



**Australian Government**  

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**Department of Defence**

**RAAF BASE AMBERLEY REDEVELOPMENT  
STAGE THREE, QUEENSLAND**

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

**DEPARTMENT OF DEFENCE  
CANBERRA, ACT  
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## TABLE OF CONTENTS

PART A – IDENTIFICATION OF THE NEED .....	1
INTRODUCTION .....	1
PROJECT OBJECTIVES .....	1
BACKGROUND .....	1
NEED FOR THE WORK .....	2
DESCRIPTION OF THE PROPOSAL .....	3
OPTIONS CONSIDERED .....	4
ECONOMIC IMPACTS .....	4
ENVIRONMENTAL IMPACTS .....	4
HERITAGE CONSIDERATIONS .....	5
STAKEHOLDER CONSULTATION .....	5
PART B – TECHNICAL INFORMATION .....	6
PROJECT LOCATION .....	6
PROJECT SCOPE .....	6
SITE SELECTION .....	12
SITE DESCRIPTION .....	12
ZONING AND APPROVALS .....	12
LAND ACQUISITION .....	12
APPLICABLE CODES AND STANDARDS .....	12
PLANNING AND DESIGN CONCEPTS .....	13
STRUCTURE .....	14
MATERIALS AND FINISHES .....	14
MECHANICAL SERVICES .....	15
HYDRAULIC SERVICES .....	15
ELECTRICAL SERVICES .....	15
CIVIL WORKS .....	15
ACOUSTICS .....	15
WATER AND ENERGY CONSERVATION MEASURES .....	16
MASTER PLANNING & FUTURE DEVELOPMENT .....	18
PROVISIONS FOR PEOPLE WITH DISABILITIES .....	18
HERITAGE ISSUES .....	18
CHILDCARE PROVISIONS .....	18
FIRE PROTECTION .....	19
SECURITY .....	19
OCCUPATIONAL HEALTH AND SAFETY .....	19
LANDSCAPING .....	19
COMMUNITY IMPACT .....	20
PROJECT COSTS .....	20
PROJECT DELIVERY SYSTEM .....	20
PROJECT SCHEDULE .....	20
ATTACHMENTS .....	21

## **PART A – IDENTIFICATION OF THE NEED**

### **INTRODUCTION**

1. This evidence to the Parliamentary Standing Committee on Public Works presents a proposal for the RAAF Base Amberley Redevelopment Stage Three project, Queensland.

### **PROJECT OBJECTIVES**

2. The aim of the RAAF Base Amberley Redevelopment Stage 3 project is to enhance Defence capabilities and efficiencies in service delivery through the provision of new facilities and the upgrading and augmentation of existing facilities at RAAF Base Amberley. The project will address the poor siting of residential and support facilities by relocating these functions to low noise areas in accordance with the Base Zone and Precinct plan, increase the capacity of base services to support the immediate and planned increase in base population and improve the base physical security.

### **BACKGROUND**

3. RAAF Base Amberley has been used for military operations since 1938. The American Air Corps comprising of approximately 2,000 personnel were stationed at the Base during the 1940's. The site became a major RAAF bomber base following World War II, with *Lincoln* bombers originally based at the site, followed by *Canberra* bombers. During the post war period, a major realignment of the main runways was undertaken, with *Wirraway*, *Vampire* and *Meteor* aircraft stationed on-site during the 1950's. The United States military again used the Base during the Vietnam War period. Additional accommodation and working facilities, including a runway extension, were constructed in the late 1960's and early 1970's. Australia commenced its procurement of the F-111's in 1963, with the first six aircraft arriving at RAAF Base Amberley on 1 June 1973; the twenty-fourth aircraft was delivered on 31 October that same year. Since the arrival of the F-111s, the construction and upgrading of facilities has been ongoing at the Base – including two major developments between 1999 and 2007.

4. The Base's primary role is to be the home base and to provide full operational and maintenance support for the Precision Strike element of the Air Combat Group. RAAF Base Amberley also supports elements of the Strategic Lift capability with the introduction of the Multi-Role Tanker Transport (MRTT) and C-17 Heavy Lift Aircraft. The recently announced F/A – 18F Superhornet Bridging Air Combat Capability will operate from RAAF Base Amberley from 2010.

5. This project is the third redevelopment to occur at RAAF Base Amberley. RAAF Base Amberley Redevelopment Stage One was cleared by Parliament in September 1998 at an out-turned cost of \$73.3m. The project consisted of new and refurbished operational, training, domestic support, logistics support and aircraft maintenance facilities. RAAF Base Amberley Redevelopment Stage Two was cleared by Parliament in November 2005 at an out-turned cost of \$285.6m, and is comprised of three project elements, the Multi-Role Tanker Transport (MRTT) Project; facilities to support the relocation of 9<sup>th</sup> Force Support Battalion; and the Base Infrastructure Upgrade (BIU). Stage Two of the Redevelopment is on schedule to be completed in December 2007.

6. This redevelopment moves towards the long term planning principles set out in the RAAF Base Amberley Zone and Precinct Plan, and will utilise the trunk engineering services upgraded during the Stage Two redevelopment to support the new and refurbished facilities in this proposal. Stage Three of the redevelopment will deliver facilities to respond to the immediate and medium term increase in Base population, improve the base security and relocate non-essential services away from the high noise area adjacent to the flight-line.

### **NEED FOR THE WORK**

7. RAAF Base Amberley has a significant capacity to support air operations and considerable space for expansion to accommodate additional Australian Defence Force activities. To facilitate future development and reduce the impact of aircraft noise on the resident Defence personnel, this project will relocate residential and support facilities to low noise areas, freeing up space adjacent to the flight line for future operational facilities in accordance with the base Zone and Precinct plan. The elements being relocated as part of this project include the gymnasium, living in accommodation, Headquarters Combat Support Group and the Mechanical Equipment and Operational Maintenance Section.

8. The current Base population is approximately 2,500 uniformed personnel. The recent relocation of No. 36 Squadron to operate the new C-17 Globemaster III, the planned relocation of Army's 9<sup>th</sup> Force Support Battalion in late 2007 and the introduction of the Multi-Role Tanker Transport (No. 33 Squadron) in 2009 will increase the Base population to approximately 3,200 uniformed personnel. Allowing for modest additional long term growth, the mature Base population by 2015 is estimated at 4,000 uniformed personnel. This places additional pressure on Base support services, in particular messing, the Mechanical Equipment and Operational

Maintenance Section and health care services. The existing supporting infrastructure has insufficient capacity to cater for the growing Base population.

9. The home basing of the Multi-Role Tanker Transport and C-17 aircraft places additional demand on the base fuel supplies and liquid dry breathing oxygen storage. One of the two current base fuel farms has recently been decommissioned for environmental, serviceability and safety concerns. The remaining fuel storage is insufficient to support the flying activities at the base and additional fuel storage is required. The current liquid dry breathing oxygen compound does not comply with current standards and does not have sufficient capacity or redundancy to support the forecast demand.

## **DESCRIPTION OF THE PROPOSAL**

10. This redevelopment proposal involves fourteen discreet project elements:
- a. new Level 3 Trainee Living-in Accommodation for personnel attending courses of instruction at the Base;
  - b. a new combined mess with associated recreational and amenity facilities to rationalise the current Base messing strategy;
  - c. a new Base physical fitness centre, including a swimming pool and other training and recreational facilities;
  - d. new Fuel Farm facilities to augment the existing Fuel Farm 2;
  - e. a new Liquid Dry Breathing Oxygen Compound;
  - f. new working accommodation for Headquarters Combat Support Group;
  - g. new facilities for the Dental Services section, and refurbishment of existing facilities for No. 1 Air Transportable Health Squadron;
  - h. a reconfiguration and refurbishment of the Base Information Systems Centre and Base Command Post;
  - i. new working accommodation and instructional facilities for the RAAF Security and Fire School;
  - j. new working accommodation and maintenance facilities for the Mechanical Equipment and Operational Maintenance Section;
  - k. development and construction of the Passive Defence Augmentation at the Base;
  - l. refurbished facilities for the RAAF Security Police;
  - m. new Military Working Dogs Section working accommodation and kennels; and

- n. demolition of existing redundant facilities to allow for future development and reduce the facilities maintenance liability.

## **OPTIONS CONSIDERED**

11. Defence has considered the viability of adaptively re-using or refurbishing facilities to reduce the need for new construction. In most cases, the option to re-use facilities is not cost effective because of the age, structural inadequacy, functional inadequacy or inappropriate location of the facilities. The majority of the facilities proposed in this redevelopment is new construction to be located on greenfield sites.

12. A number of siting options were considered during the early planning of the project. These options were presented at a Technical Site Selection Board, and the development of land use precincts in accordance with the RAAF Base Amberley Zone and Precinct Plan was adopted.

## **ECONOMIC IMPACTS**

13. The project will generate a significant amount of short-term employment predominantly in the building, construction and unskilled labour markets. Significant numbers of personnel are expected to be directly employed on construction activities that would also generate some off-site job opportunities from the manufacture and distribution of materials over the construction period. Defence anticipates that local building sub-contractors would be employed on a large proportion of the construction works and some of the infrastructure works.

## **ENVIRONMENTAL IMPACTS**

14. The implementation of the proposal outlined in this evidence will comply with the principles of ecologically sustainable development. All works contracts will bind the contractors to the achieving ecologically sustainable development objectives and targets.

15. An Environmental Impact Assessment has been prepared during the development of the Project, to determine the extent and nature of any environmental issues relating specifically to this project. The Environmental Impact Assessment has not identified any significant environmental concerns for the facilities in the RAAF Base Amberley Redevelopment Stage 3 project. This project will be managed in accordance with provisions of the RAAF Base Amberley Environmental Management Plan.

16. Contractors will be required to produce a Construction Environmental Management Plan. The Contractor's environmental procedures for construction activities will be adhered to as a contractual obligation and compliance with the approved plan will be periodically audited throughout the project. Environmental Clearance Certificates will be sought prior to any construction activities on site.

### **HERITAGE CONSIDERATIONS**

17. RAAF Base Amberley is included on two Commonwealth heritage registers – the Register of the National Estate and the Commonwealth Heritage List. These registers recognise RAAF Base Amberley as having highly significant heritage value because of its historical role in the Defence of the nation, from the eve of World War II to the present. RAAF Base Amberley is recognised as having local heritage significance and is listed on the Ipswich Heritage Register. While heritage-listed facilities exist at RAAF Base Amberley, none of the identified heritage assets are located in the area proposed for the Stage Three Redevelopment project. Defence commissioned a heritage assessment during the initial planning of the redevelopment project. This assessment concluded that referral under the *Environmental Protection Biodiversity Conservation Act 1999* is not required.

### **STAKEHOLDER CONSULTATION**

18. Discussions have been held, or are planned to be held with the following persons or organisations:

- a. Australian Greenhouse Office;
- b. Amberley State Primary School;
- c. Ipswich City Council;
- d. Ipswich Water; and the
- e. Federal Member for Blair.



## **PART B – TECHNICAL INFORMATION**

### **PROJECT LOCATION**

19. All the proposed works are within RAAF Base Amberley which is located approximately 8 km west of the City of Ipswich, at the western edge of the Brisbane Metropolitan Area. The site of the proposed works is Commonwealth owned and Defence controlled. A location plan is at Attachment 1.

### **PROJECT SCOPE**

20. The proposed RAAF Amberley Redevelopment Stage Three project includes 14 separate project elements. Each project element is summarised below and detailed further in the proposed facilities layout plans at Attachments 2-23.

21. **Project Element 1 - New Level 3 Trainee Living-In Accommodation.** The majority of the existing trainee living in accommodation is located in ageing facilities constructed in the 1960s, and is located adjacent to the flight line in an area that is affected by high levels of aircraft noise. This project proposes to construct 160 rooms of trainee Level 3 living in accommodation. This accommodation is for trainees undertaking courses of less than six months duration at RAAF Base Amberley, primarily students of the RAAF Security and Fire School (RAAF SFS).

22. The trainee living in accommodation will be located adjacent to the new combined mess facility (see Project Element 2) and the new Level 5 permanent Living-In Accommodation being delivered as part of the Single Living Environment Accommodation Precinct (Single LEAP) project in a low noise area of the Base. The current substandard trainee living in accommodation will be demolished under this project.

23. **Project Element 2 - New Combined Messing Facility.** RAAF Base Amberley currently has three messes (Officers, Senior Non Commissioned Officers and Airmen), which are located some distance from the proposed new Level 3 Living-In Accommodation and the new Level 5 permanent Living-In Accommodation being delivered as part of the Single LEAP project. The existing messes are also located in a high noise area of base. Under a complete rationalisation of the messing arrangements at RAAF Base Amberley, this project proposes a combined mess facility with a single kitchen and separate mess wings that provide formal and informal spaces for each rank group. This arrangement provides opportunity for staff development and continuation training, locates the

messes with the new living in accommodation and the future proposed commercial precinct, and provides significant economies in kitchen fittings, furniture and equipment.

24. The proposed messing facility will include new Officers and Senior Non-commissioned Officer's dining halls and recreational areas. A new Other Ranks dining hall and Airmen's Club will also be provided. The three dining halls will be serviced by a single kitchen.

25. **Project Element 3 - New Physical Fitness Training Centre.** A high level of physical fitness is an essential requirement for all Australian Defence Force personnel. The current RAAF Base Amberley Physical Fitness Centre is located in the original airmen's mess building, which has been refurbished several times. The current facility is ageing, located in the high-noise area of the Base and does not provide a suitable physical training environment to accommodate the demand for physical training activities. The current facility cannot be cost-effectively modified to meet the current and future physical training demands.

26. The proposed Physical Fitness Centre will include venues for group physical training, regular fitness testing and assessment, such as an indoor heated 50m swimming pool, weight training areas, cardio theatre and a multi-purpose gymnasium floor suitable sized to support large classes of instruction. Individual training equipment and areas for sporting and recreational activities, such as sports ovals, tennis courts and squash courts are also proposed. The new Physical Fitness Centre will be located in close proximity to the new combined mess facilities and the proposed living in accommodation precinct.

27. **Project Element 4 – Additional Fuel Storage.** This element of the project involves the construction of additional aviation fuel storage, which will result in reliable on-site aircraft fuel storage with sufficient capacity to provide for the future requirements of the Base. Fuel Farm 1 has been recently decommissioned due to environmental, maintenance and workplace health and safety concerns. The proposed new fuel farm facilities will provide an increased fuel storage capacity of 6 mega-litres to meet an increased demand for aviation fuel. The works to Fuel Farm 2 also include the remediation and upgrade of engineering services to address current deficiencies. This redevelopment project includes demolishing the defunct Fuel Farm 1 and remediating the site.

28. **Project Element 5 - New Liquid Dry Breathing Oxygen Facility.** The Liquid Dry Breathing Oxygen compound is a storage facility that supports the provision of Liquid Dry Breathing Oxygen and Gaseous Dry Breathing Oxygen to aircraft. The current Liquid Dry

Breathing Oxygen compound does not comply with Australian and RAAF standards, and is located in an area that has been identified for future aircraft pavement works.

29. The proposed facility comprises a secure fenced enclosure, in which vacuum insulated tanks are stored. It is proposed to install two 7,000L vacuum insulated tanks, which will provide the necessary redundancy for Liquid Dry Breathing Oxygen supply. Storage areas for Gaseous Dry Breathing Oxygen (GDBO) and associated Ground Support Equipment (GSE) have been included. The facility includes a number of preventative measures to contain any oxygen spills, including a 5 metre gravel fire clearance zone, evaporation pits and engineering works to dispose of any hazardous material and stormwater appropriately. A small testing facility is included to allow on-site testing of the Liquid Dry Breathing Oxygen prior to use, and includes an emergency shower and eyewash facility.

30. **Project Element 6 - New Headquarters Combat Support Group.** Combat Support Group provides combat support services to RAAF, Australian Defence Force and potentially combined force's operations. Headquarters Combat Support Group manages the key capabilities of RAAF health services, airbase protection, airbase operational support, airbase supply support, airfield engineering and airfield security.

31. The existing Headquarters Combat Support Group facilities and their configuration were not designed for the current use which has resulted in a headquarters component that is disjointed, and suffering command, operational, administrative and logistical inefficiencies. As the facilities are also located within the Australian Noise Exposure Forecast (ANEF) 30 to 40 noise contour zone, activities such as briefings are frequently interrupted by aircraft noise.

32. The provision of new purpose built facilities for Headquarters Combat Support Group will improve efficiency and communication between the elements of Combat Support Group, which are currently dispersed in four locations on Base. The existing facility (Building 343), will be refurbished for use as the Base Command Post. The facilities provided for Headquarters Combat Support Group will include a new open plan office facility, with meeting rooms, secure briefing rooms, a classified video conferencing facility and appropriate storage for classified material.

33. **Project Element 7 – No. 1 Air Transportable Health Squadron.** The primary role of No. 1 Air Transportable Health Squadron is to provide a deployable medical and dental capability. The requirement is to provide dental and medical care facilities to support Level 2 care for Base

personnel and storage for deployable equipment. Level 2 care includes minor operating and in-patient facilities, outpatients, radiography, pharmacy and physiotherapy, but no major surgical capacity.

34. Facilities to be provided have been based on a uniformed Base population of 4,000. This planning figure is based on a current population with allowance for expansion to satisfy potential future developments. The proposed refurbishment and capital works for 1 Air Transportable Health Squadron will co-locate the medical and dental units in the one facility and will include additional medical consulting rooms, a new physiotherapy wing including hydrotherapy facilities, increased pharmacy space, and expanded in-patients wards. A new purpose built medical supplies storage area is proposed, as well as general storage areas for deployable equipment. A new dental wing is proposed, providing a total of eight dental surgeries. Two of these dental surgeries will be constructed as “fitted for, not with” to allow future expansion of the dental surgeries as the Base population increases.

35. **Project Element 8 - Base Information Systems Centre and Base Command Post.** The Base Information Systems Centre is the communications hub for the Base and handles the communications security, including safehandling, delivery and processing of classified material. The Base Information Systems Centre houses and secures the main voice distribution equipment and network for the Base. The bulk of the unit is located in Building 343, which it currently shares with elements of Headquarters Combat Support Group, and the Bureau of Meteorology. The redevelopment project proposes a significant upgrade of the existing services in building 343 as well as a refurbishment to allow for a more logical distribution of working accommodation, and allow the Communications Centre located within the Base Information Systems Centre to operate 24/7. The provision of training rooms and extended workshop space will overcome current deficiencies in the Base Information Systems Centre.

36. The Base Command Post is an administrative function that includes the day to day activities of the Base Commander and staff. The Base Command Post includes the Emergency Operations Centre which, when activated, is the co-ordination centre for command and control of responses to major incidents (aircraft, security, natural disaster) at RAAF Base Amberley. This element will be constructed in the space currently occupied by Headquarters Combat Support Group. The works required for this element include the upgrading of ablutions and change rooms and refurbishment works to allow the construction of the Emergency Operations Centre and associated working accommodation, including the Base Commander’s office.

37. **Project Element 9 - RAAF Security and Fire School.** The RAAF Security and Fire School provide training for Defence firefighters and security personnel, as well as airfield engineering personnel. The Australian Defence Force demand for additional operational personnel has increased the training rates for the Security and Fire School, which has become the second largest school within the RAAF. The current instructional facilities are predominantly demountable classrooms that are overcrowded and are not fit for the required training purposes.

38. This element of the Project involves provision of new instructional and training support facilities for RAAF Security and Fire School at Attached Property 2, adjacent to the existing fire training instructional facilities. The facilities proposed for this project element include new working and training accommodation to replace the existing sub-standard facilities, a satellite specialist physical training facility, and refurbishment works to some existing working accommodation facilities to improve functionality. This project element requires the demolition of some existing facilities in order to facilitate the construction of the new purpose built facilities.

39. **Project Element 10 - New Mechanical Equipment and Operational Maintenance Section.** The Mechanical Equipment and Operational and Maintenance Section provides a range of essential technical and maintenance support services for aircraft operations and Base operations including equipment and vehicle maintenance, road transport, aviation fuel management and aircraft refuelling.

40. The Mechanical Equipment and Operational Maintenance Section are currently located in a number of facilities dispersed across the Base, including several workshops located on the flight line near Fuel Farm 1. These dispersed locations have resulted in administrative and operational inefficiencies. This project will co-locate all elements of the section into one compound and provide additional workshop space, storage areas and working accommodation to address the increasing demand for their support services. Facilities will include a new maintenance shelter for vehicle maintenance and Ground Support Equipment maintenance, office working accommodation, vehicle shelters and storage areas.

41. **Project Element 11 - Passive Defence Augmentation.** The Passive Defence Augmentation will upgrade the passive security at RAAF Base Amberley to enhance the protection of the medium and high level precincts. This upgrade is required to support the introduction of new aircraft capabilities; to expand the Base perimeter fence to enclose recently constructed facilities delivered

under the RAAF Base Amberley Redevelopment Stage 2 project and those facilities proposed under this project. This element will include the reconfiguration of Base entrances, expansion, re-alignment and upgrading of the Base perimeter fence and the installation of new physical and electronic security technology.

42. **Project Element 12 – Refurbishment for RAAF Security Police.** The RAAF Security Police are responsible for the security response and physical protection of mission critical and vital assets on Base. The RAAF Security Police are currently accommodated in the Base Pass Office at the main Base entry. This project proposes minor refurbishment works to improve the functional effectiveness of the building. This refurbishment will include the construction of a new briefing room to facilitate formal instruction, an interview and emergency operations room, an upgrade of the ablutions facilities and an upgrade of the physical security of the building.

43. **Project Element 13 - New Military Working Dogs Accommodation.** The RAAF Security Police Military Working Dogs Section provides physical security and security response for RAAF mission critical and vital assets. The current facilities located at Attached Property 2, have inadequate capacity, and contain a number of health risks. The shortfall in kennel space results in some of the dogs being held at the training flight facility, or within isolation kennels. This problem has been caused by a requirement to increase the numbers of Military Working Dogs at RAAF Base Amberley and separating the working dogs from the breeding program.

44. This element of the project consists of new kennel facilities for the military working dogs. It includes new kennels, running and training yards, isolation kennels, food preparation areas, veterinary facilities and an administration building for staff.

45. **Project Element 14 – Engineering Services and Demolitions.** This project element supports all the other project elements with the necessary engineering services including communications, sewer, water and electricity supply. This element builds upon the trunk engineering services delivered under the RAAF Base Amberley Redevelopment Stage Two project.

46. Demolition of high maintenance facilities is also included in this element to clear redundant facilities, freeing up space for future development and reducing the ongoing facilities maintenance costs associated with the upkeep of these facilities. The buildings proposed for demolition have reached the end of their economic and functional life, and have no potential for adaptive re-use. The proposed demolition works include the demolition and remediation of Fuel Farm 1, which is no

longer serviceable and poses an occupational health and safety and environmental risk. Redundant living in accommodation and mess facilities are also proposed for demolition, with the exception of the Officers Mess, which is in good condition and has potential for future adaptive reuse for working or training accommodation.

## **SITE SELECTION**

47. The selection of sites for each project element has been undertaken in accordance with Defence Estate Planning policy requirements. A Technical Site Selection Board was conducted and addressed Australian Defence Force policy, environment, heritage and operational considerations.

48. The selected siting locations for all project elements are consistent with the RAAF Base Amberley Zone and Precinct Plan.

## **SITE DESCRIPTION**

49. All Project Elements are located within the boundaries of RAAF Base Amberley. This property is Commonwealth owned and Defence controlled. The locations for the majority of project elements are on greenfield sites, or on previously developed land.

## **ZONING AND APPROVALS**

50. All works referred to in this evidence are, or would be constructed within the designated boundaries of RAAF Base Amberley. The land is designated “Defence Special Purposes”. No civilian authority design or construction approvals are required, although the works will comply with the relevant Standards and Regulations as applicable.

## **LAND ACQUISITION**

51. The relocation of the Amberley State Primary School is required to implement the Passive Defence Augmentation. Defence plans to acquire the land and existing buildings following the relocation of the school. The land has been zoned future development in the RAAF Base Amberley Zone and Precinct Plan. The acquisition of the land is not part of this proposal.

## **APPLICABLE CODES AND STANDARDS**

52. Where appropriate, the design and construction of the proposed works and services will conform to the relevant sections of the applicable Building Codes and Standards including the following:

- a. Building Code of Australia;

- b. Current Australian Standards and Codes;
- c. Commonwealth and State legislation;
- d. Defence Manual of Fire Protection Engineering;
- e. Defence Facilities Communications Cabling Standard;
- f. Relevant Defence Security Publications; and
- g. Occupational health, safety and welfare legislation and the Defence Occupational Health and Safety Manual.

53. A qualified and practicing certifier will be required to certify that the design and finished construction of the proposed facilities meet the requirements of the Building Code of Australia, relevant Australian Standards and codes, the Defence Manual of Fire Protection Engineering and any additional State, Local Government and Defence requirements.

54. Successful tenderers will be required to produce a Project Quality Plan. This plan will clearly show how the building codes, Australian Standards and any additional Defence requirements in relation to security, fire protection and fire safety will be met and how the required standards for construction and installation are to be maintained.

#### **PLANNING AND DESIGN CONCEPTS**

55. The proposed designs provide a safe, efficient and pleasant workplace and also represent value for money. The designs offer good economy in relation to floor area, construction techniques, buildability and finishes, while achieving the necessary functional requirements, work flow patterns and work environment required to fulfil the function of the space.

56. The designers have considered, during the preliminary design stage, the implications and estimates of costs for designs, materials, construction techniques, finishes, equipment and energy systems which will deliver economy on a life cycle costing basis.

57. In selection of services and associated equipment, the capital cost has been balanced against forecast operational and maintenance costs. Operating costs comparisons have been undertaken during life cycle costing analysis in the design process prior to the selection of mechanical plant. Particular consideration has been given to energy efficient design solutions employing passive solar energy and water re-use initiatives.



58. The design, structure, servicing, and siting of buildings has been determined to ensure that future expansion is possible. Each sub-element of the facility has the capacity for future expansion. This is of particular importance in sizing and terminating in-ground services. New mechanical plants are modular to ensure flexibility.

59. Maximum flexibility has been incorporated for the new internal office accommodation facilities. Except where the need for security or noise reduction dictates otherwise, minimum use has been made of structural internal walls or columns. In general terms, internal walls in office areas are demountable partitions or workstation type to facilitate economic rearrangement. Building services are compatible with this requirement.

60. This project will:

- a. make maximum use of existing infrastructure to minimise capital facilities costs;
- b. adopt conventional construction techniques and materials, commonly used by the construction industry in regional Australia, with due regard given to climatic conditions; and
- c. utilise readily available and durable materials that combine long life with minimum maintenance and are sympathetic with the existing buildings, landscaping and precinct.

61. The building works and services will be fully fitted out, with all communications, light fittings, partitions, floor treatments and furniture. Facilities will incorporate building management systems, metering and other provisions to measure and monitor energy use and to allow regular energy audits. Each new facility will be connected to the Regional Utility Management System for site wide utilities monitoring and management.

## **STRUCTURE**

62. Structural design will take into account the highly reactive soils and weather conditions encountered in the Amberley area. Proposed new facilities will generally be steel framed structures with concrete floor slabs, brick faces or equivalent external walls, and a metal roof appropriate to the environment. Internal walls would generally be non-load bearing frames lined with plasterboard to provide for maximum flexibility in future floor layout.

## **MATERIALS AND FINISHES**

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

## **MECHANICAL SERVICES**

64. New facilities will generally be air-conditioned and the selection of building services and associated equipment would be required to achieve an economic balance between capital cost and operation and maintenance costs. Selection would be based upon a life cycle costing analysis and particular consideration would be given to energy efficient design solutions employing passive solar energy. New facilities would incorporate building management systems, metering and other provisions to measure and monitor energy use and to allow regular energy audits where practicable. Mechanical plant would incorporate a modular system to ensure flexibility.

## **HYDRAULIC SERVICES**

65. New facilities will be connected to the upgraded water and sewage infrastructure being constructed as part of RAAF Base Amberley Stage 2 project within RAAF Base Amberley.

## **ELECTRICAL SERVICES**

66. 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 any future growth or demand. Fire detection systems, indication panels, emergency and exit lighting will be provided to suit the existing site systems.

## **CIVIL WORKS**

67. None of the proposed sites for new facilities present any particular civil engineering problem, but each will be the subject of further survey and geotechnical investigation during the design phase. The foundation design will take into account the highly reactive soils and weather conditions encountered in the Amberley area.

## **ACOUSTICS**

68. Airbases are particularly noisy environments, especially near the aircraft flight line. In these areas, building sound attenuation will be provided through construction techniques and materials and will generally be supplemented by personal aural protection when personnel are outside. Sound attenuation is particularly important in classrooms and working accommodation and specific levels, as specified within Australian Standards, will be met.

69. The steady noise level in an occupied room generated by all components of the air conditioning and ventilation plant shall not exceed the maximum levels recommended by Australian Standard 2107. Short term noise intrusion into occupied spaces from occasional but regular sources shall not exceed a noise level 5 dB below the maximum level recommended in Australian Standard 2107 for the particular area. Vibration isolation of mechanical plant and equipment will limit vibration levels in the building to comply with the recommended vibration levels as set out in Australian Standard 2670.2 and Australian Standard 2763 and any additional Defence requirements.

70. The external building fabric will restrict noise transmission ingress as per the relevant Australian Standards with respect to aircraft noise, road traffic noise and externally located building services plant.

### **WATER AND ENERGY CONSERVATION MEASURES**

71. The Commonwealth is committed to Ecologically Sustainable Development (ESD) 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 ESD. This project has addressed this policy by adopting cost effective ESD, as a key objective in the design development and delivery of new facilities.

72. 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 I2 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.

73. 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.

74. . In addition, the new Headquarters Combat Support Group building will comply with the minimum energy performance standards in the EEGO policy.

75. For those office buildings that have a floor area of greater than 2000 m<sup>2</sup>, and that comprise less than 100% of the total building area, which includes the new Headquarters Combat Support Group, the whole building will target 4.5 stars ABGR and separate digital on market status metering will be installed. An energy management plan will be developed for implementation by Defence. Where available, fit for purpose and cost-effective appliances will be US EPA 'Energy Star' compliant with power management features enabled at the time of supply.

76. For all other 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 US EPA 'Energy Star' compliant with power management features enabled at the time of supply.

77. 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 possible;
- 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.

78. Efficient water use is a key aspect of the design. Key water saving measures will include:

- a. all tapware and fittings compliant with the Water Efficiency Labelling Standards (WELS) 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 all roof areas complete with storage tanks and pressure pumping to supply localised landscaping, wash down areas and toilet flushing.

79. The Australian Greenhouse Office, in the Department of the Environment and Water Resources, has been consulted with respect to these energy efficiency requirements.

### **MASTER PLANNING & FUTURE DEVELOPMENT**

80. Each of the project elements will be constructed on sites consistent with the RAAF Base Amberley Zone and Precinct Plan. Relocating non-essential services, such the Maintenance Equipment and Operations Maintenance Section, living-in accommodation, dental services and Headquarters Combat Support Group will clear valuable flight-line space for future development in accordance with the RAAF Base Amberley Zone and Precinct Plan.

81. Siting of the works has considered, and does not affect the proposed site for the C-17 Infrastructure at RAAF Base Amberley.

### **PROVISIONS FOR PEOPLE WITH DISABILITIES**

82. Access and facilities for the disabled will be provided in accordance with the Defence Infrastructure Management requirements for Disabled Access and Other Facilities for Disabled Persons, the Building Code of Australia and relevant Australian Standards.

### **HERITAGE ISSUES**

83. Defence commissioned a heritage assessment during the initial planning of the redevelopment project. This assessment concluded that referral under the *Environmental Protection Biodiversity Conservation Act 1999* is not required.

### **CHILDCARE PROVISIONS**

84. No additional childcare facilities are being provided under this project.

## **FIRE PROTECTION**

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

## **SECURITY**

86. In accordance with Government initiatives to improve physical security arrangements across Government Departments, advice from designated security authorities will be incorporated in the design solutions for the proposed facilities as appropriate. 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. The Passive Defence Augmentation will further strengthen and enhance the physical security of the Base.

87. Security protection will be provided in accordance with the Defence Security Manual. This requires high levels of base physical security including full wire enclosures / compounds, remote sensor systems and security guards, including dogs. The physical security of aircraft and uninstalled sub-systems (software and hardware) also has facilities implications, including the requirements for armouries and secure storage and maintenance areas.

## **OCCUPATIONAL HEALTH AND SAFETY**

88. The proposed facilities will comply with the requirements of the Occupational Health and Safety Act 1991, the Department of Defence Occupational Health and Safety Manual and relevant Queensland Government Occupational Health and Safety legislation and operate in accordance with an approved Occupational Health and Safety Plan.

89. 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.

## **LANDSCAPING**

90. Landscaping works would be directed toward the restoration of areas disturbed during construction and general improvement of the built environment. Precautions would be taken to avoid compromising existing environmental sensitivities by adopting landscaping practices in keeping with local environmental conditions.

91. To reduce water consumption, native type vegetation will be planted which are more robust to

dryer climatic conditions, with lower water requirements. Irrigation controllers, such as rainwater sensors and moisture detectors may be installed. Irrigation timers will be included to ensure over watering does not occur, and also limiting watering to evening periods of low evaporation rates.

### **COMMUNITY IMPACT**

92. Defence is expanding the capacity and level of military activity at RAAF Base Amberley. These developments and the associated modification to the Base perimeter fencing will bring the site of the Amberley State School inside the medium security perimeter of the Base. The site will no longer be an appropriate location for a school. The closure of the school may have an impact on local families with children at the school. The relocation of the school or redistribution of the students to other schools in the area is a decision for the Queensland Minister for Education and Training. Defence is working with the Queensland Department of Education, Training and the Arts. No long term adverse impacts are expected once students are relocated, or a new school is constructed.

### **PROJECT COSTS**

93. The estimated out-turn cost of this project is \$331.5 million (excluding GST). This cost estimate includes the construction costs, management and design fees, furniture, fittings and equipment, contingencies and an escalation allowance.

94. A modest increase in net operating costs is expected due to the construction of the new facilities and the associated increases in facilities maintenance, cleaning and utilities expenses. This increase will be partially offset by the rationalisation of the base messing arrangements.

95. No revenue will be derived from this proposal.

### **PROJECT DELIVERY SYSTEM**

96. The proposed delivery system is by a series of Head Contracts. This project delivery system has been selected on the basis of the scope, the risk of disruption base activities, the value of the works and any interdependencies with other concurrent projects. A single Project Manager has been engaged to represent Defence, co-ordinate the works and act as Contract Administrator.

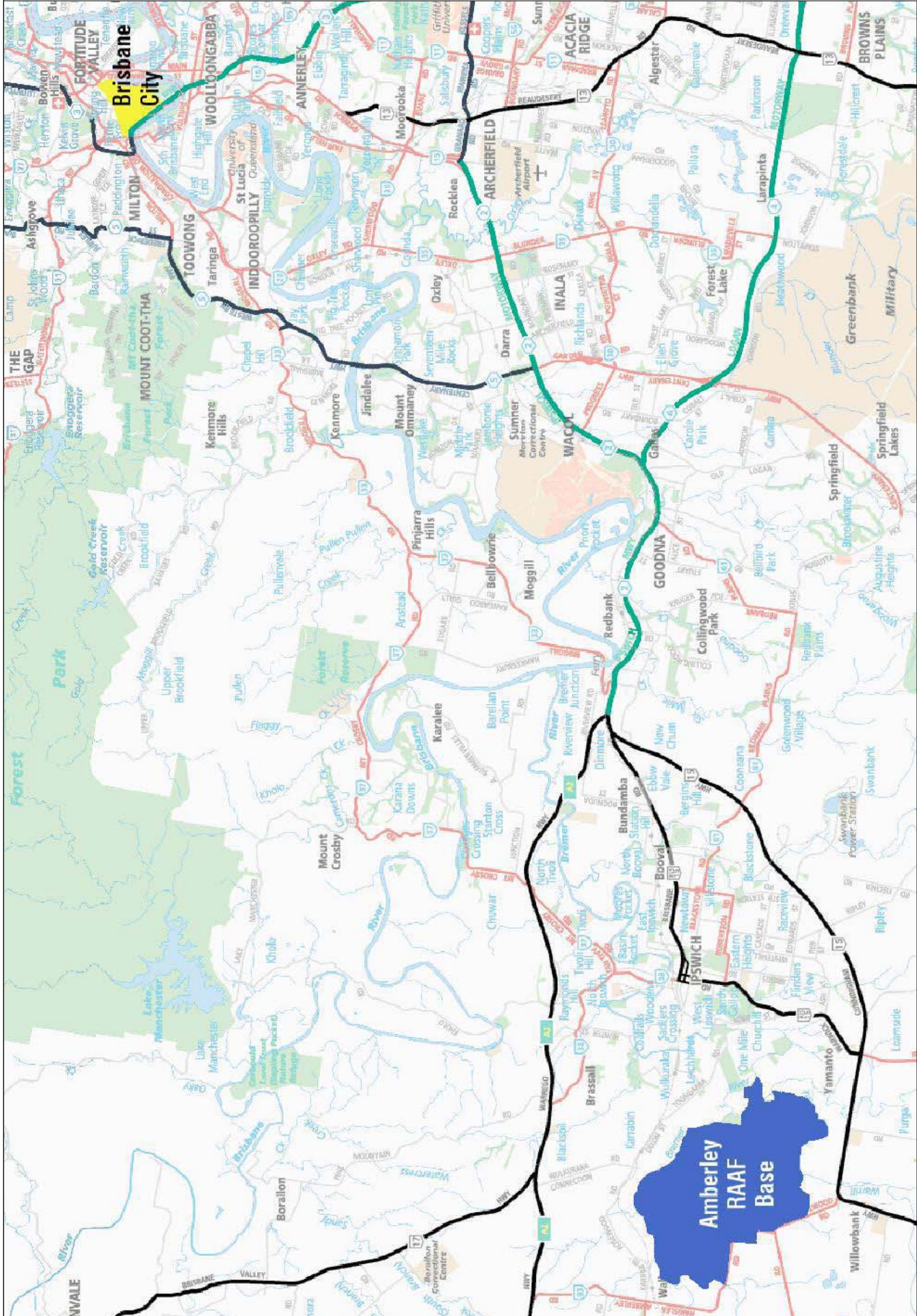
### **PROJECT SCHEDULE**

97. Subject to Parliamentary clearance of the project, construction of the first elements is expected to commence in early 2008. All major works are expected to be complete by late 2011.

## ATTACHMENTS

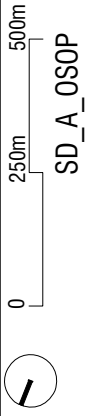
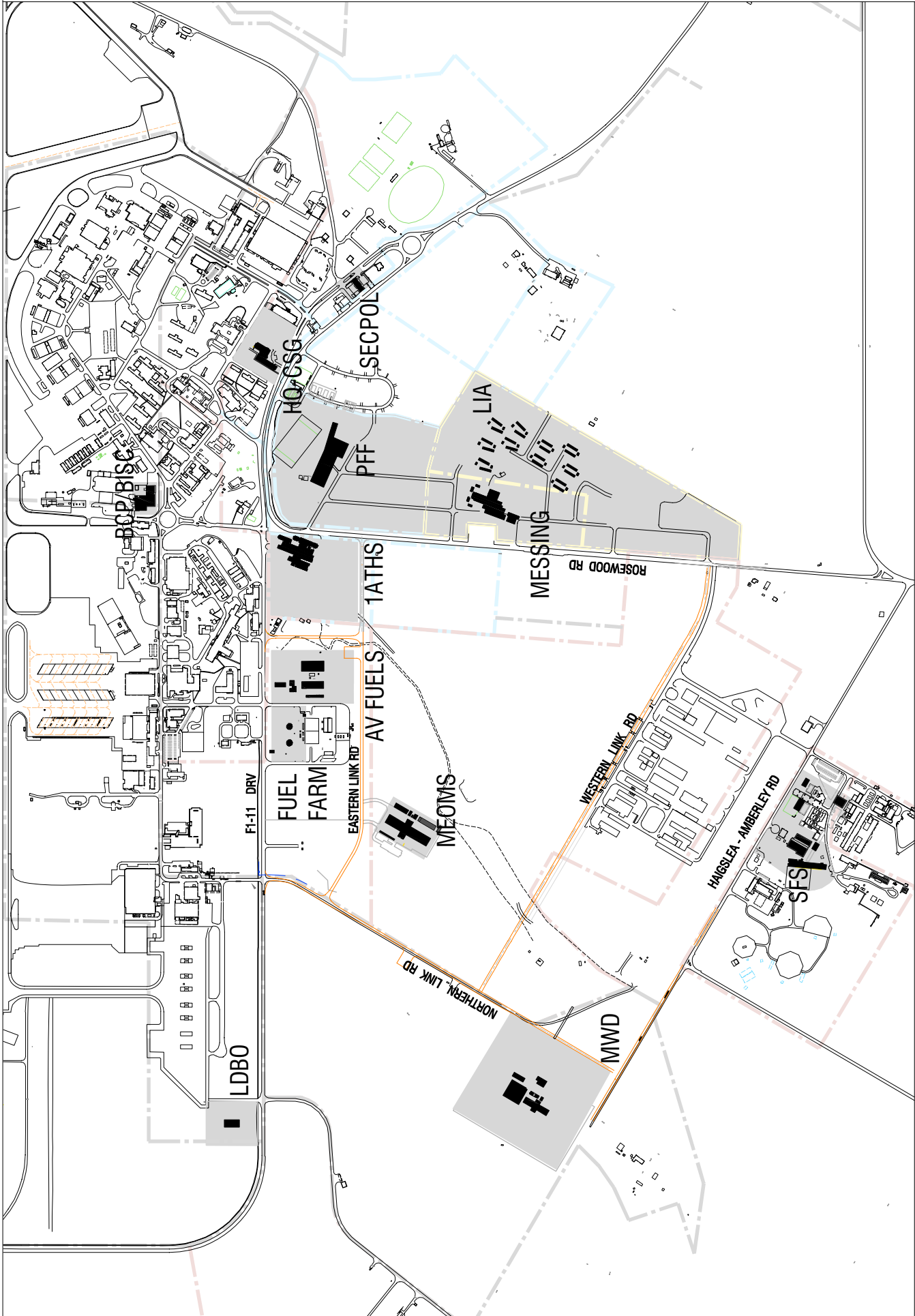
- Attachment 1: RAAF Base Amberley Location Plan
- Attachment 2: RAAF Base Amberley Site Plan
- Attachment 3: Level 3 Trainee Living In Accommodation Site Plan
- Attachment 4: Level 3 Trainee Living In Accommodation Ground Floor Plan
- Attachment 5: Level 3 Trainee Living In Accommodation First Floor Plan
- Attachment 6: Combined Messing Facility Site Plan
- Attachment 7: Combined Messing Facility Floor Plan
- Attachment 8: Physical Fitness Centre Site Plan
- Attachment 9: Physical Fitness Centre Floor Plan
- Attachment 10: Fuel Farm Facilities Site Plan
- Attachment 11: Liquid Dry Breathing Oxygen Compound Site Plan
- Attachment 12: Headquarters Combat Support Group Ground Floor Plan
- Attachment 13: Headquarters Combat Support Group First Floor Plan
- Attachment 14: No. 1 Air Transportable Health Squadron and Dental Section Floor Plan
- Attachment 15: Base Information Systems Centre and Base Command Post Floor Plan
- Attachment 16: RAAF Security and Fire School Site Plan
- Attachment 17: RAAF Security and Fire School Warehouse, Ground Defence Training Flight and Security and Fire School Headquarters Site Plan
- Attachment 18: RAAF Security and Fire School Working Accommodation Building Floor Plan
- Attachment 19: RAAF Security and Fire School Specialist Physical Training Facility and Auditorium Floor Plan
- Attachment 20: Mechanical Equipment and Operational Maintenance Section Floor Plan
- Attachment 21: Aviation Fuels Section Site Plan
- Attachment 22: Military Working Dogs Site Plan
- Attachment 23: RAAF Security Police Floor Plan





RAAF Base Amberley Redevelopment Stage 3  
Amberley Location Plan

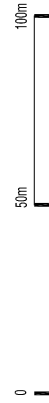




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RAAF BASE AMBERLEY REDEVELOPMENT STAGE 3  
OVERALL SITE PLAN





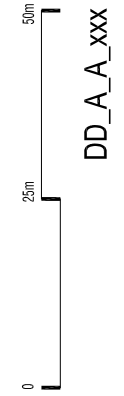
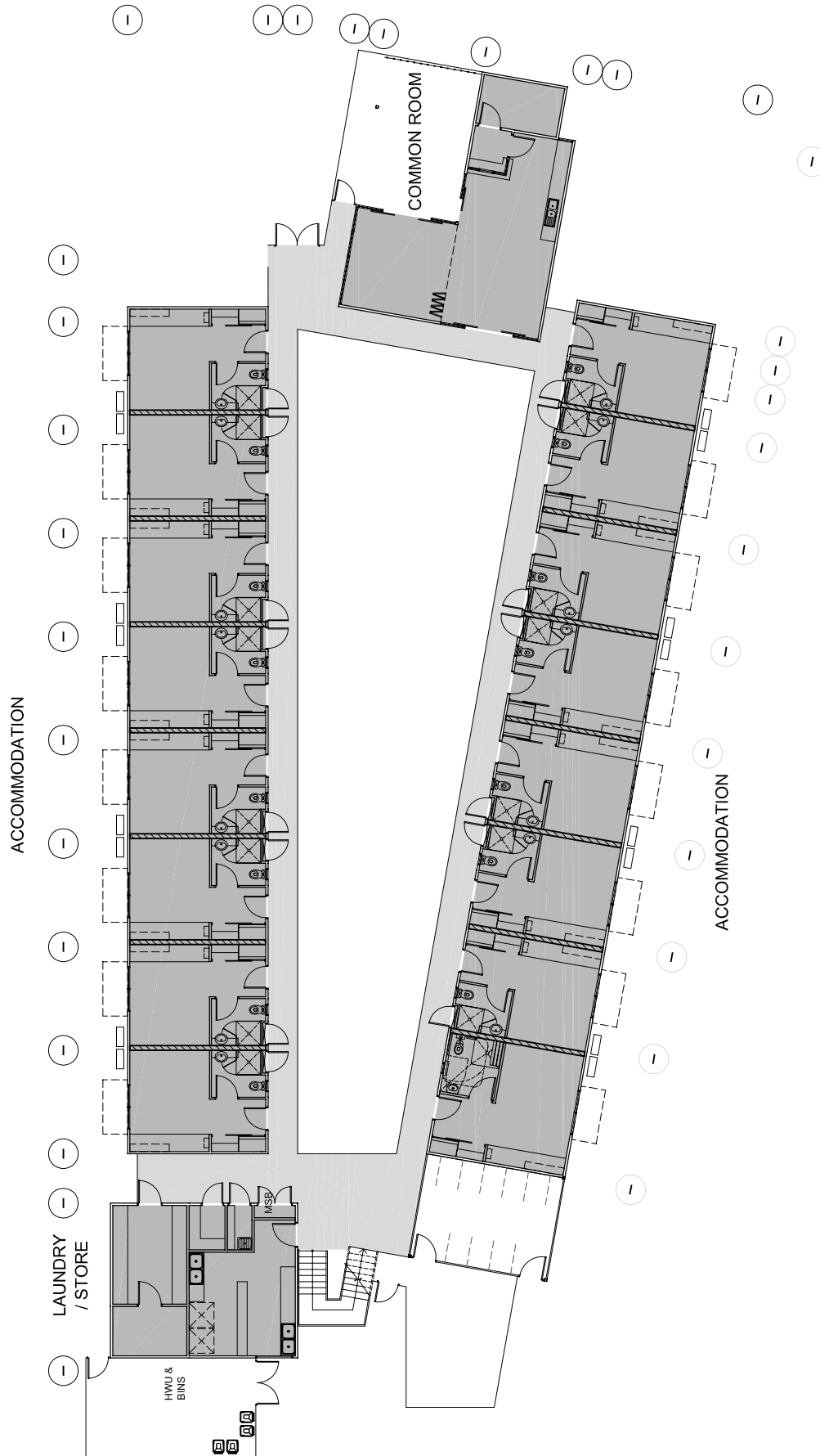
**CONRAD  
GARGETT**  
ARCHITECTURE

**RAAF BASE AMBERLEY REDEVELOPMENT STAGE 3  
LIVING IN ACCOMMODATION  
SITE PLAN**

**TTCNG**  
PROJECTS

Australian Government  
Department of Defence  
Air Force Safety Centre  
Infrastructure Group

DD\_A\_A\_XXX



RAAF BASE AMBERLEY REDEVELOPMENT STAGE 3  
LIVING IN ACCOMMODATION  
GROUND FLOOR PLAN





ACCOMMODATION

LAUNDRY / STORE

COMMON ROOM

ACCOMMODATION

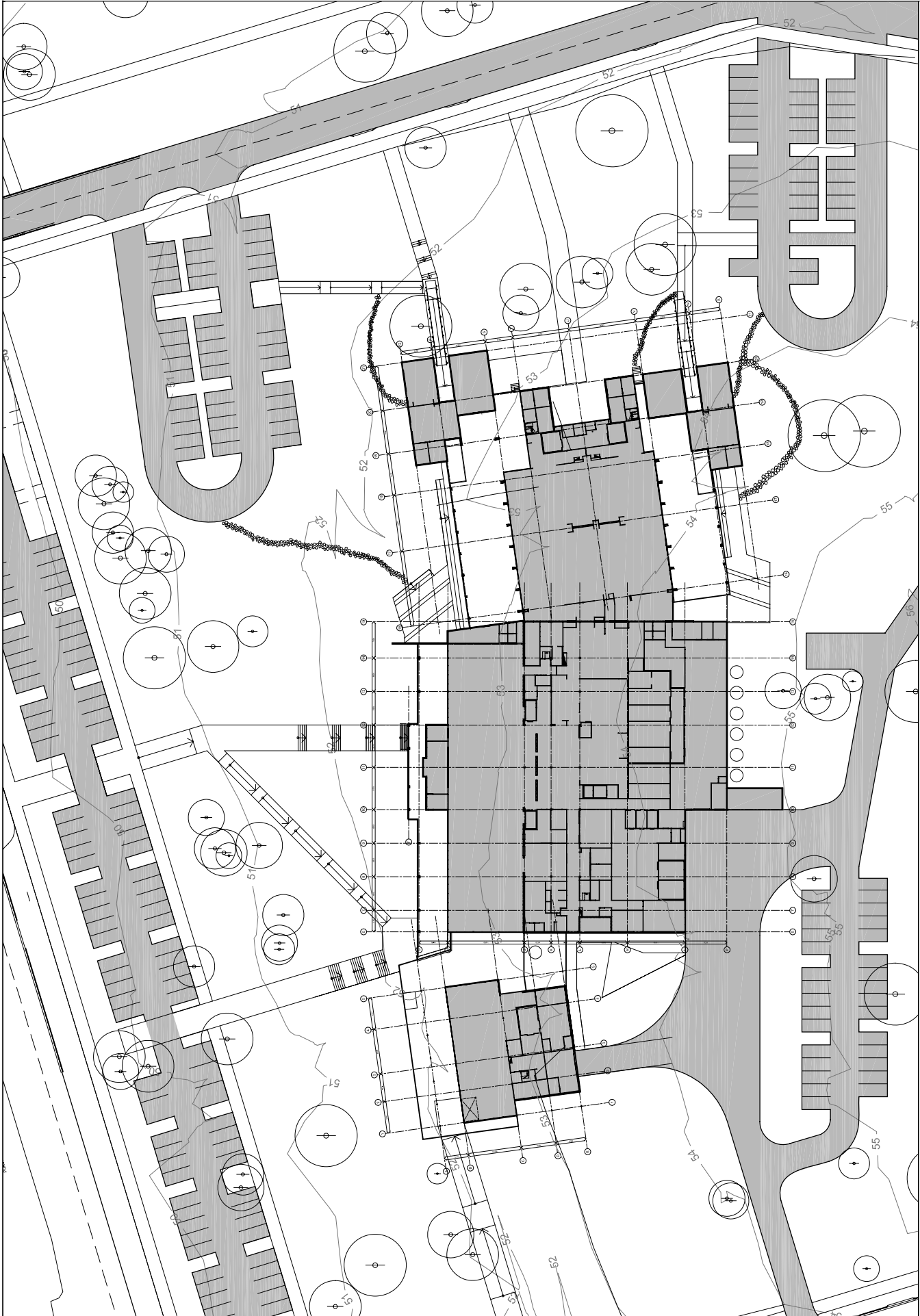


RAAF BASE AMBERLEY REDEVELOPMENT STAGE 3  
 LIVING IN ACCOMMODATION  
 FIRST FLOOR PLAN



DD\_B\_A\_XXX





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25m

50m

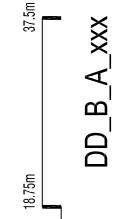
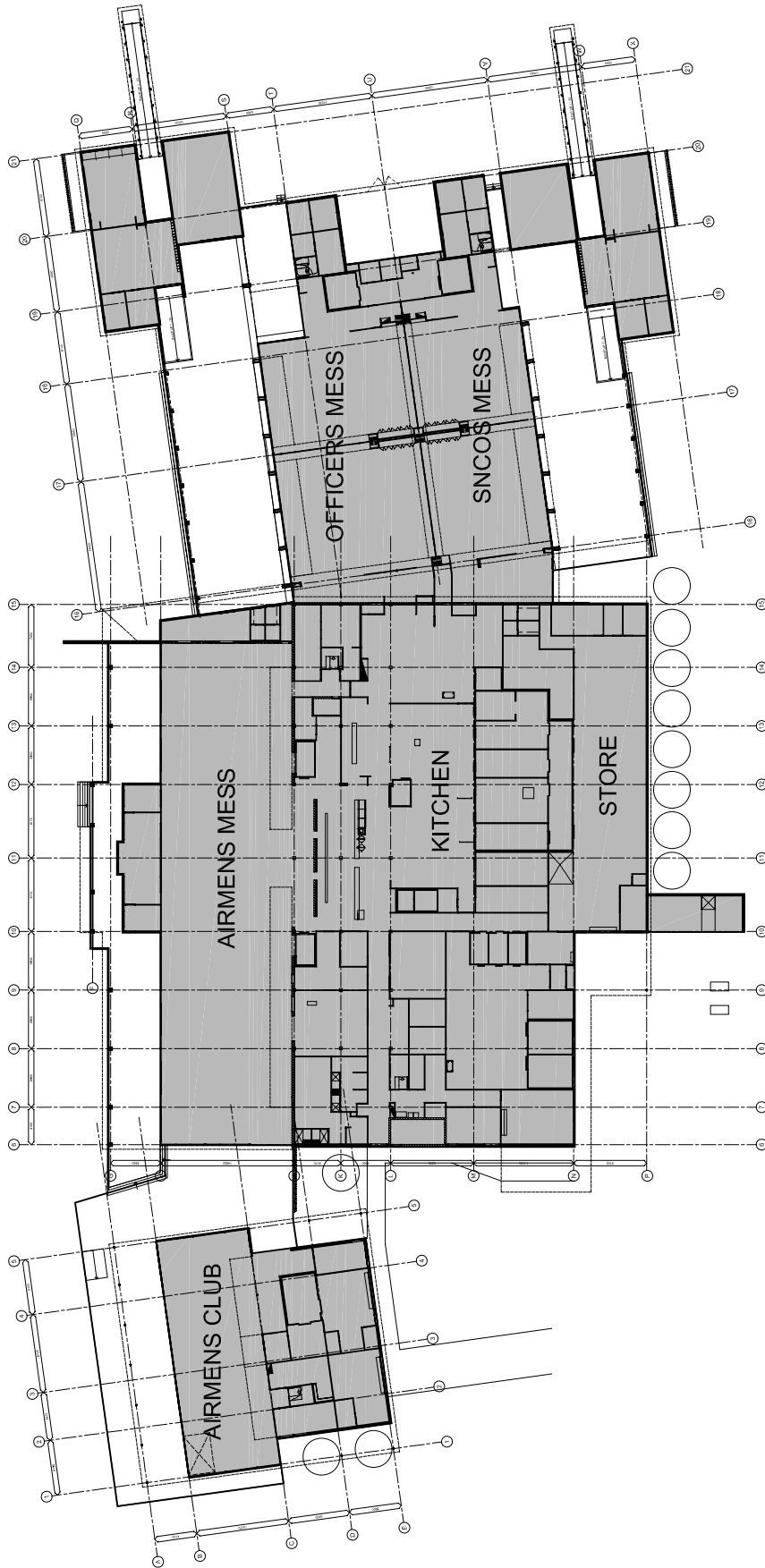


**CONRAD  
GARGETT**  
ARCHITECTURE

RAAF BASE AMBERLEY REDEVELOPMENT STAGE 3  
COMBINED MESSING FACILITY  
SITE PLAN

**TTCNG**  
PROJECTS

Australian Government  
Department of Defence  
Infrastructure Services &  
Infrastructure Group



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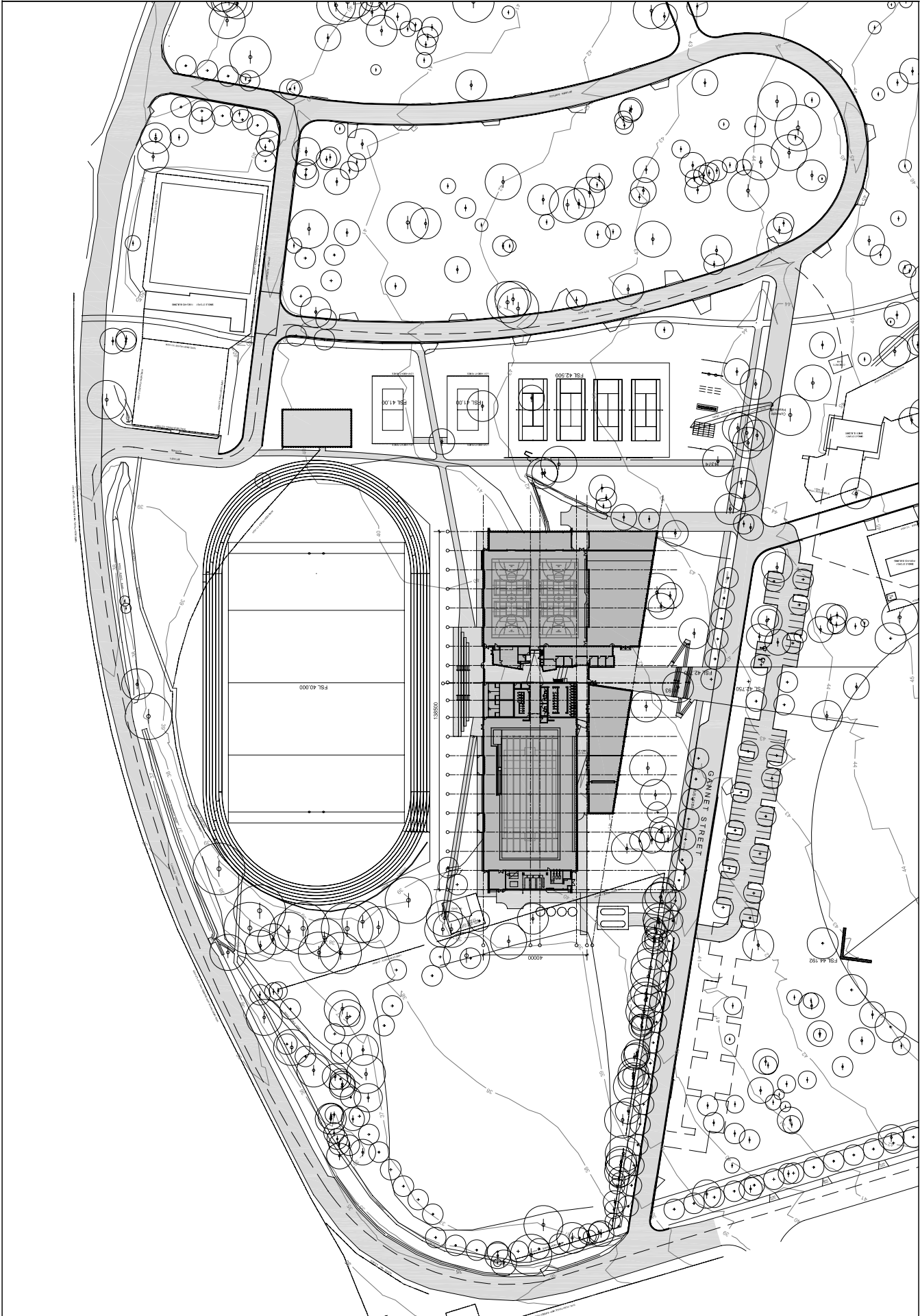


**CONRAD  
GARGETT**  
ARCHITECTURE

RAAF BASE AMBERLEY REDEVELOPMENT STAGE 3  
COMBINED MESSING FACILITY  
FLOOR PLAN

**TPTING**  
PROJECTS

Australian Government  
Department of Defence  
Infrastructure Services  
Infrastructure Group



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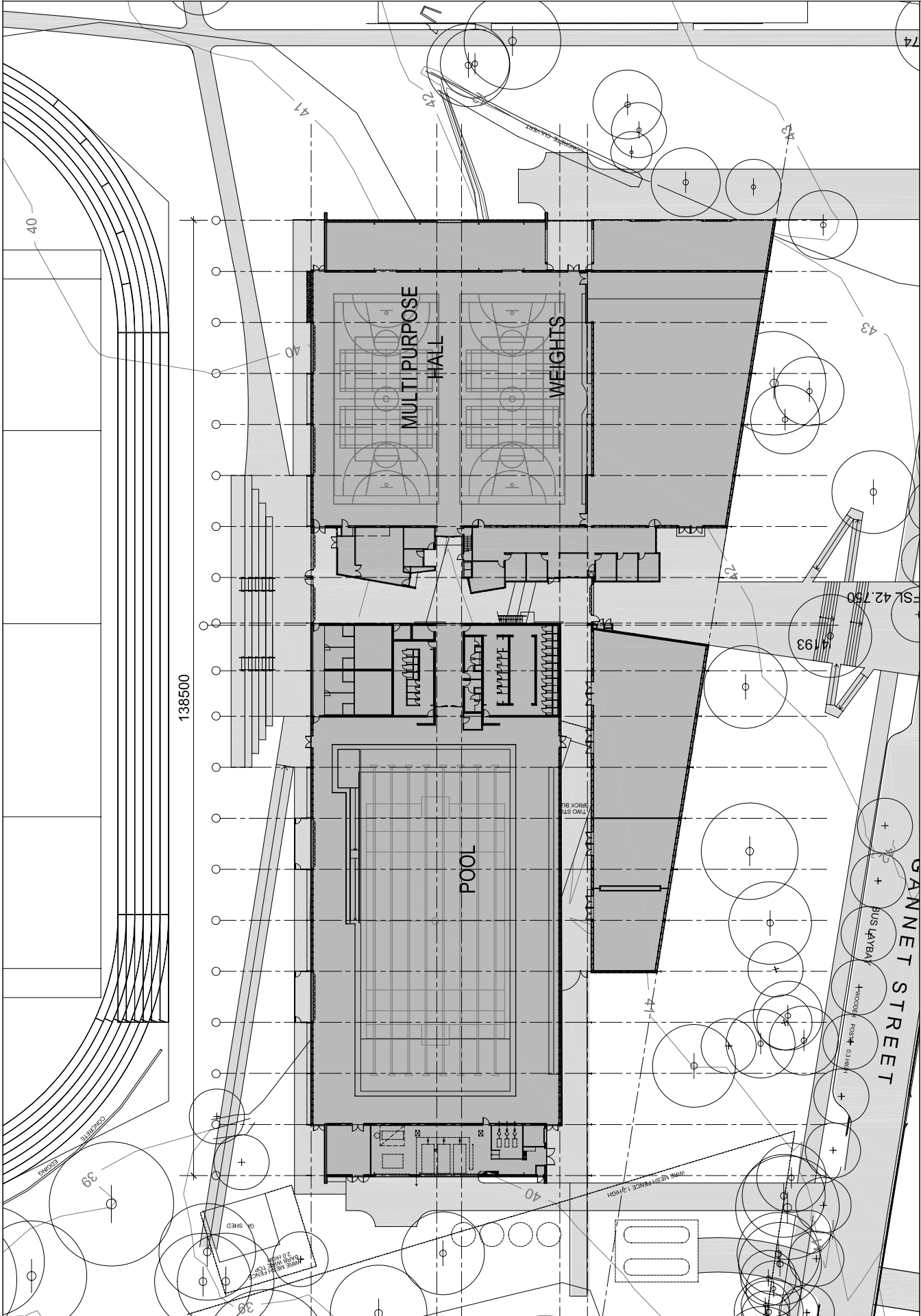
**CONRAD  
GARGETT**  
ARCHITECTURE

RAAF BASE AMBERLEY REDEVELOPMENT STAGE 3  
PHYSICAL FITNESS COMPLEX  
SITE PLAN

**TTC**  
PROJECTS

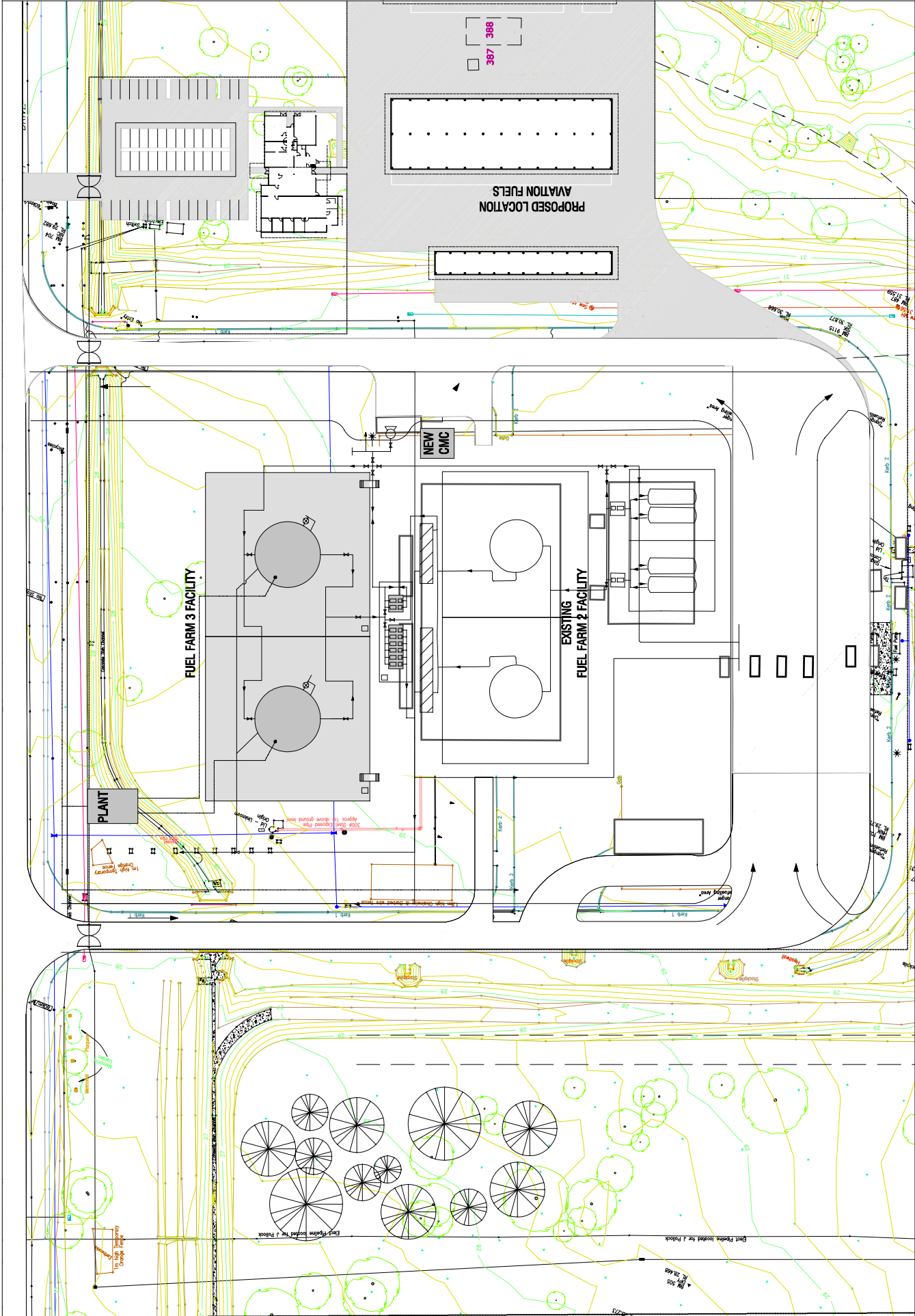
Australian Government  
Department of Defence  
Infrastructure Group





RAAF BASE AMBERLEY REDEVELOPMENT STAGE 3  
 PHYSICAL FITNESS COMPLEX  
 FLOOR PLAN



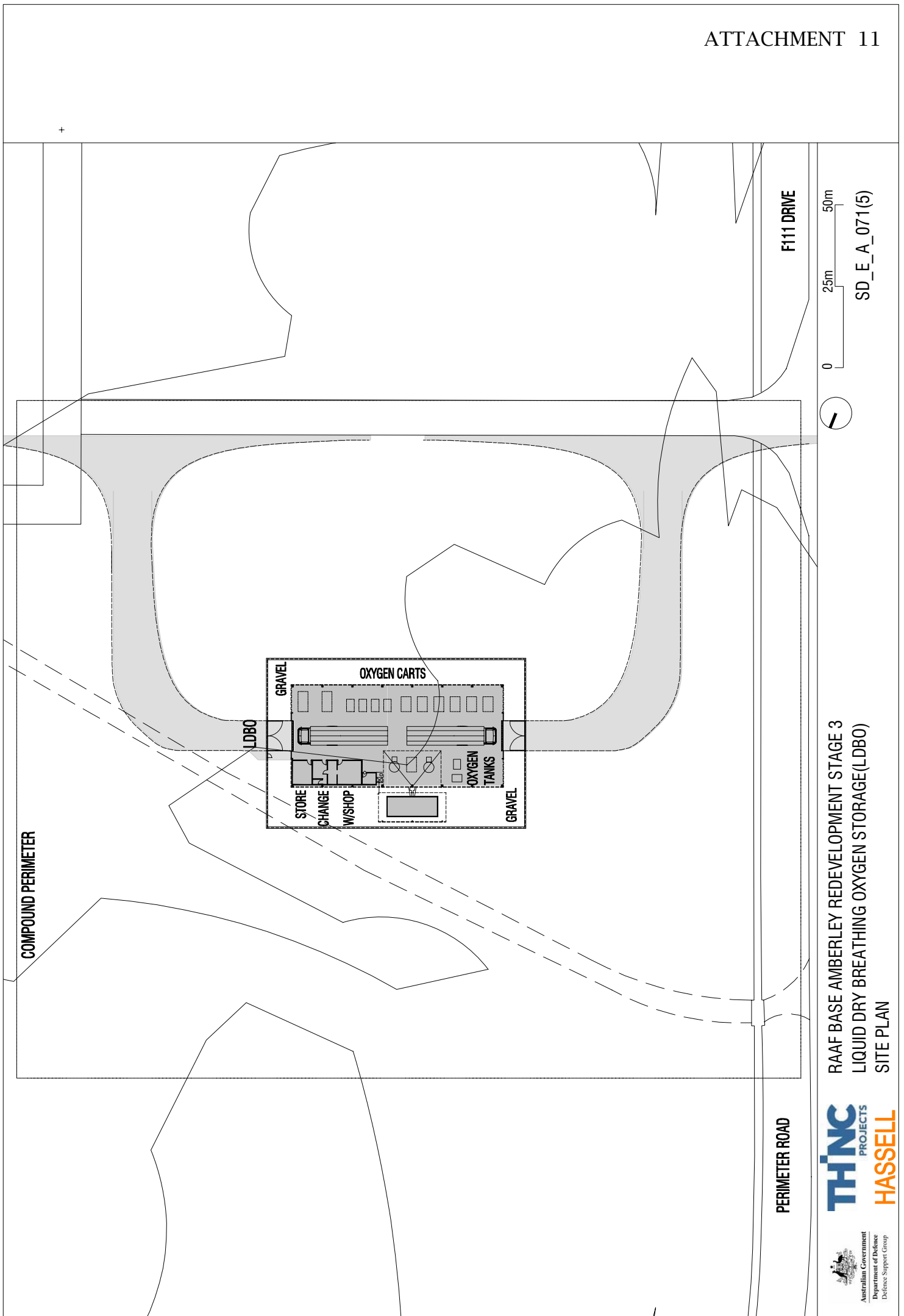


0 25m 50m  
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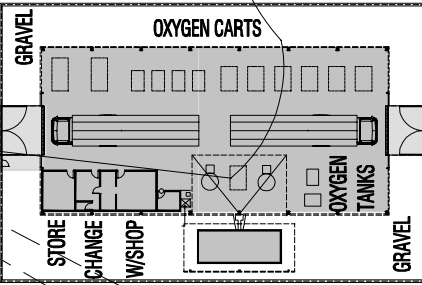
RAAF BASE AMBERLEY REDEVELOPMENT STAGE 3  
FUEL FARM 3  
SITE PLAN





COMPOUND PERIMETER

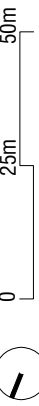
LDBO



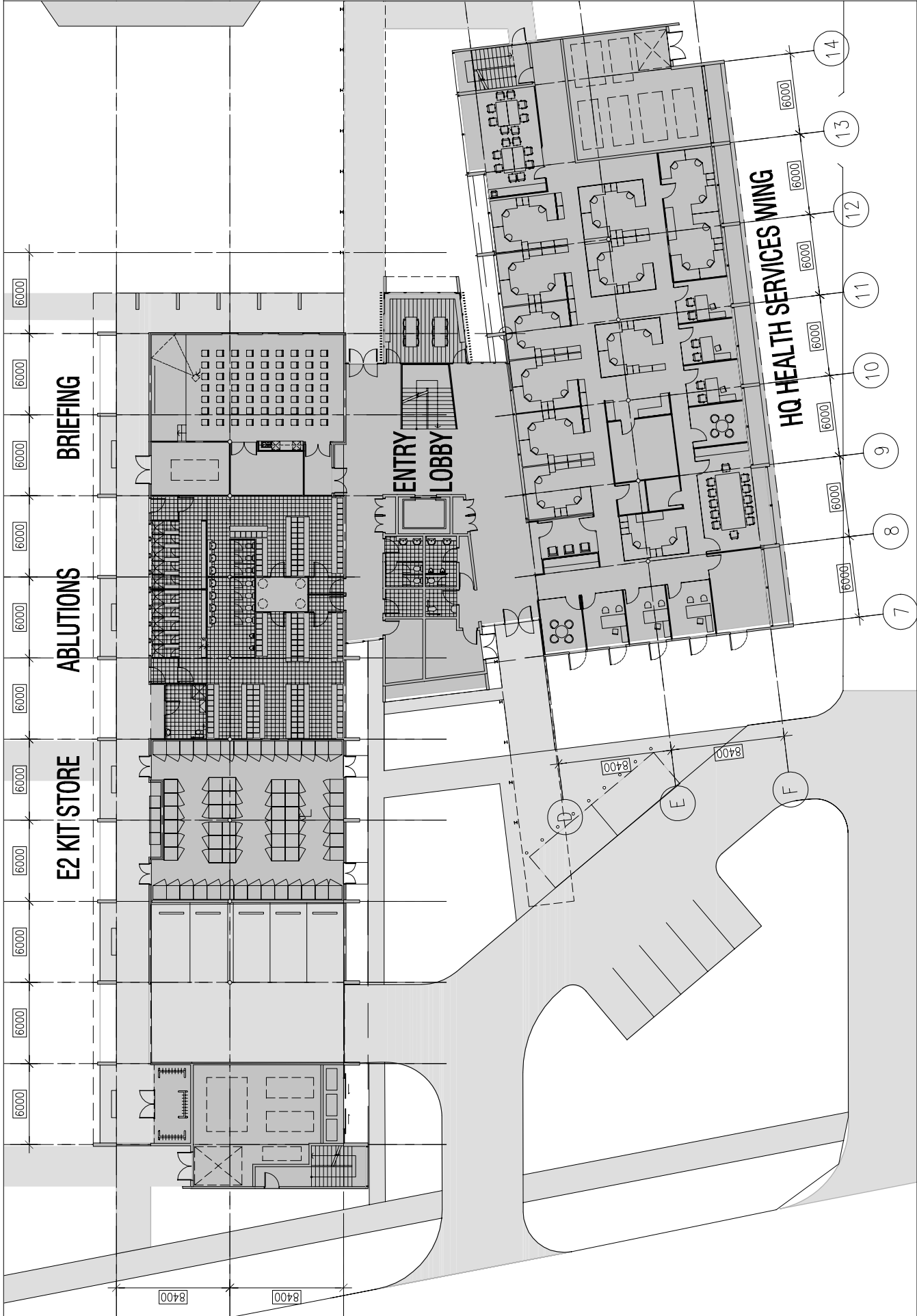
PERIMETER ROAD

F111 DRIVE

RAAF BASE AMBERLEY REDEVELOPMENT STAGE 3  
 LIQUID DRY BREATHING OXYGEN STORAGE (LDBO)  
 SITE PLAN



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RAAF BASE AMBERLEY REDEVELOPMENT STAGE 3  
HEADQUARTERS - COMBAT SUPPORT GROUP (HQCSG)  
GROUND FLOOR PLAN

SD\_F\_A\_082(9)





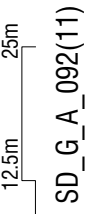
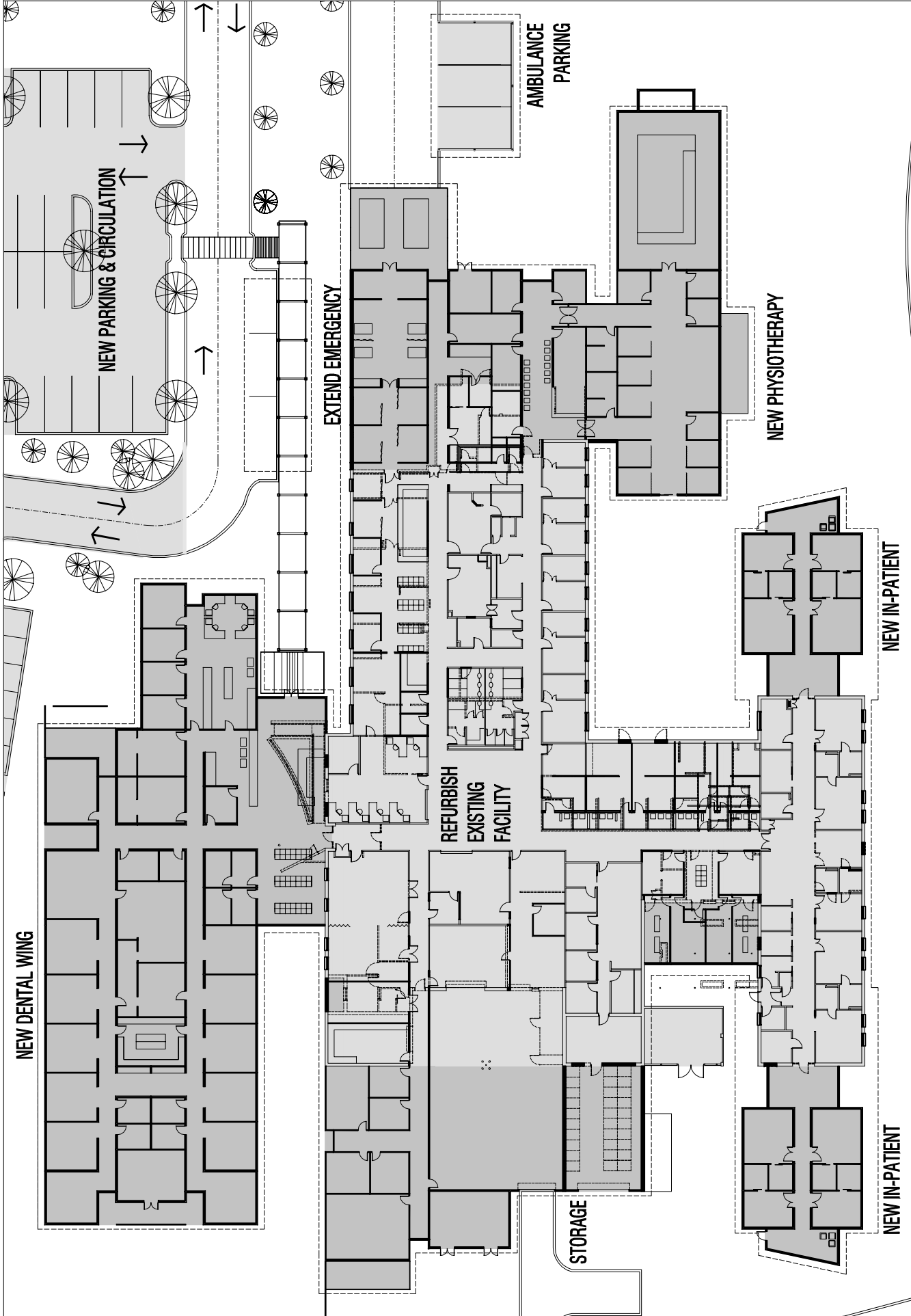
RAAF BASE AMBERLEY REDEVELOPMENT STAGE 3  
 HEADQUARTERS - COMBAT SUPPORT GROUP (HQCSG)  
 FIRST FLOOR PLAN

**THINC**  
 PROJECTS  
**HASSELL**

Australian Government  
 Department of Defence  
 Defence Support Group



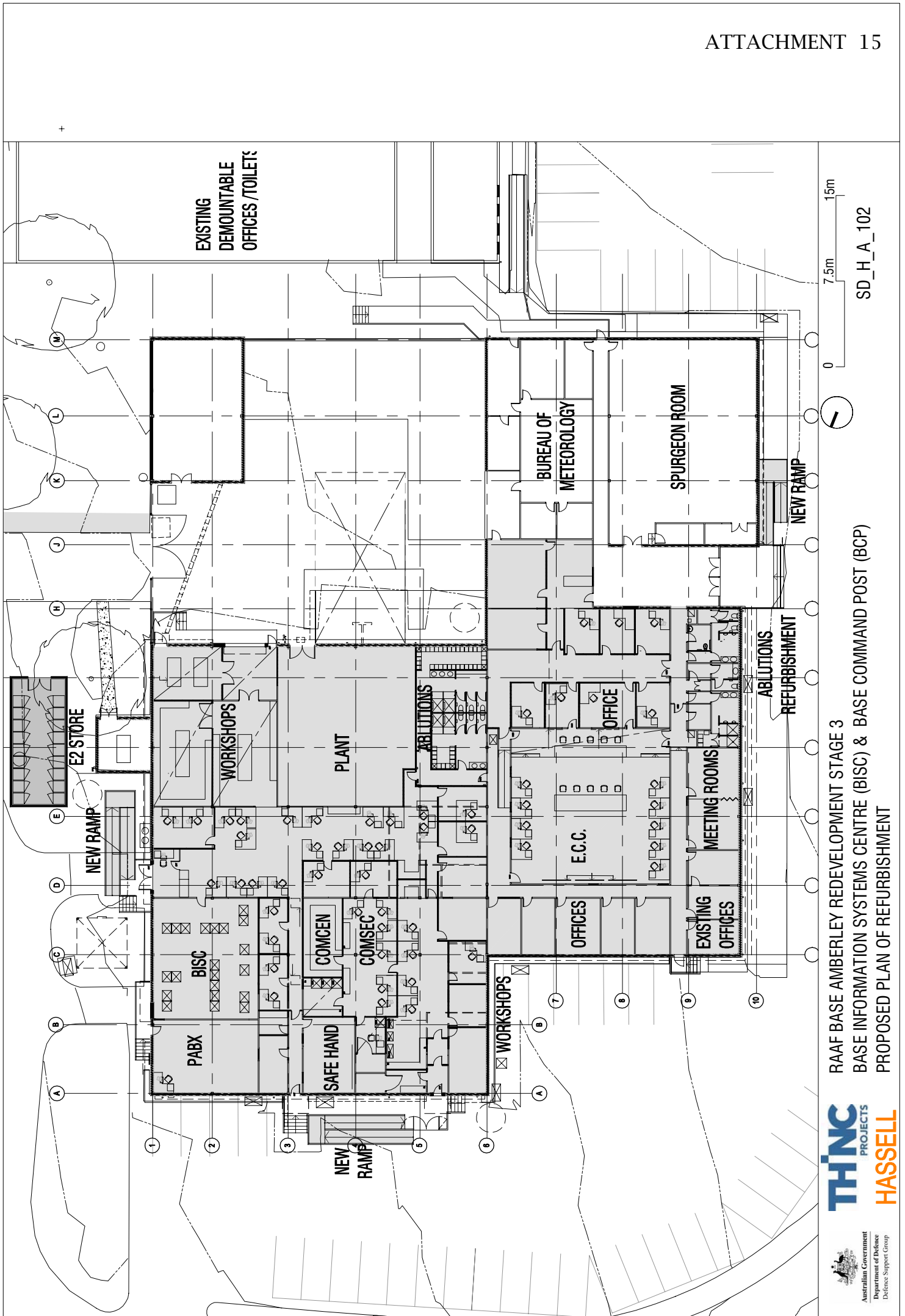
SD\_F\_A\_085(9)



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RAAF BASE AMBERLEY REDEVELOPMENT STAGE 3  
 1 AIR TRANSPORTABLE HEALTH SQUADRON (1ATHS) AND DENTAL SERVICES  
 PROPOSED PLAN

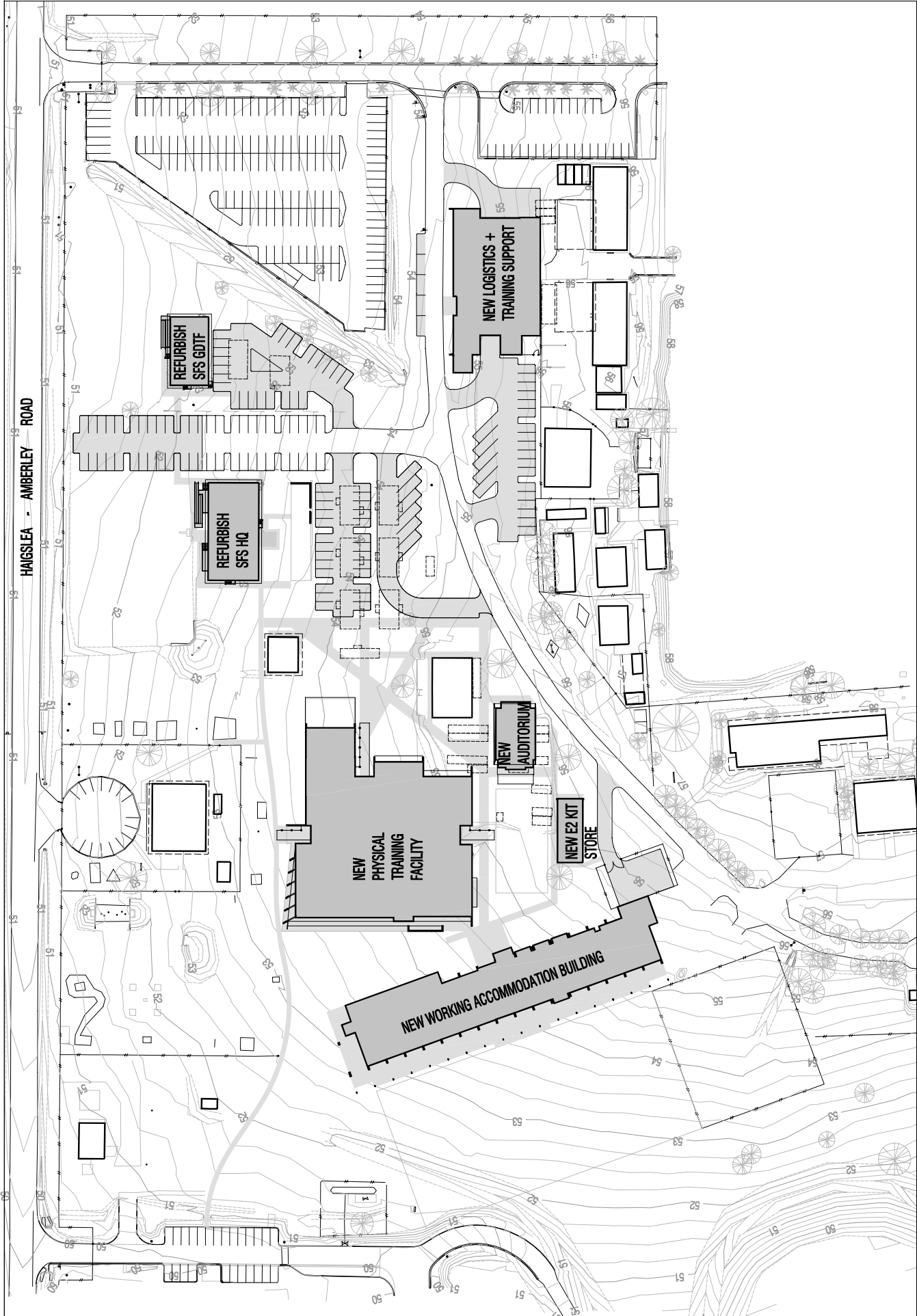




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RAAF BASE AMBERLEY REDEVELOPMENT STAGE 3  
 BASE INFORMATION SYSTEMS CENTRE (BISC) & BASE COMMAND POST (BCP)  
 PROPOSED PLAN OF REFURBISHMENT

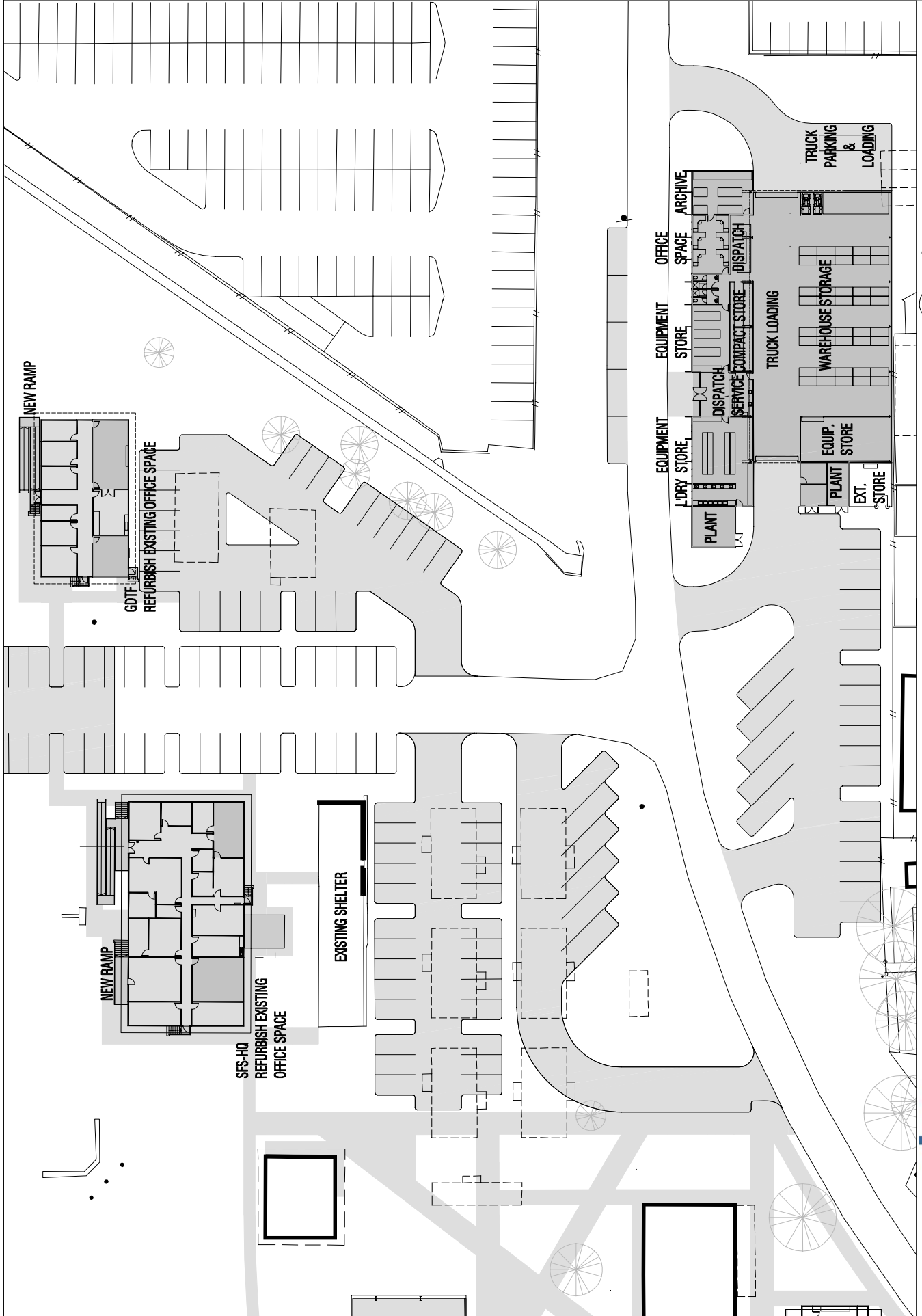




RAAF BASE AMBERLEY REDEVELOPMENT STAGE 3  
 RAAFSFS - SECURITY & FIRE SCHOOL WORKING ACCOMMODATION  
 SITE PLAN



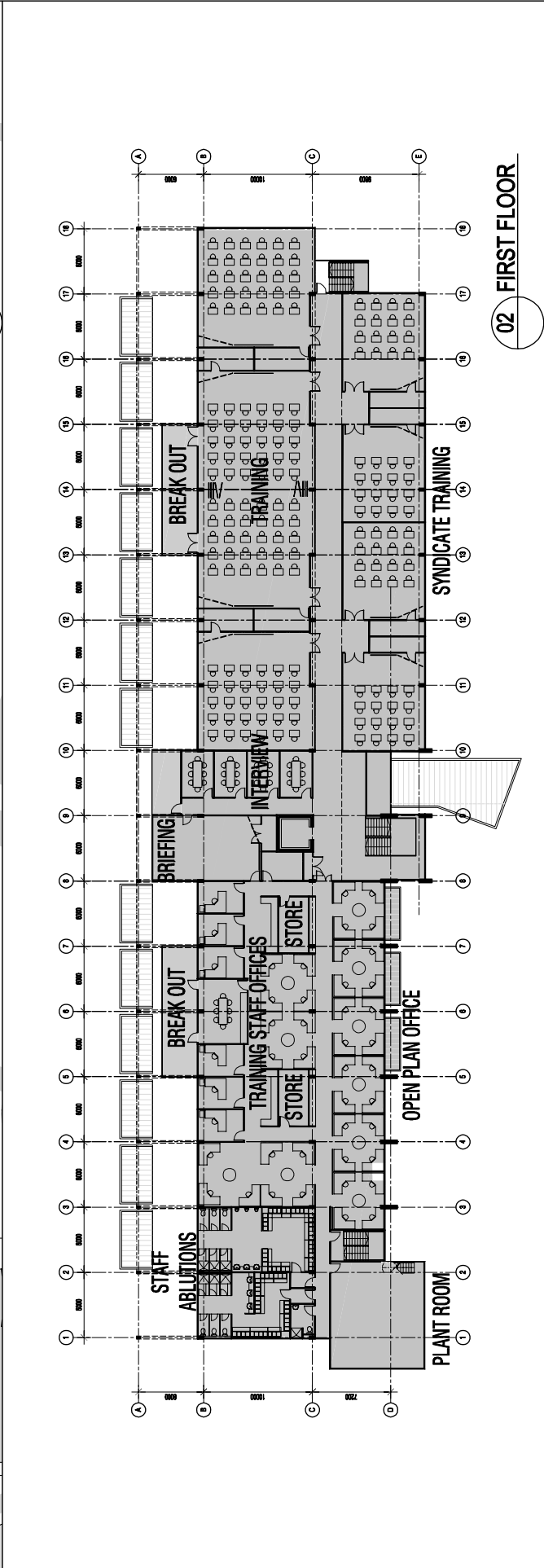
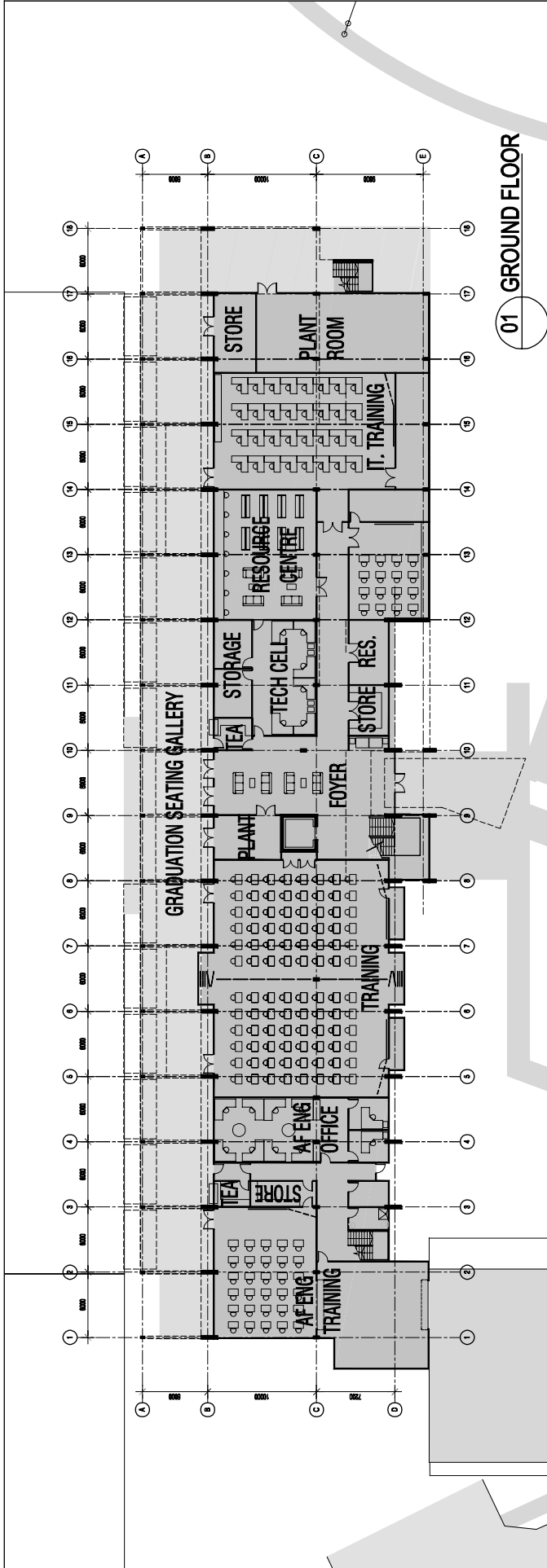




RAAF BASE AMBERLEY REDEVELOPMENT STAGE 3  
 RAAFSFS - SECURITY & FIRE SCHOOL WORKING ACCOMMODATION  
 WAREHOUSE, GROUND DEFENCE TRAINING FLIGHT (GDTF) & SFS HEADQUARTERS (SFS-HQ) PROPOSED PLANS

SD\_I\_A\_PW2



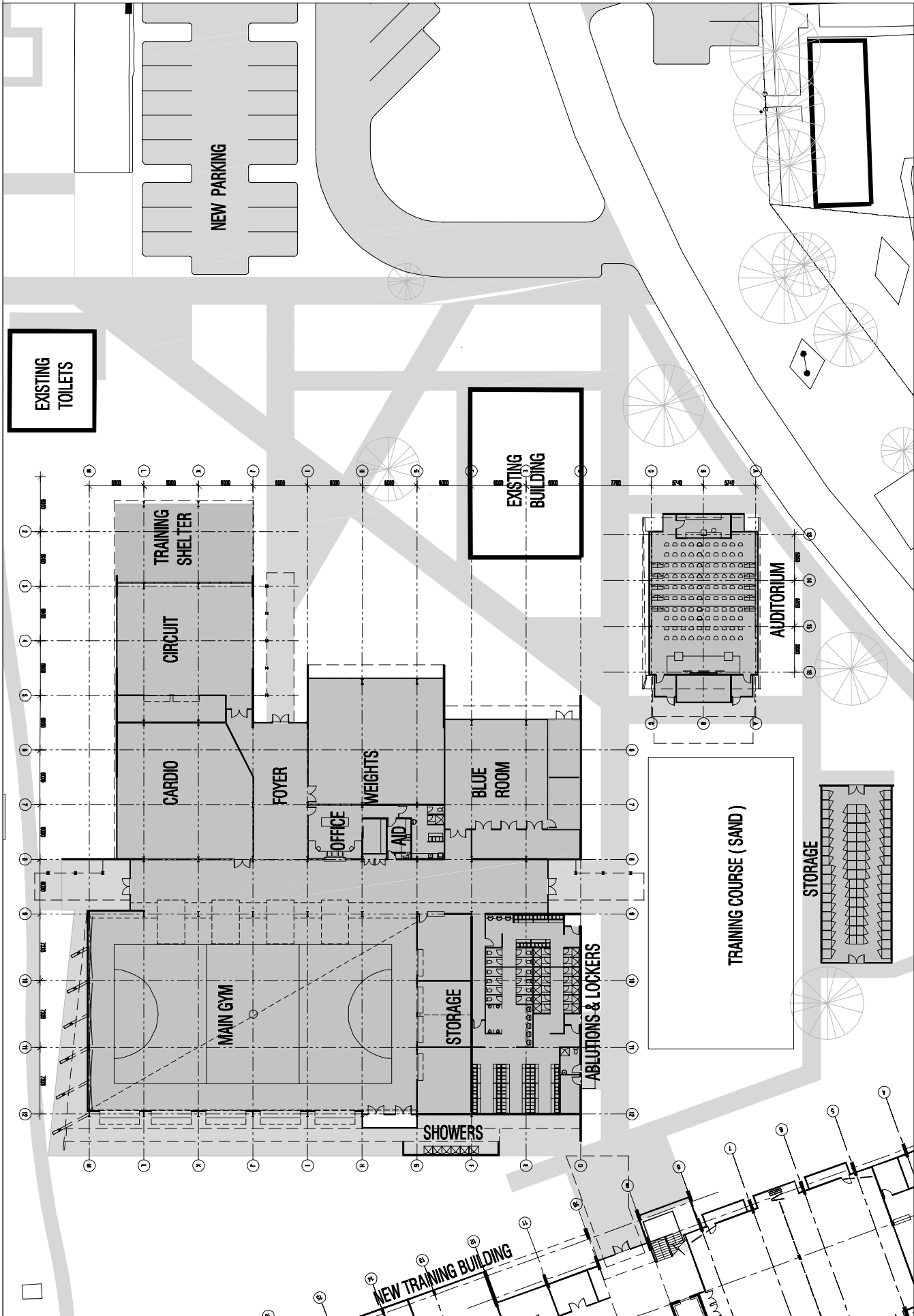


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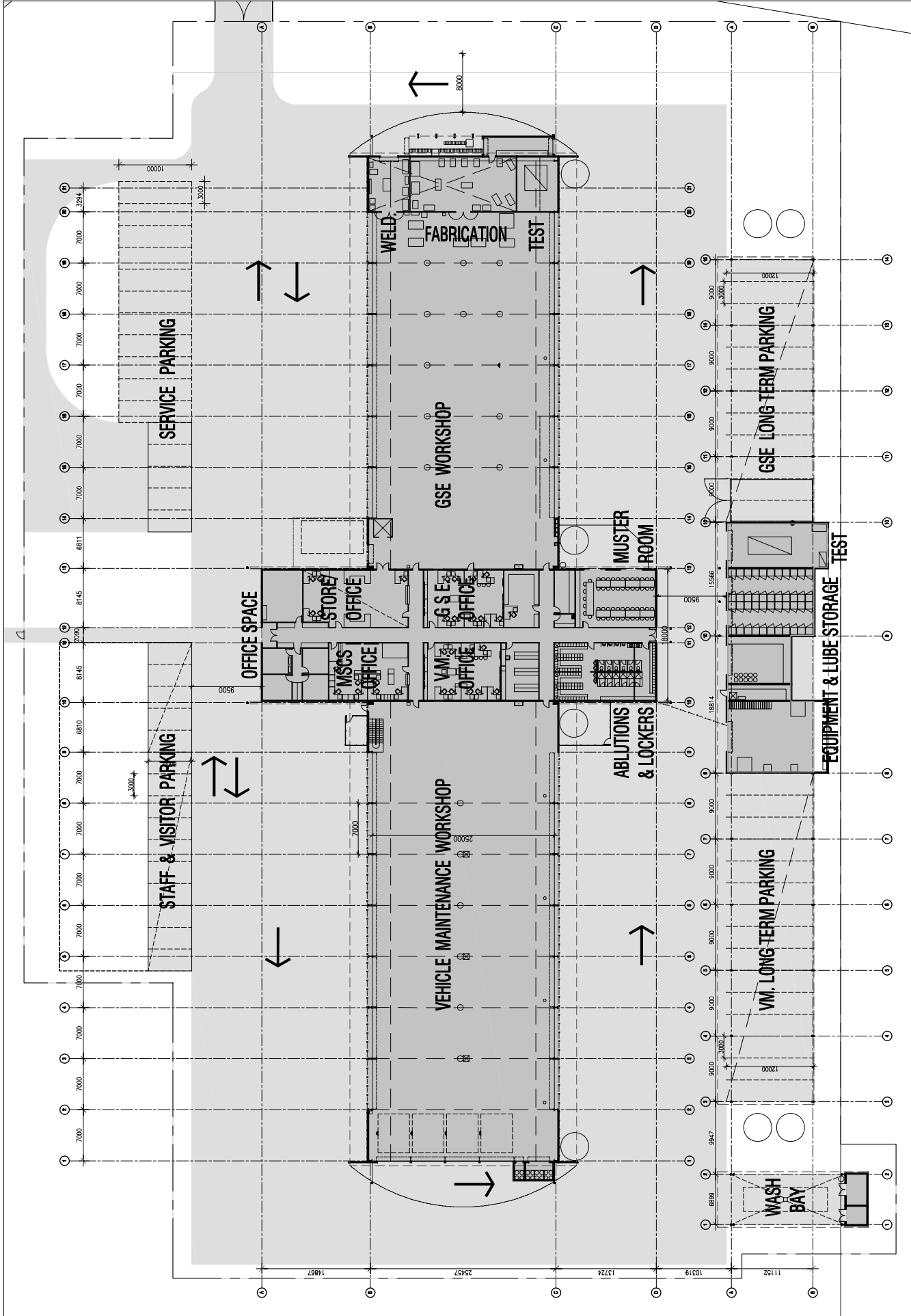


RAAF BASE AMBERLEY REDEVELOPMENT STAGE 3  
 RAAFSFS - SECURITY & FIRE SCHOOL WORKING ACCOMMODATION  
 WORKING ACCOMMODATION BUILDING FLOOR PLANS





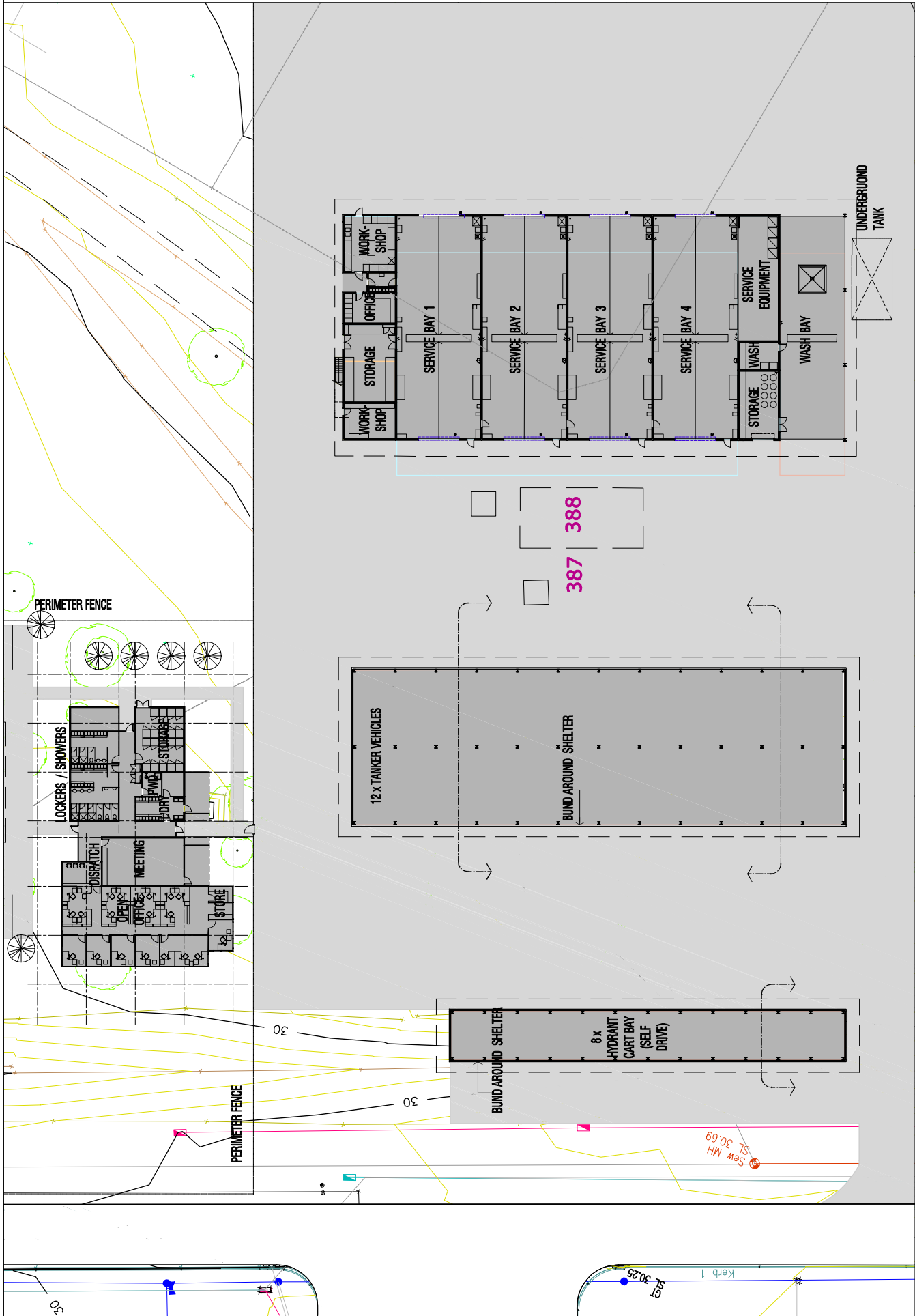
RAAF Security and Fire School - Specialist Physical Training Facility & Auditorium Floor Plan



SD\_J\_A\_122(10)

RAAF BASE AMBERLEY REDEVELOPMENT STAGE 3  
 MECHANICAL EQUIPMENT OPERATIONS & MAINTENANCE SECTION (MEOMS)  
 FLOOR PLAN

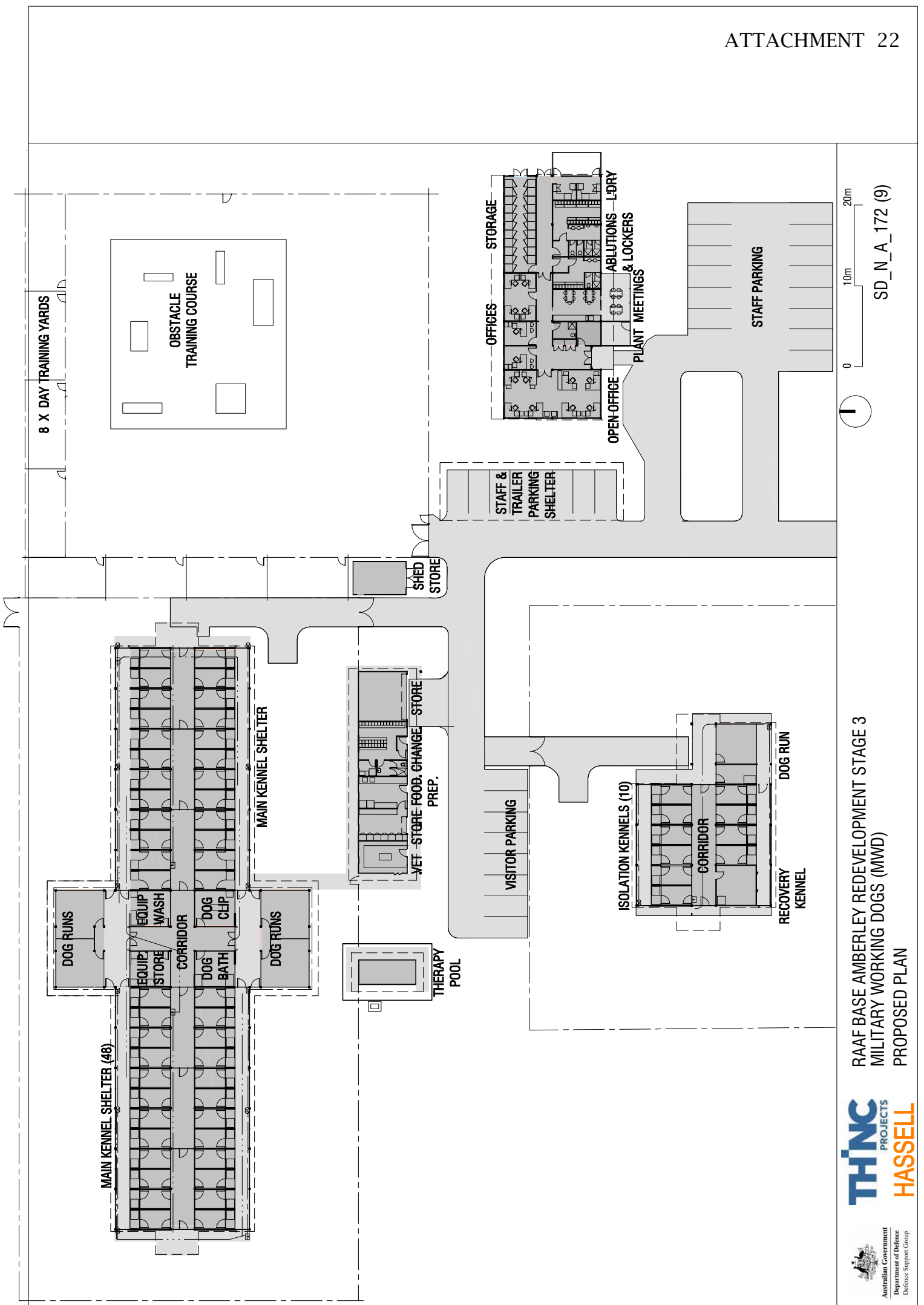




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RAAF BASE AMBERLEY REDEVELOPMENT STAGE 3  
 AVIATION FUELS COMPOUND (AV FUELS)  
 SITE PLAN

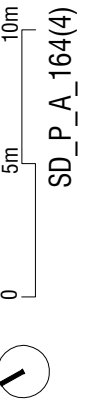
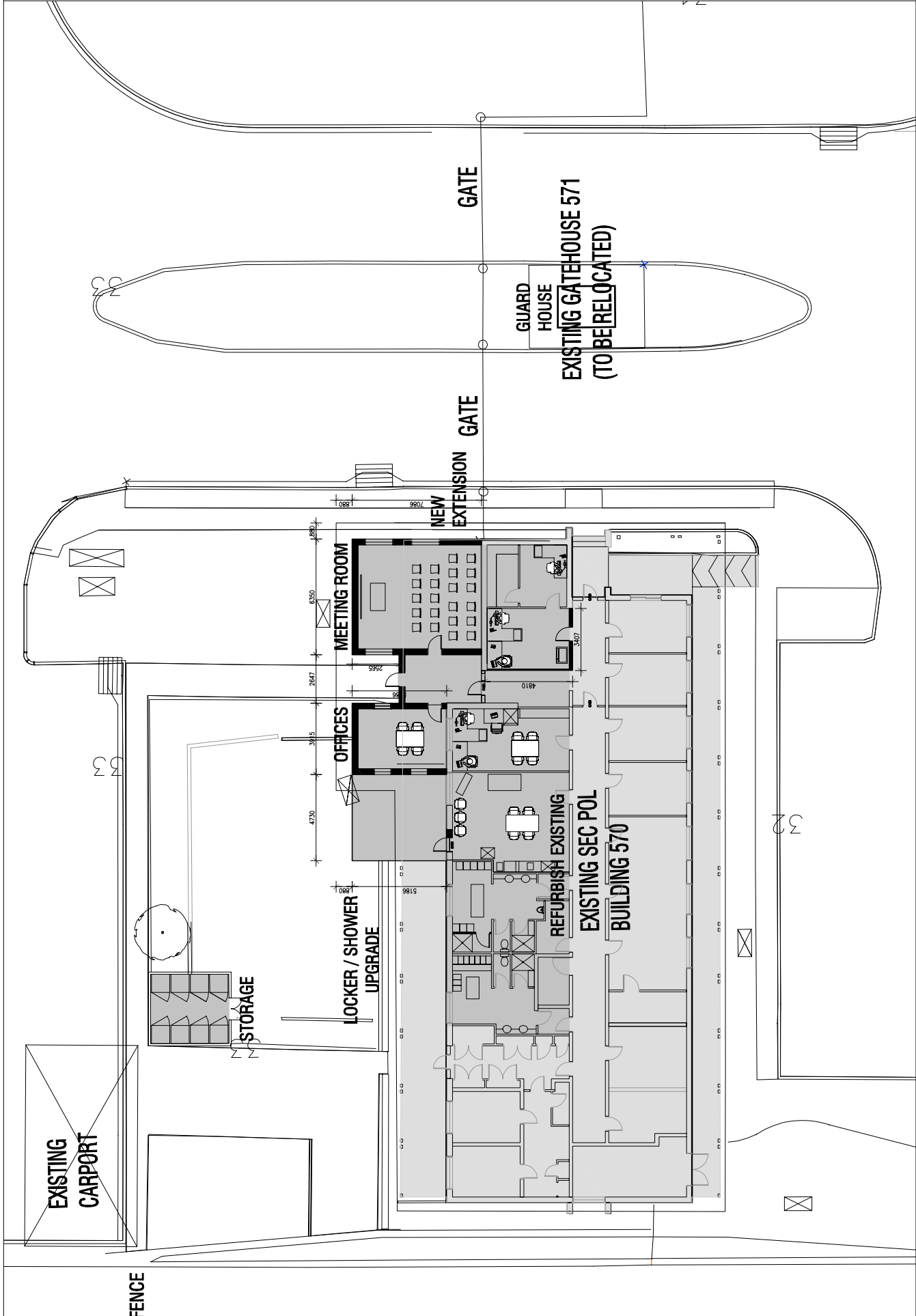




RAAF BASE AMBERLEY REDEVELOPMENT STAGE 3  
 MILITARY WORKING DOGS (MWD)  
 PROPOSED PLAN



SD\_N\_A\_172 (9)



SD\_P\_A\_164(4)

RAAF BASE AMBERLEY REDEVELOPMENT STAGE 3  
 SECURITY POLICE (SECPOL)  
 PROPOSED PLAN



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