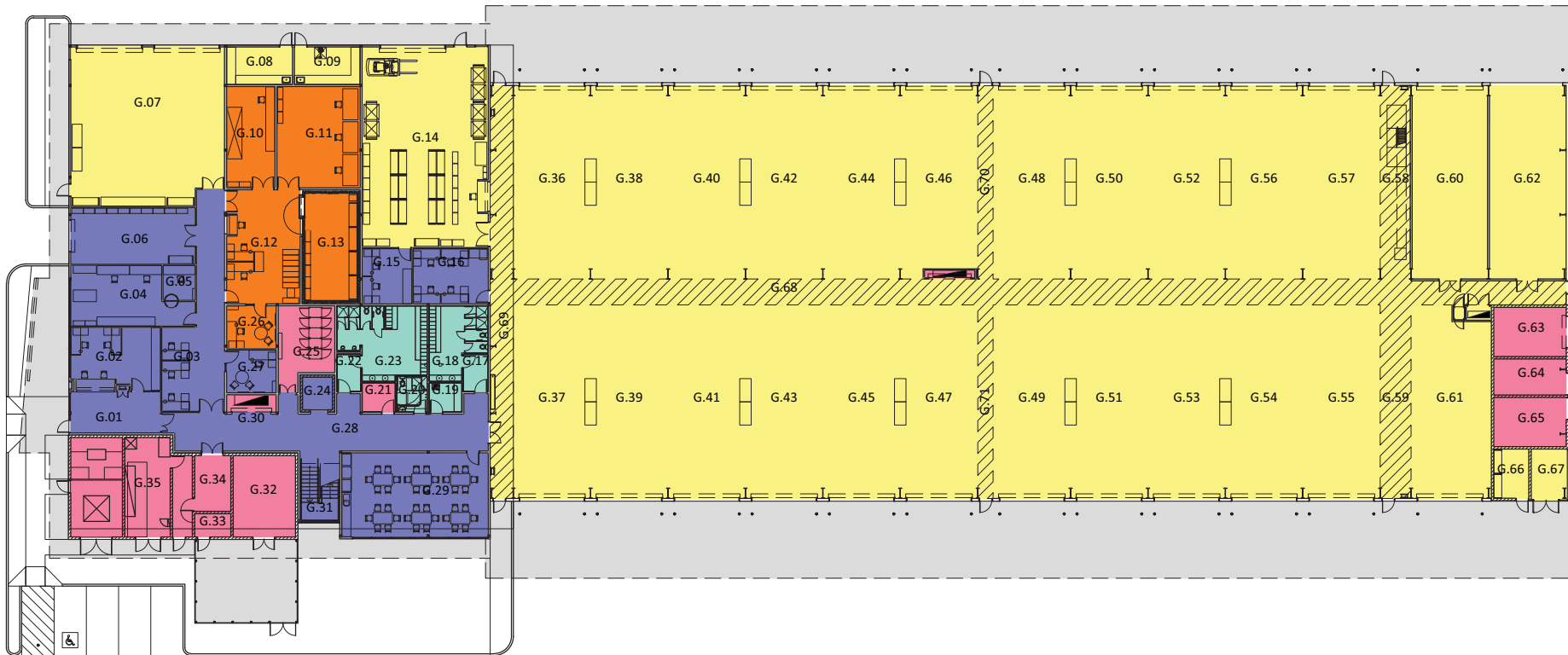




- COLOUR LEGEND
- STORES, WORK AREA - NON AC
  - OFFICE, WORK AREA - AC
  - SALs
  - SECURE
  - SERVICES
  - EXTERIOR

**Joint Logistics Unit (North), Robertson Barracks, Palmerston NT**  
**Loan and Repair Pool Warehouse Ground Floor Plan**

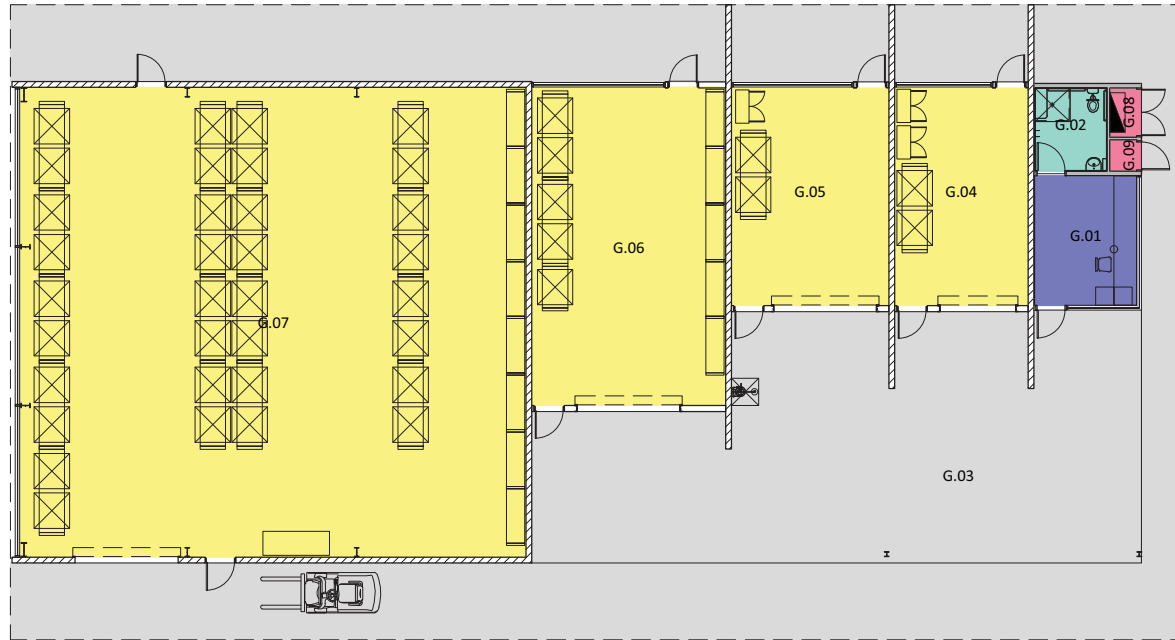




**Joint Logistics Unit (North), Robertson Barracks, Palmerston NT  
Land Material Maintenance Workshop Ground Floor Plan**

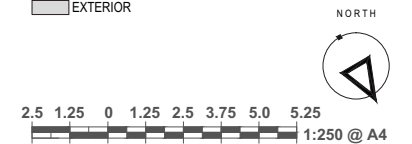
- COLOUR LEGEND
- STORES, WORK AREA - NON AC
  - OFFICE, WORK AREA - AC
  - SALs
  - SECURE
  - SERVICES
  - EXTERIOR



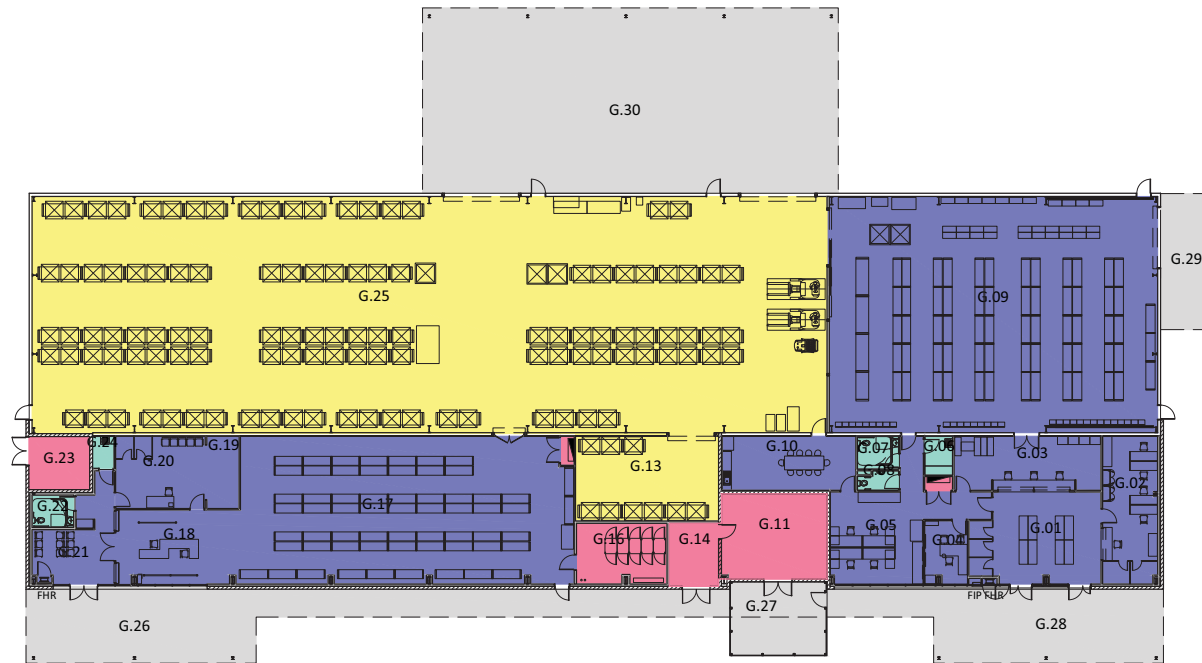


**Joint Logistics Unit (North), Robertson Barracks, Palmerston NT  
Dangerous Goods Store Floor Plan**

- COLOUR LEGEND
- STORES, WORK AREA - NON AC
  - OFFICE, WORK AREA - AC
  - SALs
  - SECURE
  - SERVICES
  - EXTERIOR



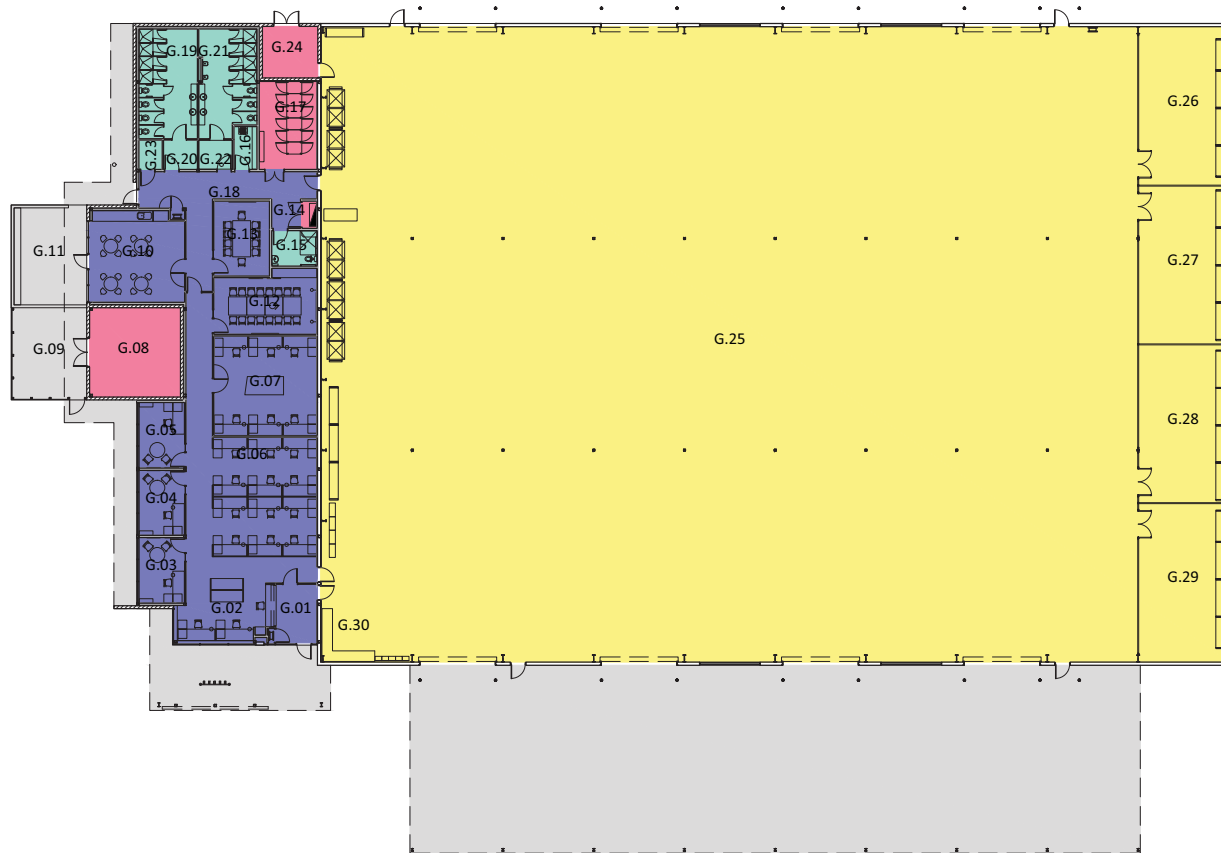




- COLOUR LEGEND
- STORES, WORK AREA - NON AC
  - OFFICE, WORK AREA - AC
  - SALs
  - SECURE
  - SERVICES
  - EXTERIOR

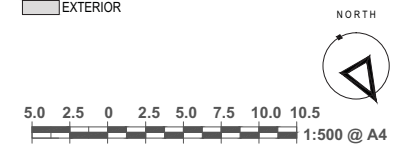


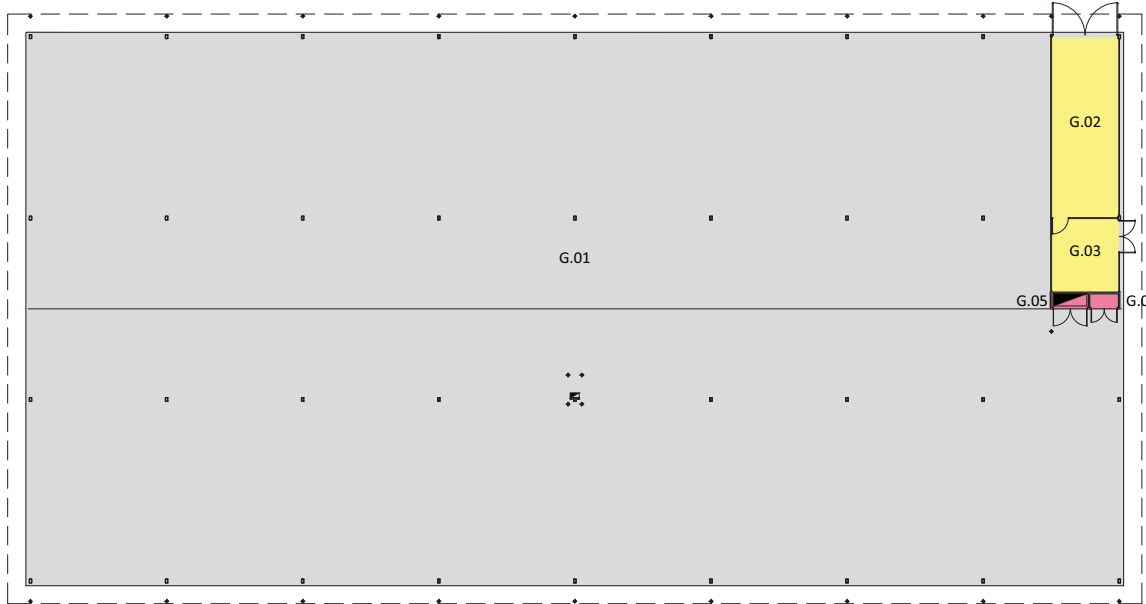
## Joint Logistics Unit (North), Robertson Barracks, Palmerston NT Regional Clothing/Kitting Store Floor Plan



**Joint Logistics Unit (North), Robertson Barracks, Palmerston NT**  
**Mounting Base Floor Plan**

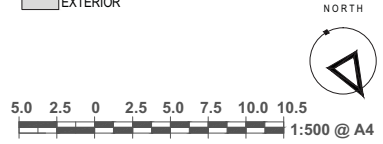
- COLOUR LEGEND
- STORES, WORK AREA - NON AC
  - OFFICE, WORK AREA - AC
  - SALs
  - SECURE
  - SERVICES
  - EXTERIOR

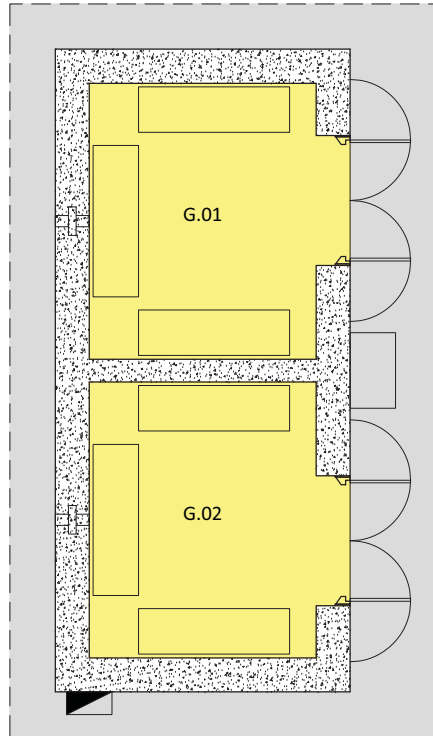




**Joint Logistics Unit (North), Robertson Barracks, Palmerston NT  
Vehicle Shelter Floor Plan**

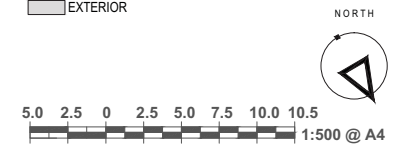
- COLOUR LEGEND
- STORES, WORK AREA - NON AC
  - OFFICE, WORK AREA - AC
  - SALs
  - SECURE
  - SERVICES
  - EXTERIOR





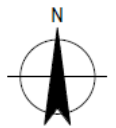
**Joint Logistics Unit (North), Robertson Barracks, Palmerston NT  
Small Quantity Facility Floor Plan**

- COLOUR LEGEND
- STORES, WORK AREA - NON AC
  - OFFICE, WORK AREA - AC
  - SALs
  - SECURE
  - SERVICES
  - EXTERIOR





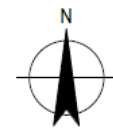
**Joint Logistics Unit (West), HMAS Stirling and Palmer Barracks WA  
Location Plan Palmer Barracks**

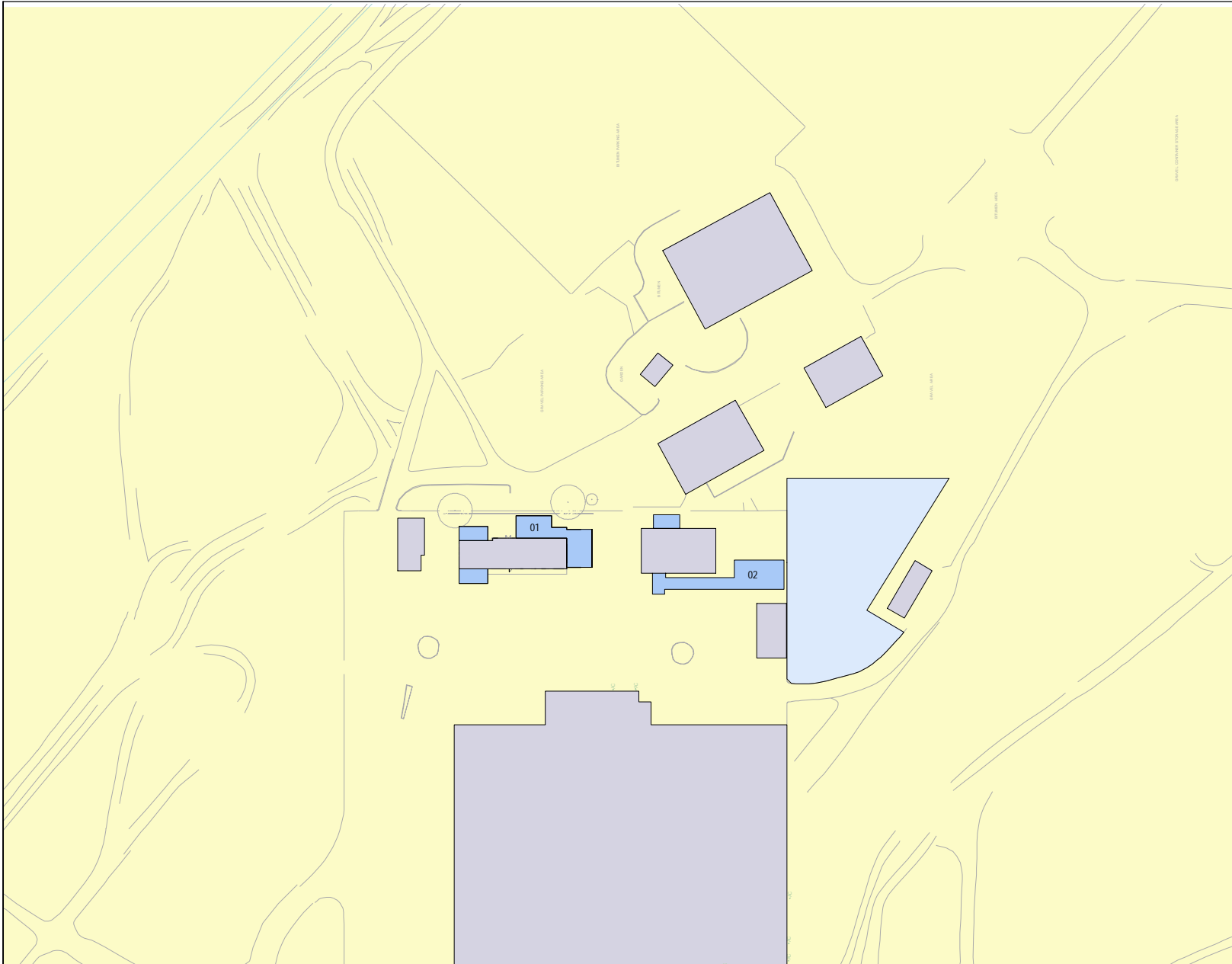






**Joint Logistics Unit (West), HMAS Stirling and Palmer Barracks WA  
Location Plan HMAS Stirling**





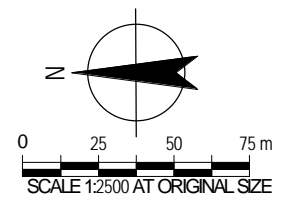
BUILDING LEGEND

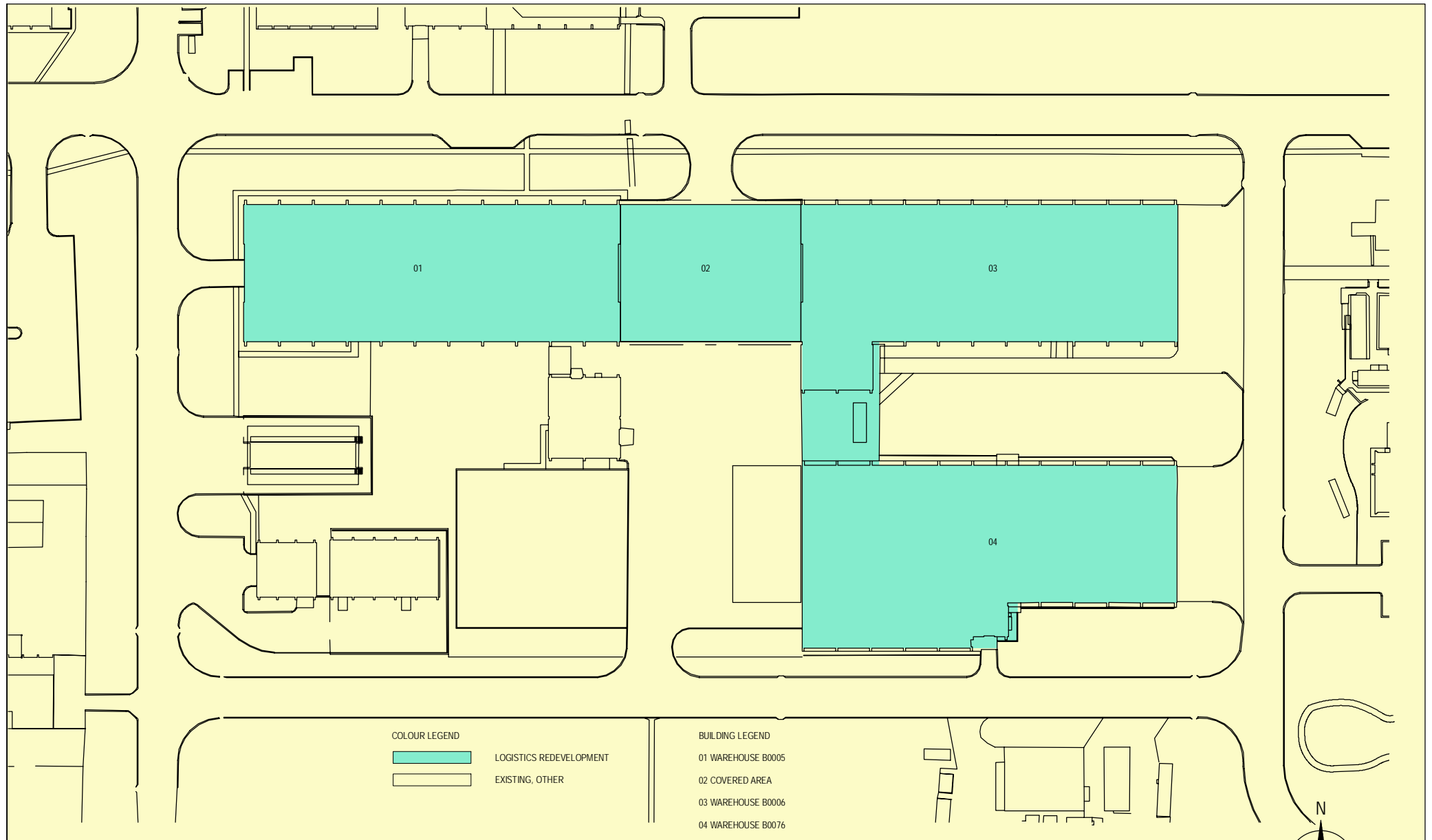
- 01 ELECTRONIC INSTRUMENT AND RADIO REPAIR FACILITY
- 02 INDOOR WEAPONS TEST FIRING FACILITY

COLOUR LEGEND

- NEW BUILDING
- EXISTING BUILDING
- NEW PAVEMENT HARDSTAND
- EXISTING, OTHER

Joint Logistics Unit (West), HMAS Stirling and Palmer Barracks WA  
Palmer Barracks Site Plan



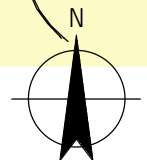


COLOUR LEGEND

	LOGISTICS REDEVELOPMENT
	EXISTING, OTHER

BUILDING LEGEND

- 01 WAREHOUSE B0005
- 02 COVERED AREA
- 03 WAREHOUSE B0006
- 04 WAREHOUSE B0076



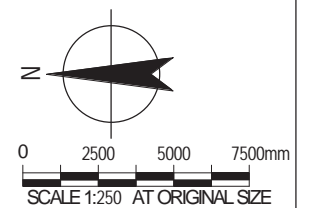
0 25 50 75 m  
SCALE 1:2500 AT ORIGINAL SIZE

Joint Logistics Unit (West), HMAS Stirling and Palmer Barracks WA  
HMAS Stirling Site Plan

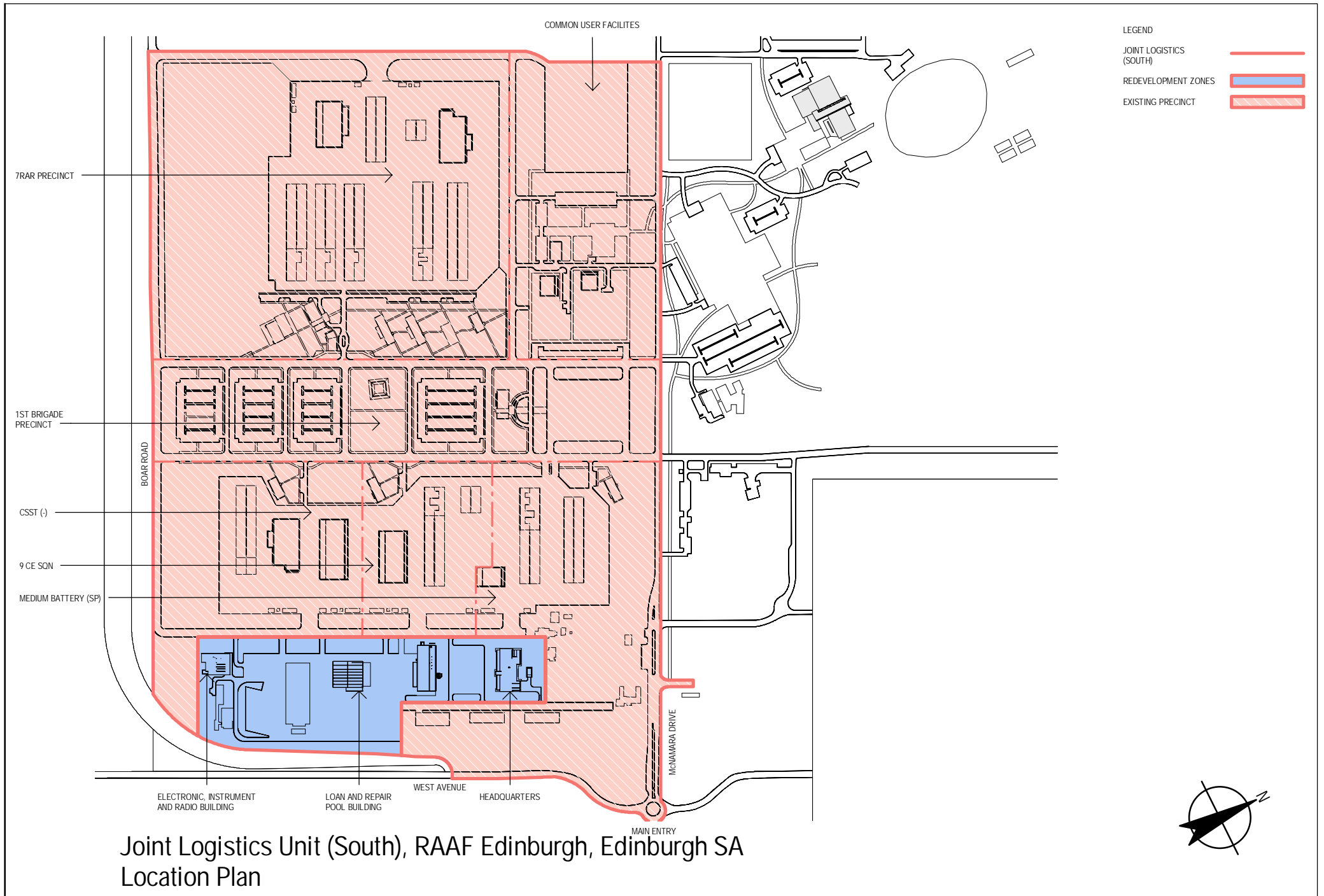


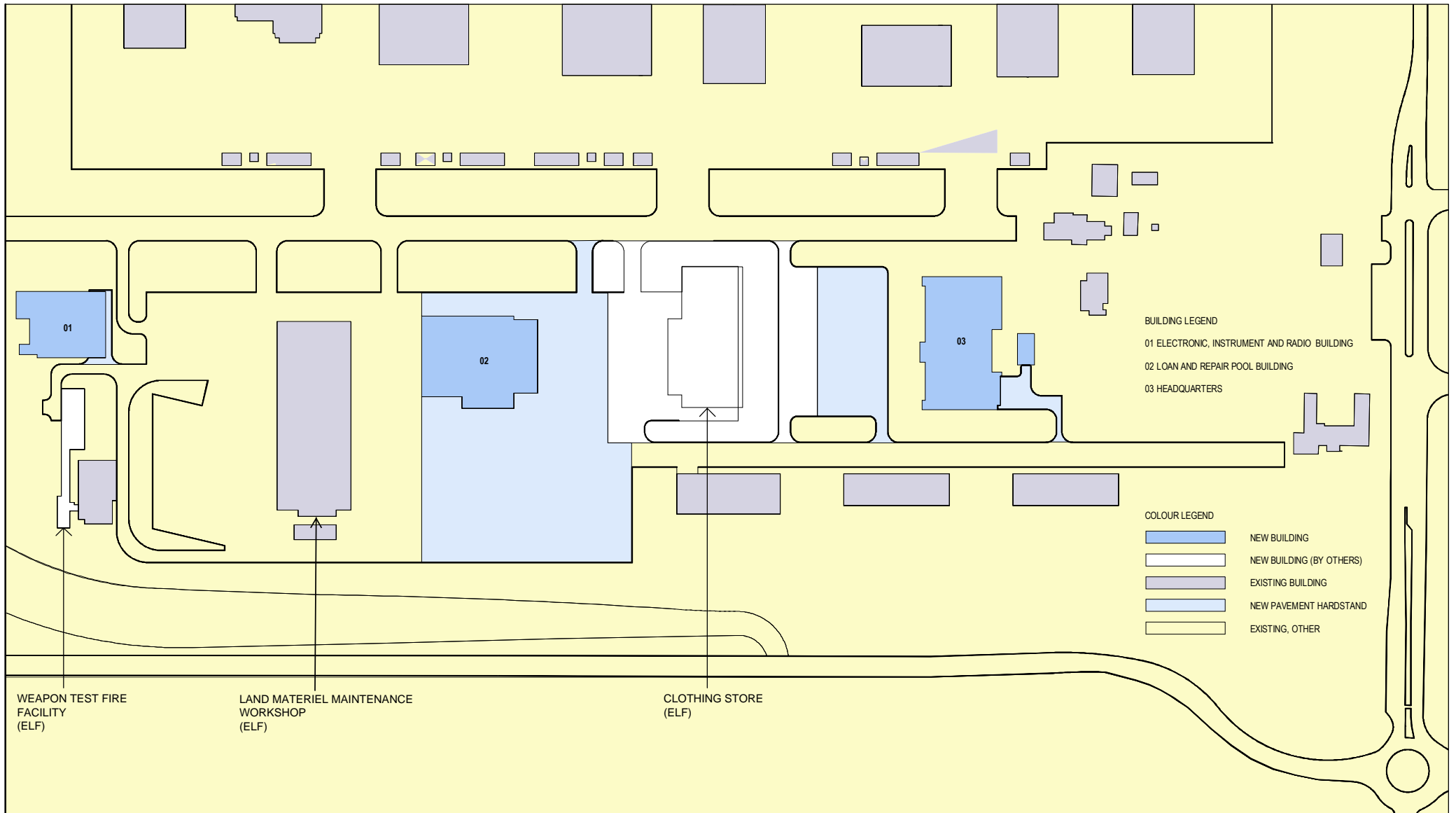


- COLOUR LEGEND
- OFFICE WORK AREA
  - SECURE
  - SERVICES
  - EXTERIOR
  - EXISTING BUILDING
  - TOILET AND SHOWERS

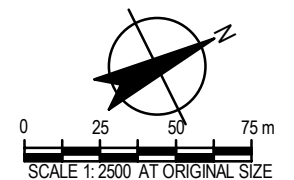


Joint Logistics Unit (West), HMAS Stirling and Palmer Barracks WA  
 Electronic Instrument and Radio Repair Facility Floor Plan





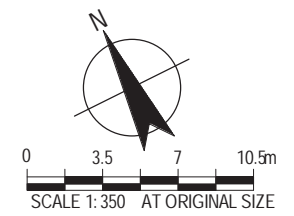
## Joint Logistics Unit (South), RAAF Edinburgh, Edinburgh SA Site Plan





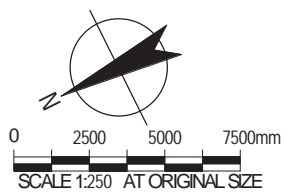
- COLOUR LEGEND
- BRICK PAVING
  - SECURE AREAS
  - OFFICE, WORK AREA - CARPET
  - SERVICES
  - TOILETS AND SHOWERS
  - OFFICE, WORK AREA - VINYL

Joint Logistics Unit (South), RAAF Base Edinburgh, Edinburgh SA  
Headquarters Floor Plan





- COLOUR LEGEND
- OFFICE, WORK AREA
  - SERVICES
  - EXTERIOR
  - SECURE
  - STORES, WORK AREA - NON A/C
  - TOILETS AND SHOWERS



Joint Logistics Unit (South), RAAF Base Edinburgh, Edinburgh SA  
 Loan and Repair Pool Warehouse Floor Plan



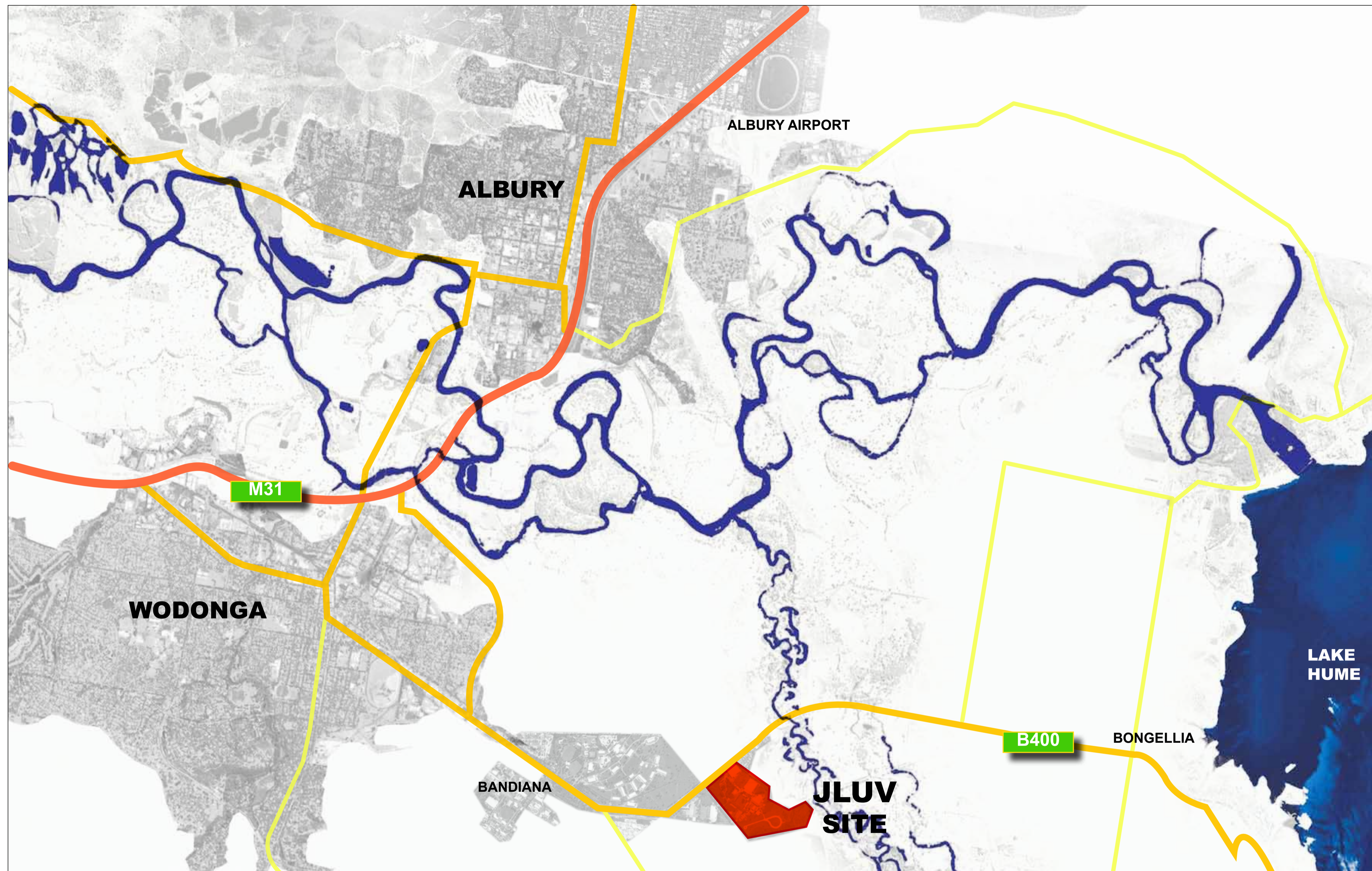
- COLOUR LEGEND
- EXTERIOR
  - SPECIAL WORK AREA
  - OFFICE, WORK AREA
  - SECURE
  - SERVICES
  - TOILETS AND SHOWERS



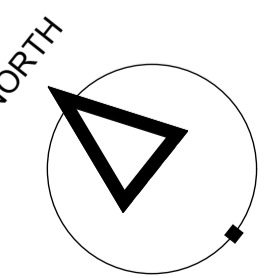
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SCALE 1:250 AT ORIGINAL SIZE

Joint Logistics Unit (South), RAAF Base Edinburgh, Edinburgh SA  
Electronic, Instrument and Radio Repair Facility Floor Plan

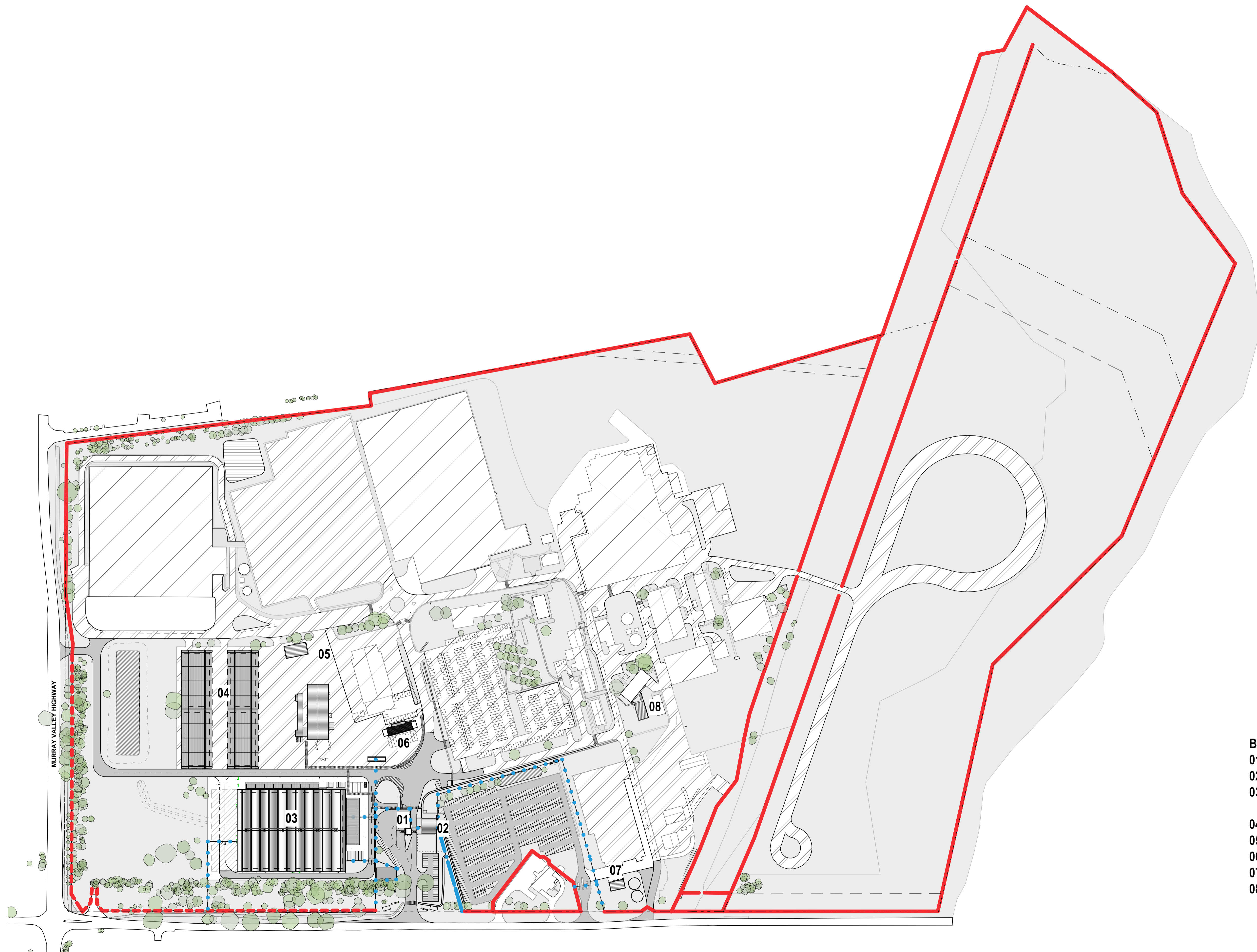




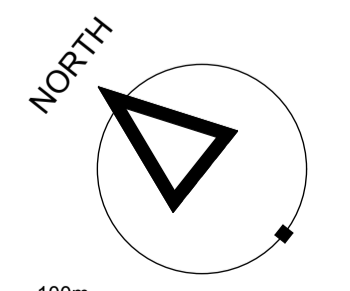
**Joint Logistics Unit (Victoria), Wadsworth Barracks, East Bandiana -  
LOCATION PLAN**







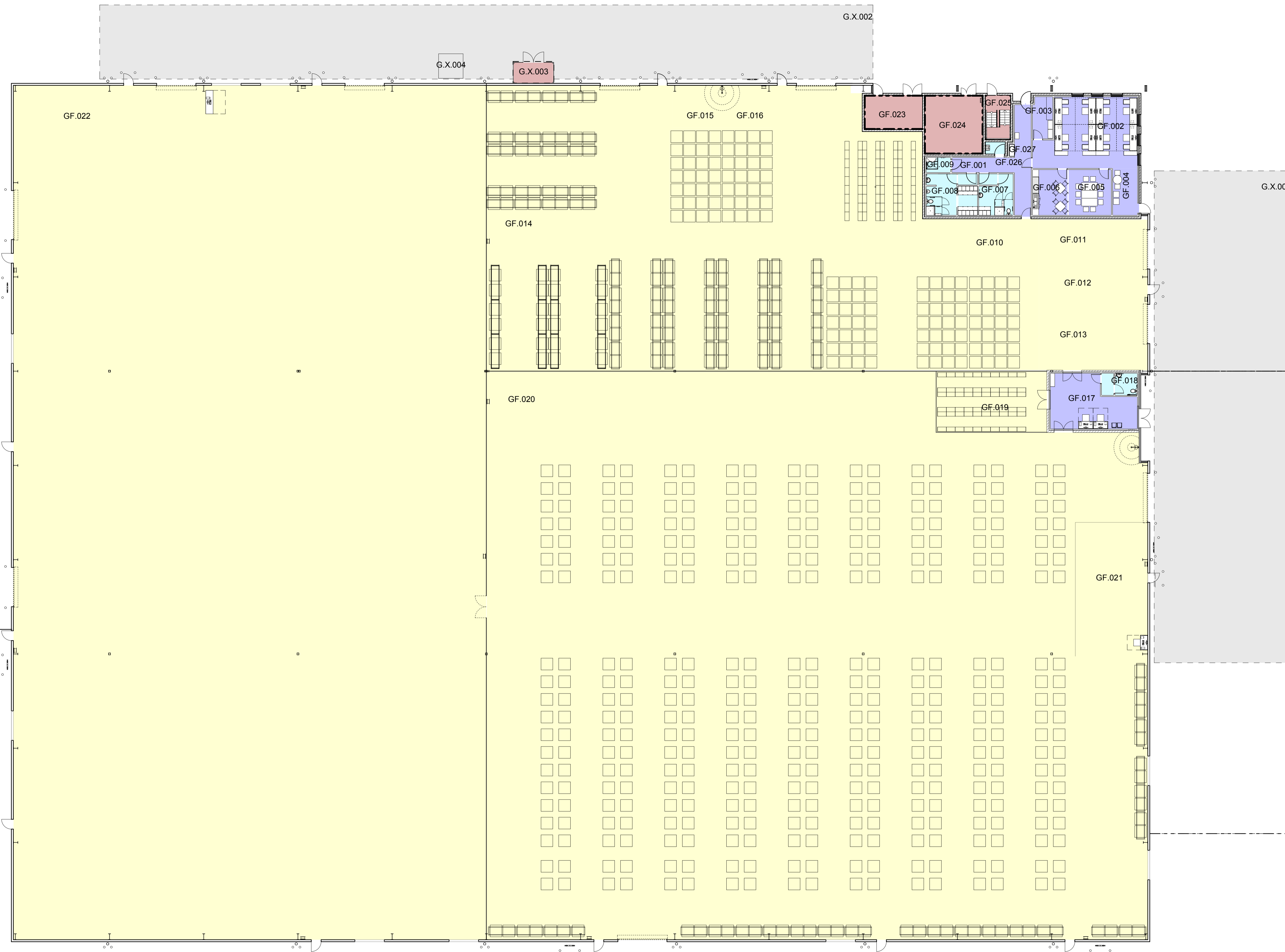
- BUILDING LEGEND**
- 01 GATEHOUSE
  - 02 GUARDHOUSE
  - 03 LOAN POOL & DISPOSALS WAREHOUSE
  - 04 COVERED HARDSTAND
  - 05 M1 STORAGE
  - 06 VEHICLE WASH
  - 07 PUMPHOUSE
  - 08 IT & COMMS



0 50 100m  
SCALE

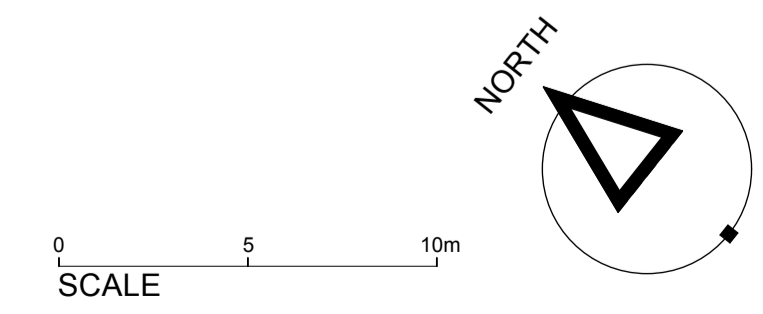
**Joint Logistics Unit (Victoria), Wadsworth Barracks, East Bandiana -  
SITE PLAN**

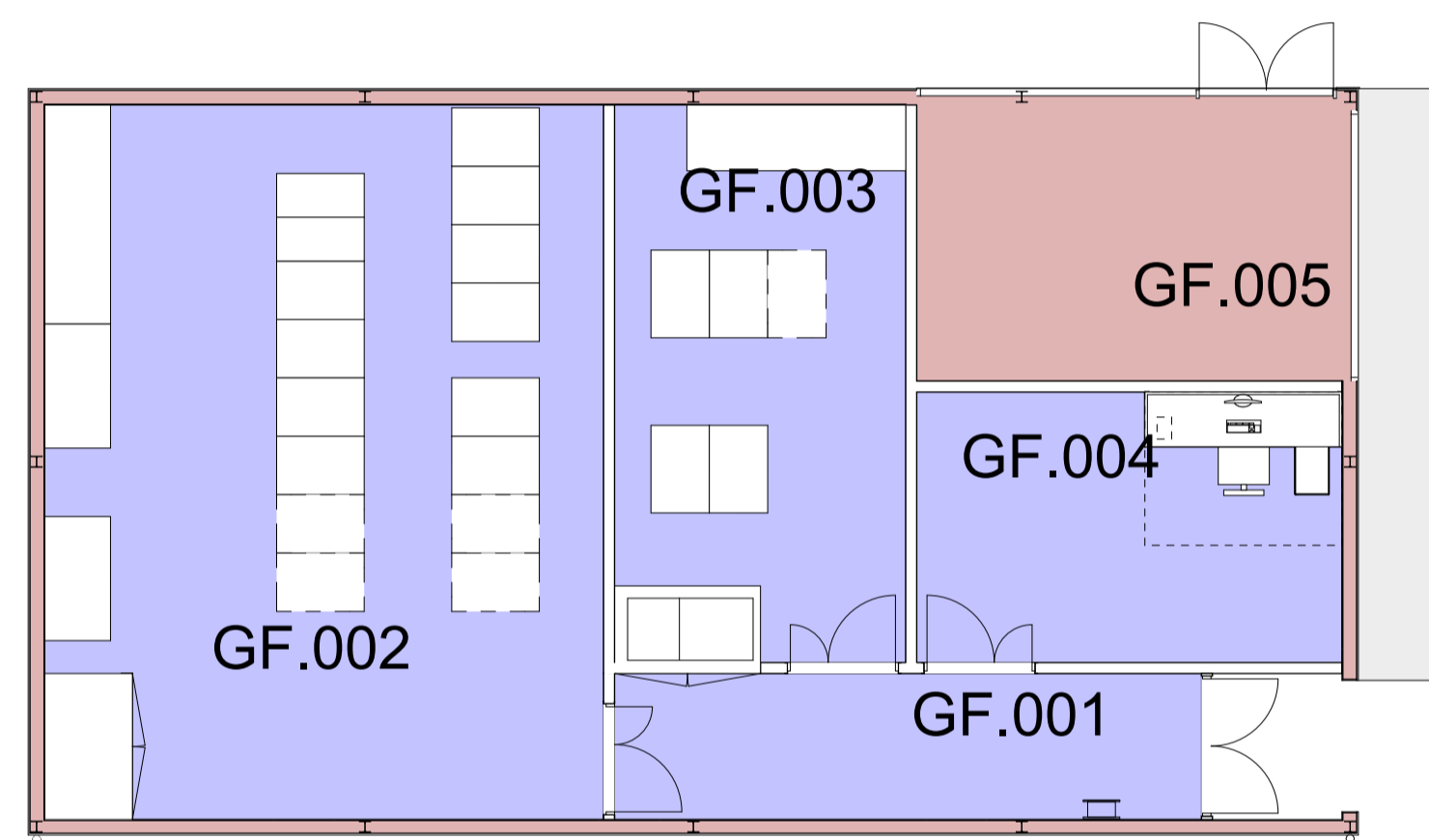




- COLOUR LEGEND**
- STORES, WORK AREA - NON A/C
  - OFFICE, WORK AREA - A/C
  - SALs
  - SECURE
  - SERVICES
  - EXTERIOR
  - EXISTING

**Joint Logistics Unit (Victoria), Wadsworth Barracks, East Bandiana -  
 COMBINED DISPOSALS, LOAN AND REPAIR POOL AND SPECIALTY STORAGE  
 WAREHOUSE FLOOR PLAN**





**COLOUR LEGEND**

- STORES, WORK AREA - NON A/C
- OFFICE, WORK AREA - A/C
- SALs
- SECURE
- SERVICES
- EXTERIOR
- EXISTING

**Joint Logistics Unit (Victoria), Wadsworth Barracks, East Bandiana -  
IT & COMMUNICATIONS BUILDING FLOOR PLAN**

0 5 10  
SCALE

