



**DEFENCE FORCE SCHOOL OF SIGNALS
REDEVELOPMENT**

SIMPSON BARRACKS, WATSONIA, VICTORIA

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

AMENDED

**DEPARTMENT OF DEFENCE
CANBERRA, ACT
Feb 2007**

A

THIS PAGE IS INTENTIONALLY BLANK

INDEX

PART A - JUSTIFICATION.....	5
INTRODUCTION	5
Background	5
Simpson Barracks.....	6
OBJECTIVES.....	6
Defence objectives	7
Date for completion.....	7
THE PROPOSAL.....	7
Location.....	8
Limitations of existing facilities.....	8
Benefits of expected improvements	8
COSTS.....	9
Cost estimate	9
Operating costs.....	9
OPTIONS	9
ECONOMIC, ENVIRONMENTAL, AND SOCIAL IMPACTS.....	9
Economic impacts	9
Environmental impacts.....	10
Heritage impacts.....	11
Social impacts	11
MASTER PLANNING	11
Other works.....	11
CONSULTATION	12
PART B – TECHNICAL INFORMATION.....	13
Scope of works.....	13
New DFSS building	13
Refurbishment of existing working accommodation	13
New and refurbished Live-in Accommodation.....	13
Removal of existing Fuel Depot	14
Site infrastructure upgrade	14
Site planning, selection and description.....	14
Zoning and Approvals.....	14

Codes and standards	15
Provision for disabled persons	15
Occupational Health and Safety	15
Energy conservation measures	16
Planning and design	17
Structural design.....	18
Materials and finishes	18
Mechanical services	18
Hydraulic services	18
Electrical services.....	18
Fire protection	19
Security	19
Civil works	19
Landscaping	19
Project delivery system	19
ATTACHMENTS	20

1. DFSS Campus Locations
2. Simpson Barracks - Location Plan
3. Simpson Barracks - Existing Site Plan
4. Proposed Works - Site Plan
5. Future Development - Site Plan
6. New DFSS Building - Concept Plans
7. Refurbishment Works – Concept Plans
8. LIA Concept Plans

**DEFENCE FORCE SCHOOL OF SIGNALS REDEVELOPMENT
SIMPSON BARRACKS, WATSONIA, VIC**

PART A - JUSTIFICATION

INTRODUCTION

1. This evidence to the Parliamentary Standing Committee on Public Works presents a proposal for the redevelopment of the Defence Force School of Signals (DFSS) at Simpson Barracks, Watsonia, Victoria. The proposal aims to address current facility shortfalls required to deliver Communications and Information Systems (CIS) training to Defence personnel, including suitable trainee Live-in Accommodation (LIA), for an estimated outturn cost of \$101.3 million (excluding GST).

Background

2. The DFSS is the principal Defence training establishment for Communications and Information Systems/Electronic Warfare (CIS/EW) and is a crucial element of Australian Defence Force (ADF) Command, Control, Communications, Computing and Intelligence (C4I) capability. This capability underpins all other capabilities that the ADF delivers to Government. Demand for training at the School has grown rapidly from a total of around 2,000 students in 2002, to in excess of 5,000 students in 2005 and is expected to increase further with the introduction of new capabilities in the next 10 years.

3. The DFSS is the second largest training school operated by Defence, providing trained CIS operators and technicians on behalf of all three Services, the wider Defence Organisation and, increasingly, foreign militaries. As a result of its historical single service origins, the DFSS is currently located across three major campuses; two in southern Victoria (Simpson Barracks, Watsonia and Maritime CIS Wing at HMAS CERBERUS) and one in southern Queensland (EW Wing at Borneo Barracks, Carbarlah). DFSS campus locations are shown at Attachment 1.

4. This situation limits joint and networked training, increases the cost of operating the School, and constrains effective command and control, knowledge and resource sharing, and the development of interoperability. Rationalisation of the CIS training conducted at these campuses was first identified as a priority in 1998 and confirmed in 2002 with the establishment of the DFSS from the service specific training schools.

Simpson Barracks, Watsonia was identified by Defence as the long term location for the DFSS. A Simpson Barracks Location Plan and an Existing Site Plan are at Attachments 2 and 3 respectively.

Simpson Barracks

5. The Army has had a presence at Watsonia since 1938 when 100 acres were requisitioned from a local property for training requirements. This area was expanded in 1941 by a further 147 acres. The area was used for medical training, and as a reception and transit camp. At that time it became known as Watsonia Camp. After World War II, the camp was virtually deserted and was used by the Victorian government as an emergency housing settlement.

6. In 1952 the Commonwealth drew up plans for the development of Watsonia Barracks. Facilities were built for Headquarters Watsonia Area (now Land Warfare Centre), Southern Command Personnel Depot (now Headquarters 4 Brigade), Army Headquarters Signal Regiment (now 138 Signal Squadron) and the area support facilities. In the late 1960s facilities were built for the 2nd Signal Regiment (now 4/19th Prince of Wales Light Horse and 108th Signals Squadron). In 1970 the Army School of Signals was relocated to Watsonia Barracks from Balcombe Army Camp at Mount Martha on the Mornington Peninsula. In 1986 Watsonia Barracks was renamed Simpson Barracks after Major General Colin Simpson, CBE, MC, VD.

7. In the 1990s many units were raised, amalgamated, renamed or disbanded. In 1996 approximately 25 per cent of the Barracks was disposed of for private housing (Streeton Views Estate). The current area of Simpson Barracks is approximately 55 hectares. There are a number of other users of the barracks area including the Defence Force School of Music, Australian Army Band, Land Warfare Centre – Victoria, Training Development Centre, Headquarters 4 Brigade and several Army Reserve units.

OBJECTIVES

8. The objective of this proposal is to provide facilities that will improve the effective delivery of joint Communication and Information Systems (CIS) training at the DFSS campus at Simpson Barracks, Watsonia. This will involve the relocation of Maritime CIS Wing from HMAS CERBERUS.

Defence objectives

9. Since the 1980s, ADF policy has been to provide joint training facilities for Defence personnel where this is appropriate and affordable. In the last two decades the Australian Defence Force Academy, Australian Command and Staff College, Defence Force Schools of Languages, Music, Health and the Defence Intelligence and International Training Centres have all been collocated.

10. In 1997, the Defence Efficiency Review recommended that, due to a high degree of commonality between the single-service training regimes, the ADF should establish an ADF school for joint CIS/EW training to achieve operating and training cost efficiencies. Joint operations and concepts such as Network Centric Warfare are a cornerstone of future force development with the ADF and Government, and the rationalisation of CIS training at a single campus aims to improve the ability of Defence and each service to deliver improved joint and networked outcomes.

Date for completion

11. Subject to Parliamentary clearance of this project, construction is scheduled to commence in early 2008, with completion by December 2009. Construction will be staged to minimise disruption to ongoing training conducted at the DFSS.

THE PROPOSAL

12. The DFSS Redevelopment project will involve a mixture of new and refurbished facilities, including:

- a. the construction of a new high-security working accommodation/training building (approximately 8,000m²);
- b. refurbishment of two existing buildings;
- c. the construction of 216 new Live-in Accommodation (LIA Level 5) rooms for long-term trainees;
- d. limited refurbishment of some existing LIA Level 1 rooms;
- e. removal of an existing Fuel Depot; and
- f. infrastructure upgrades to support the new facilities.

Location

13. The proposal outlined in this evidence is confined to Simpson Barracks, Watsonia, which is located in the City of Banyule approximately 18 kilometres from Melbourne city centre. The site comprises approximately 55 hectares with road frontages to Greensborough Road on the western boundary, and Yallambie Road to the north. The locations of the proposed works within Simpson Barracks are shown at Attachment 4.

Limitations of existing facilities

14. The existing working facilities at Watsonia do not meet the current security and space requirements due to a significant expansion of course numbers and total trainees over the past five years. This increase is attributed to the increasing adoption of new technology and the introduction of new CIS projects, equipment and concepts over the past decade. There is now limited capacity within the existing facilities to support training for further CIS equipment acquisitions and limited ability to rationalise CIS training through the collocation of other DFSS assets at Simpson Barracks.

15. The current number of LIA rooms at Simpson Barracks (approximately 800 rooms) is insufficient to accommodate the trainee numbers at the School, and is currently being managed by the provision of temporary facilities and increasing the number of students accommodated per room. Sub-standard LIA facilities across the DFSS have been recognised as having an impact on retention, training standards and morale. This is increasingly significant for the critical CIS trades within Defence.

Benefits of expected improvements

16. The proposal to rationalise Defence CIS training at one site by relocating Maritime CIS wing is expected to improve effective command and control, knowledge and resource sharing between subject matter experts, and the development of interoperability. The provision of new, flexible working accommodation incorporating secure classified areas will allow the provision of suitable joint and coalition CIS training to meet Defence objectives.

17. The provision of new, higher standard LIA for long-term trainees attending courses of greater than 6 months duration is considered a priority, and is expected to

improve trainee satisfaction and long-term retention. The new LIA will also provide improved facilities for students.

COSTS

Cost estimate

18. The estimated outturn cost of this project is \$101.3 million excluding GST. The cost estimate includes construction costs with fit out, professional fees, furniture and fittings and a contingency sum.

Operating costs

19. Total operating cost savings as a result of collocating Maritime CIS Wing at Watsonia is estimated to be in the order of \$0.6 million annually.

OPTIONS

20. Alternative options considered during development included initial preliminary consideration of all three of the main campuses of the DFSS, plus the option of a 'green field' site. This latter option was cost prohibitive. Redevelopment of Simpson Barracks was selected due to the following key advantages:

- a. There are better support facilities at Watsonia and this aids in the retention of trainees and instructors; and
- b. A higher proportion of DFSS trainees are already located at Watsonia making collocation more economical.

ECONOMIC, ENVIRONMENTAL, AND SOCIAL IMPACTS

Economic impacts

21. This proposal will not produce revenue.

22. An average of 120 personnel are expected to be directly employed on construction activities. The project will also generate some off-site job opportunities from the manufacture and distribution of materials over the anticipated construction period of some 20 months. It is anticipated that local Melbourne building subcontractors would be employed on a large proportion of the construction works.

Environmental impacts

23. An environmental assessment and conservation survey of Simpson Barracks was undertaken to determine the potential impacts of the development on heritage, flora, fauna, site contamination, stormwater and wetlands values at the site, including any Barracks Environmental Management Plan requirements. The proposed development sites at Simpson Barracks retain an overstorey dominated by Yellow Box and a small number of Red Stringybarks, but the understorey vegetation present has been highly disturbed and modified through past site management. The site is in close proximity to a significant east-west habitat link, comprising areas of high habitat importance including River Red Gum, Grassy Woodland and mixed eucalypt forest with notable faunal value. While the proposed site is in close proximity to areas of high habitat potential, the areas of affected vegetation have not been found to provide habitat to any listed threatened species.

24. Any aspect of the proposed works likely to impact on this regionally important vegetation warrants particular planning considerations, mitigation measures and management controls to be implemented in order to minimise adverse impacts on the environment. These measures will include the minimisation of mature Yellow Box removal by development siting and design, a revegetation strategy to be implemented to offset the removal of some trees and a seed collection program to facilitate the revegetation.

25. The Defence Environmental Management System has been implemented at Simpson Barracks to guide development and operation activities. For construction activities, the Head Contractors will be required to develop an agreed Construction Environmental Management Plans covering all the proposed works. Based on this plan, a Defence Environmental Clearance Certificate (ECC) will be issued before the commencement of construction, in accordance with Defence's Environmental Management Policy. The procedures contained in the Construction Environmental Management Plan will be regularly audited by Defence's Project Manager to ensure the requirements of the ECC are complied with.

26. Based on the environmental assessment undertaken Defence has determined that the works in this proposal are unlikely to have a significant impact on the environment

and that the project does not require referral to the Department of the Environment and Heritage under the Environment Protection and Biodiversity Conservation Act 1999.

Heritage impacts

27. There are some stands of established River Red Gums within the Simpson Barracks area that have cultural importance to the indigenous community. The proposed sites for the construction of new buildings do not impact on these areas.

Social impacts

28. This project will have minimal impact on the local community either during or post construction. There would be little noticeable difference in day-to-day activities at Simpson Barracks.

29. The relocation of Maritime CIS Wing from HMAS CERBERUS will not substantially impact on HMAS CERBERUS as an important training base for Defence. There are currently in the order of 860 permanent staff and around 1,000 to 1,500 students at HMAS CERBERUS, of which only 49 staff and 200 to 250 students will relocate to Watsonia. This is expected to have minimal impact on regional development.

MASTER PLANNING

30. The redevelopment of the DFSS at Simpson Barracks has been planned to provide flexibility to cater for future increased training liability, with space to expand the new building. The LIA to be provided under this proposal has been sited to ensure that future expansion of LIA can be accommodated in the central LIA precinct. Potential future development sites are shown in Attachment 5.

31. The Single Living Environment and Accommodation Precinct (Single LEAP) project is a separate initiative to improve living-in accommodation across Defence. Further living-in accommodation at Simpson Barracks is being investigated as part of Phase 2 of Single LEAP.

Other works

32. Other work currently in progress at Simpson Barracks includes the construction of new working facilities for the Land Warfare Centre – Victoria at an approved project value of \$5.813 million.

CONSULTATION

33. Discussions have been held, or are planned to be held, with Federal and State Government members whose electorate the proposed works are in, and the local councils of the City of Banyule and Shire of Mornington Peninsula. No local community and environmental groups have been identified that would be materially affected by the project.

PART B – TECHNICAL INFORMATION

Scope of works

34. This project proposes the construction of a new building incorporating secure classified areas to accommodate the DFSS Headquarters and the higher security components of the various training wings. Existing facilities will be refurbished to accommodate the remaining elements of the School. New, long-term trainee Live-in Accommodation (LIA Level 5) rooms will be constructed within the existing LIA Precinct, with minor refurbishment of some existing Level 1 LIA buildings. Site infrastructure will be upgraded to support the new buildings.

35. A detailed description of the proposal for each project component is provided in the following sections.

New DFSS building

36. A new building of approximately 8,000m² is proposed to accommodate the working and teaching accommodation areas for the DFSS Headquarters, Advanced Training Wing, and Land/Air CIS Training Wing. This building will include the secure areas required for classified instruction, including Information Technology (IT) classrooms, syndicate rooms and lecture facilities. Concept plans of the new DFSS building are at Attachment 6.

Refurbishment of existing working accommodation

37. Two existing buildings will be refurbished and upgraded to accommodate the remaining elements of the School, including space for the relocated Maritime CIS Wing. Works will address Building Code of Australia compliance issues, and provide upgraded security, finishes and functionality. Concept plans for the refurbishment works are at Attachment 7.

New and refurbished Live-in Accommodation

38. This proposal includes the construction of 216 new LIA rooms at Defence's standard for long-term trainees attending courses greater than six months duration (Level 5). LIA Level 5 will provide a self-contained individual bedroom per trainee including an ensuite and kitchenette, access to low-density laundry facilities, secure storage areas, undercover car parking for one vehicle and data and telephone

connections in each room. The LIA precinct also takes into consideration the training environment for occupants, providing ample opportunities for networking and general discussion on the course subjects.

39. These rooms have been sited within the existing LIA Precinct and will service all Simpson Barrack's users requiring long-term LIA. Concept plans of the LIA are at Attachment 8.

40. Limited refurbishment of some existing LIA Level 1 blocks will include provision of new floor coverings, repainting internally and re-tiling of the ablutions.

Removal of existing Fuel Depot

41. The construction of the new building requires the removal of an existing Fuel Depot onsite. This Fuel Depot is no longer required by the Base users, and will not be replaced. The site will be fully remediated.

Site infrastructure upgrade

42. Existing site infrastructure will require upgrading to support the new facilities. This will include some minor upgrading to stormwater systems and an improvement to the physical High Voltage power lines. Some relocation of existing water, gas, sewer and communication services will be required.

Site planning, selection and description

43. All the proposed works are within Simpson Barracks. This property is Commonwealth owned and Defence controlled. This project does not require the acquisition of additional land. This proposal aligns with the extant Master Plan for Simpson Barracks.

Zoning and Approvals

44. All the facilities proposed in this evidence are, or will be constructed, within the boundaries of Simpson Barracks, which is designated "Defence Special Purposes". No civilian authority design or construction approvals are required, although works will comply with the relevant Standards and Regulations.

Codes and standards

45. Where appropriate, the design and construction of the proposed works and services will conform to the relevant sections of the following:

- a. Building Code of Australia
- b. Australian Standards and Codes;
- c. Commonwealth and State legislation;
- d. Defence Manual of Fire Protection Engineering;
- e. Defence Facilities Communications Cabling Standard; and
- f. Defence security publications.

46. A qualified and practising building certifier will be required to certify that the design and the finished construction of the proposed facility meets the requirements of the Building Code of Australia, relevant Codes and Standards, the Defence Manual of Fire Protection Engineering, and any additional State, Local Government and Defence requirements.

47. The successful Head Contractor(s) will be required to produce a Project Management Plan. This plan will clearly show how 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 will be maintained.

Provision for disabled persons

48. Access and facilities for the disabled will be provided where necessary in accordance with the Building Code of Australia, Australian Standards, and Defence's policy for Disabled Access and Other Facilities for Disabled Persons.

Occupational Health and Safety

49. The proposed facilities will comply with the requirements of the Occupational Health and Safety (CE) Act 1991, the Department of Defence Occupational Health and Safety Manual and relevant Victorian Government Occupational Health and Safety legislation, and operate in accordance with an approved Occupational Health and Safety Plan. All construction sites will be appropriately secured to prevent unauthorised public access during the construction period. No special or unusual public safety risks have been identified.

Energy conservation measures

50. The Commonwealth Government 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 addresses this policy by adopting cost effective ESD as a key objective in the design, development, and delivery of new and refurbished facilities.

51. As the project includes a combination of new building construction and existing refurbishments, the ESD requirements vary for each element. For the new DFSS building, specific performance targets for energy savings, water reduction, waste reduction and construction management have been set, based on Defence's Green Building Requirements policy and procedures. The ESD target is to meet the requirements to achieve 4 star Green Star rating.

52. Preliminary design development for this project has included an analysis of energy consumption that could be anticipated from the implementation of the proposal. The energy efficiency of new buildings will be audited within twelve months of occupancy.

53. The preliminary design of the new facilities has considered and adopted the following measures to reduce energy consumption in a cost effective manner:

- a. siting buildings to make maximum use of prevailing winds and the sun for temperature control and lighting;
- b. using insulation and weatherproofing seals;
- c. using energy efficient lighting and lighting control systems;
- d. using energy efficient plant and equipment;
- e. providing the capability to control energy use by zones within the facility;
- f. specification of waterless urinals and AAA water efficient fixtures; and
- g. using computer automated Building Management Systems as part of an area-wide energy management strategy.

Planning and design

54. The designs for the new and refurbished facilities will provide a safe, efficient and modern workplace. 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.

55. The project's design team has 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 economies on a whole-of-life basis.

56. In selection of services and associated equipment, both the capital cost and operational and maintenance costs have been considered. Total ownership costs and comparisons have been undertaken and include a life cycle costing analysis in the product selection based on a simple payback period.

57. Maximum flexibility is required for most 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 the new facilities to allow future flexibility.

58. This project will:

- a. maximise the 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.

59. The building works and services will be fully fitted out, with all communications, light fittings, partitions, floor treatments and furniture. New facilities will incorporate building management systems, metering and other provisions to measure and monitor energy use and to allow regular energy audits.

Structural design

60. The proposed new facilities will generally be steel portal frame structures over post-tensioned concrete floor slabs, clad external walls, and a metal roof appropriate to the environment. The structural design will provide control of cracking of concrete and incorporate structural tolerances for long term settlement. Internal walls will generally be non-load bearing frames lined with plasterboard to provide for maximum flexibility in future floor layout.

Materials and finishes

61. 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

62. New and refurbished facilities, with the exception of vehicle garages and workshops, will generally be air-conditioned and the selection of building services and associated equipment will achieve an economic balance between capital cost and operation and maintenance costs. Selection of equipment has been based on a life cycle costing analysis. New facilities will incorporate building management systems, linked to the base regional utility management system, metering, and other provisions to measure and monitor energy use and to allow regular energy audits where practicable. Mechanical plant will have a level of spare capacity to ensure future flexibility.

Hydraulic services

63. New facilities will be connected to the existing water and sewage infrastructure within Simpson Barracks. Preliminary designs indicate sufficient capacity without headwork upgrades.

Electrical services

64. Lamps will be high efficiency fluorescent, compact fluorescent or discharge type and lighting will include sensor controlled lighting to intermittently occupied areas.

Fire protection

65. The design of the fire protection systems will comply generally with the Building Code of Australia requirements and specifically with any additional requirements of the Defence Manual of Fire Protection Engineering.

Security

66. Appropriate security protection will be provided in accordance with the Defence Security Manual and specific project requirements.

Civil works

67. The proposed sites for new or extended facilities do not present any particular civil engineering problems, but each will be the subject of further survey and geotechnical investigation during the detailed design phase. Stormwater management will be incorporated into the existing system.

Landscaping

68. This proposal will not cause any substantial change in the essential landscape character of the site. Landscaping works will be directed towards the restoration of areas disturbed during construction and general improvement of the immediate built environment. The project will adopt landscaping practices in keeping with local environmental conditions and water conservation measures.

Project delivery system

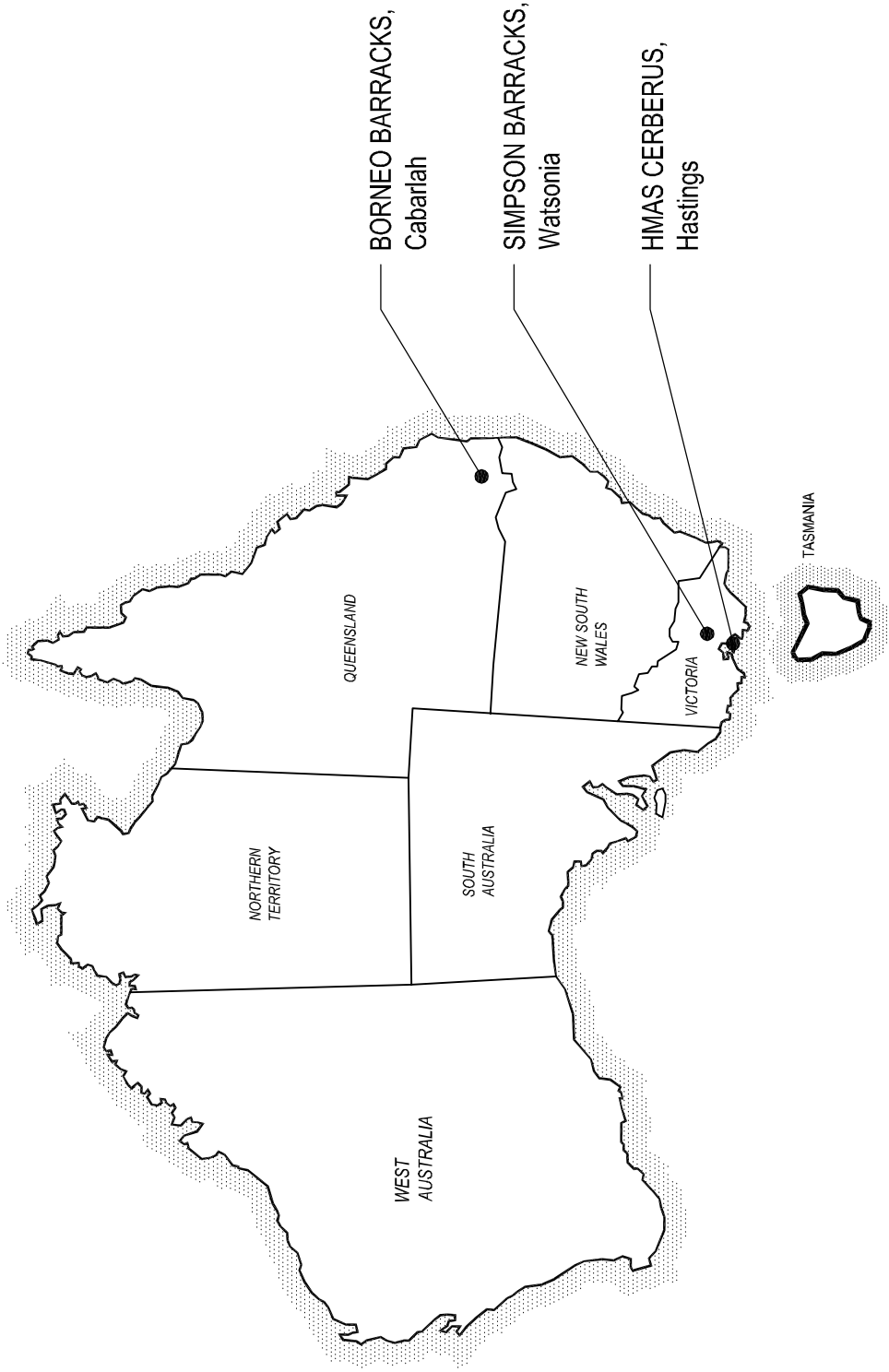
69. A traditional Head Contract delivery system is proposed for this project. The Head Contractor form of delivery is particularly well-suited to projects where the scope is well-defined and can be constructed unhindered by operational constraints. The number of Head Contractors proposed will be selected to encourage competition and provide opportunities for small to medium enterprises.

70. A Project Manager has been appointed to represent Defence and to act as Contract Administrator for the project.

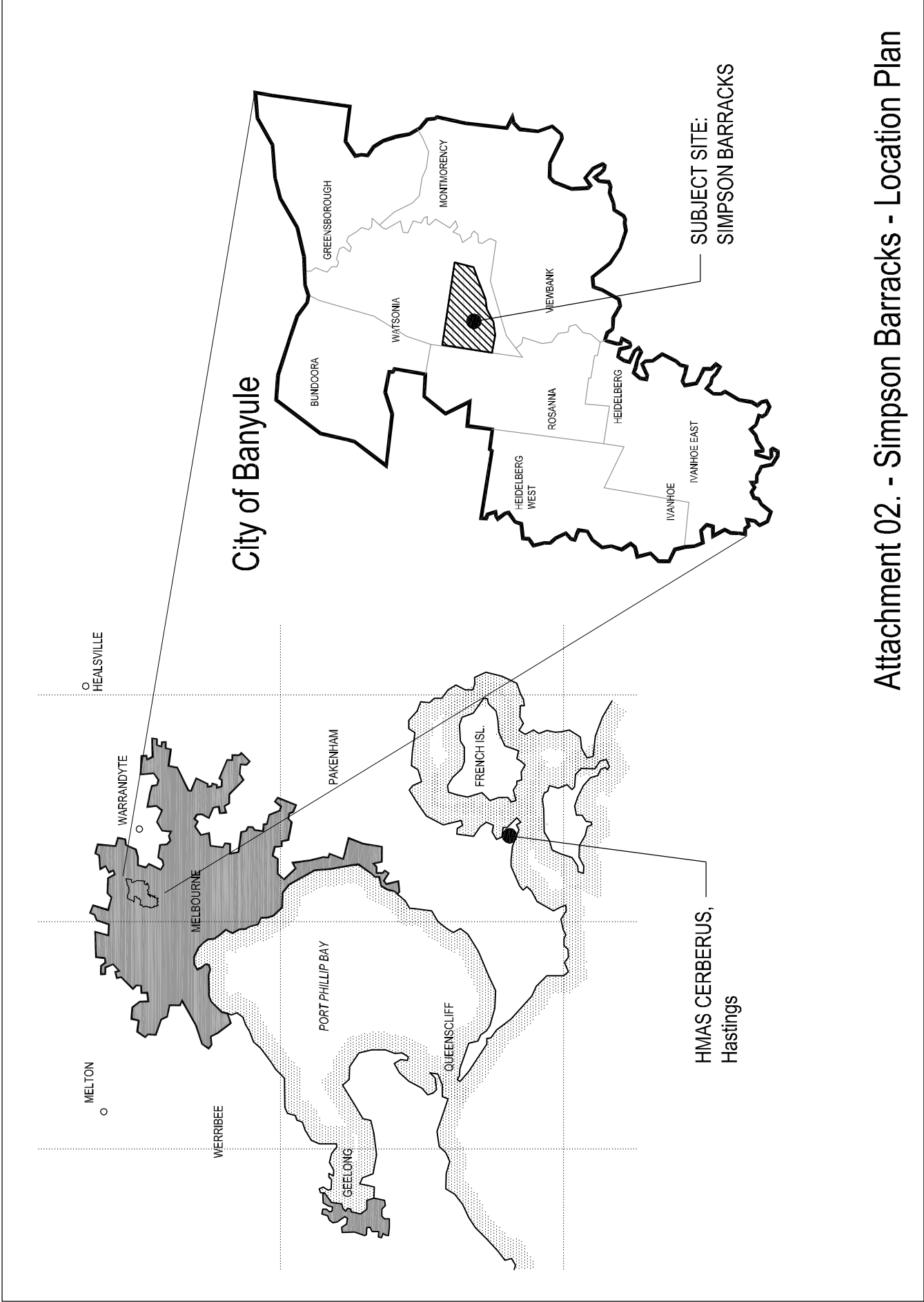
71. A Designer has been appointed to prepare preliminary designs and subject to Parliamentary clearance of the project will finalise designs and undertake inspection services during the construction phase.

ATTACHMENTS

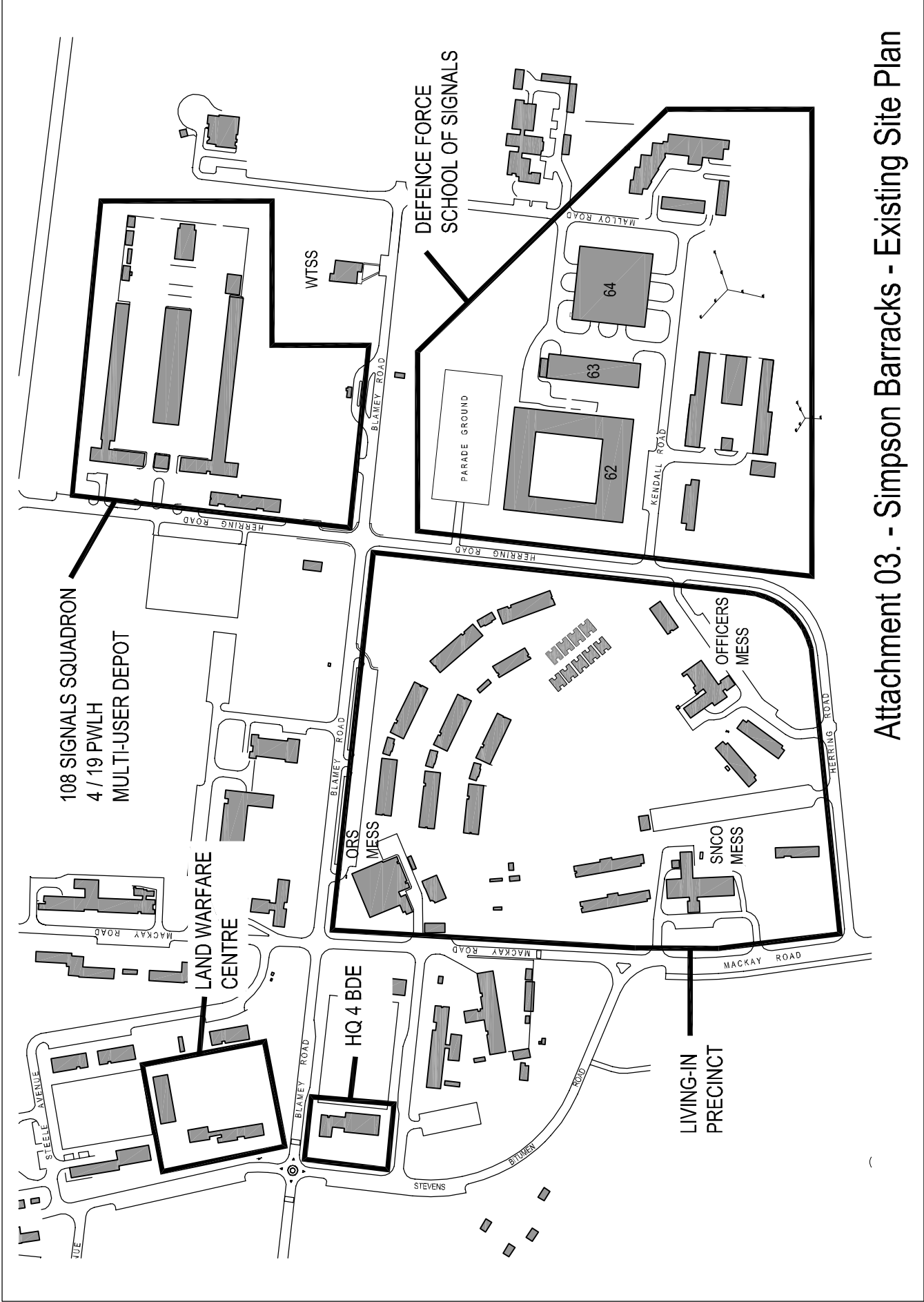
1. DFSS Campus Locations
2. Simpson Barracks - Location Plan
3. Simpson Barracks - Existing Site Plan
4. Proposed Works - Site Plan
5. Future Development - Site Plan
6. New DFSS Building – Concept Plans
7. Refurbishment Works – Concept Plans
8. LIA Concept Plans



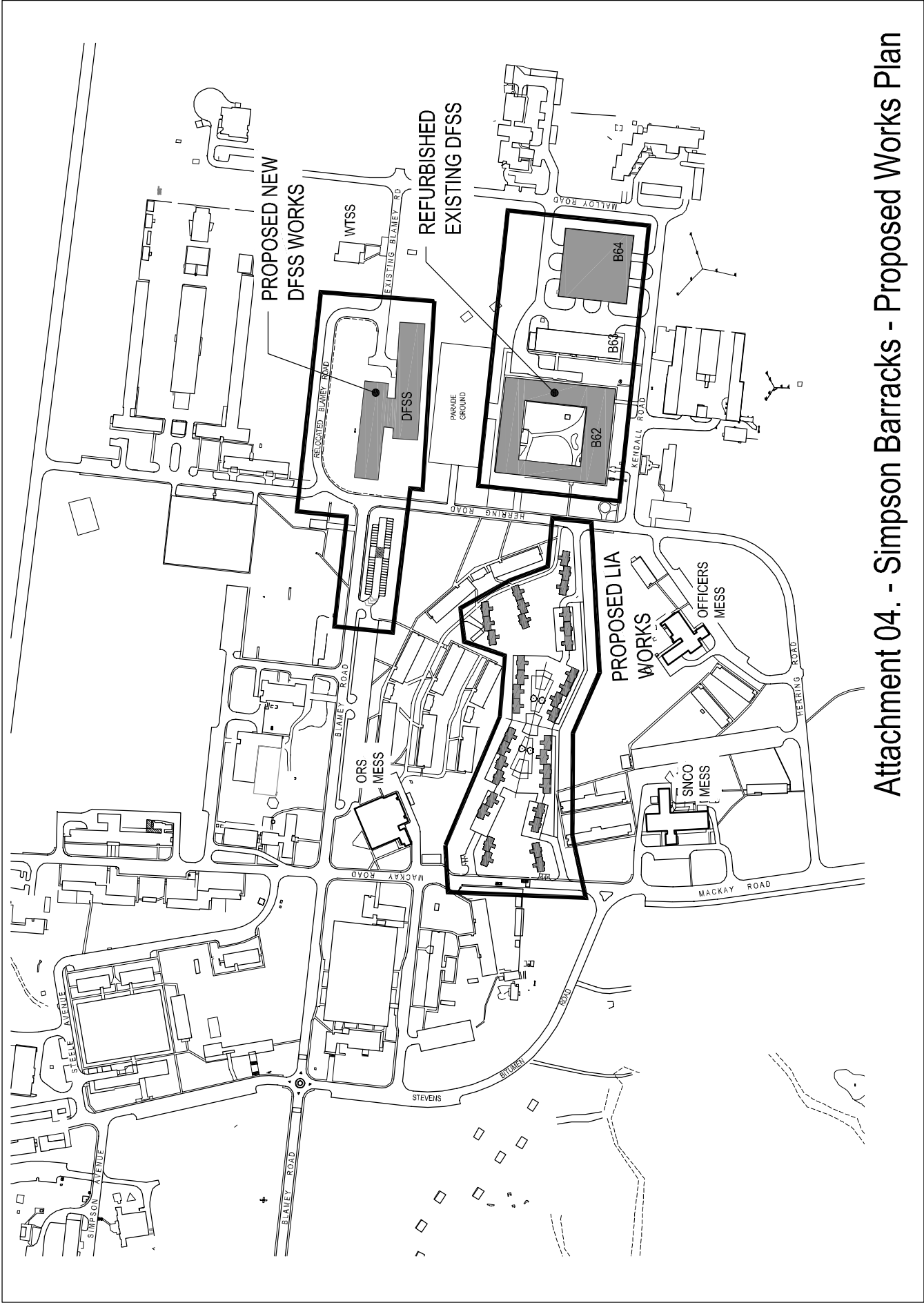
Attachment 01. - DFSS Campus Locations



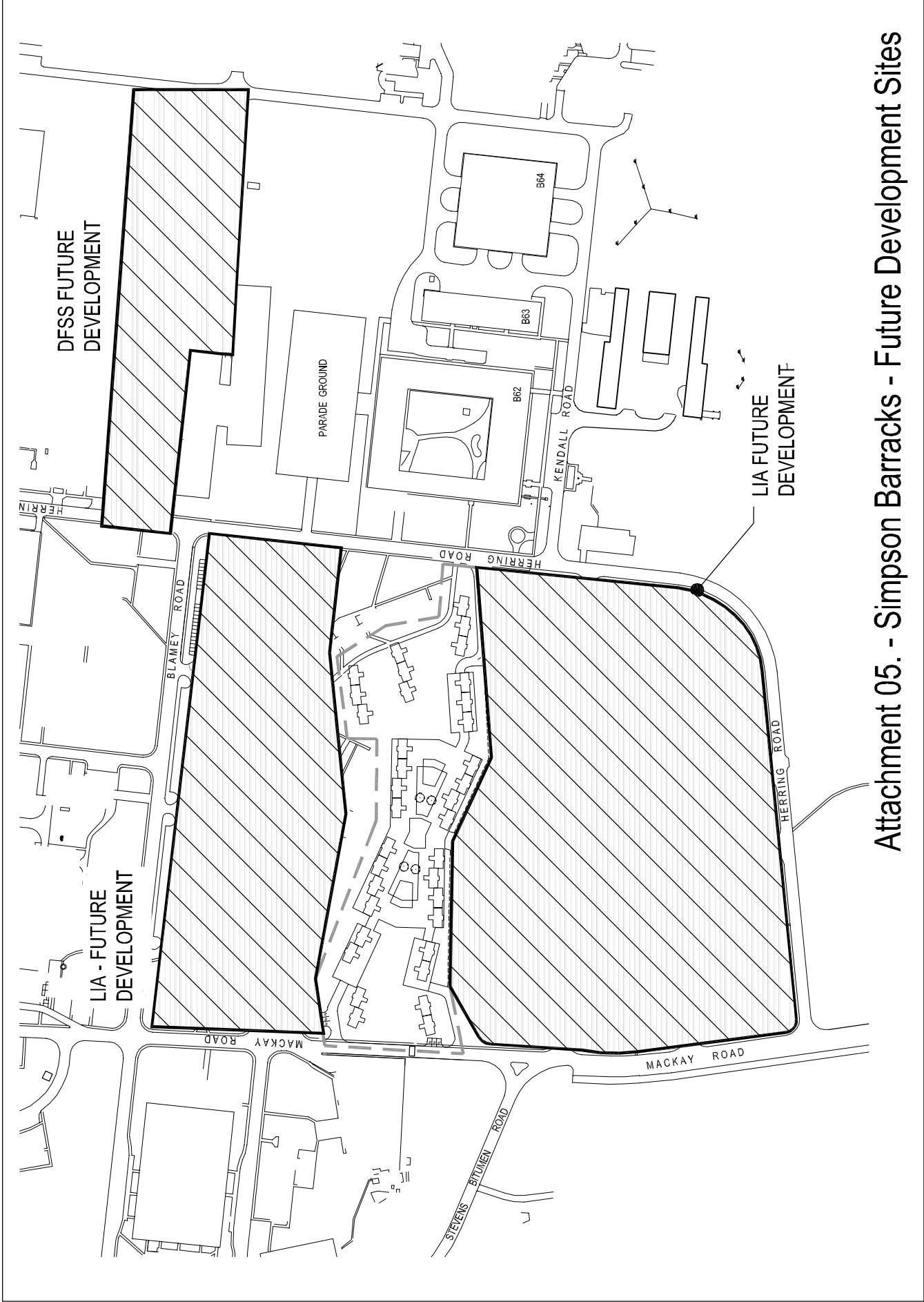
Attachment 02. - Simpson Barracks - Location Plan



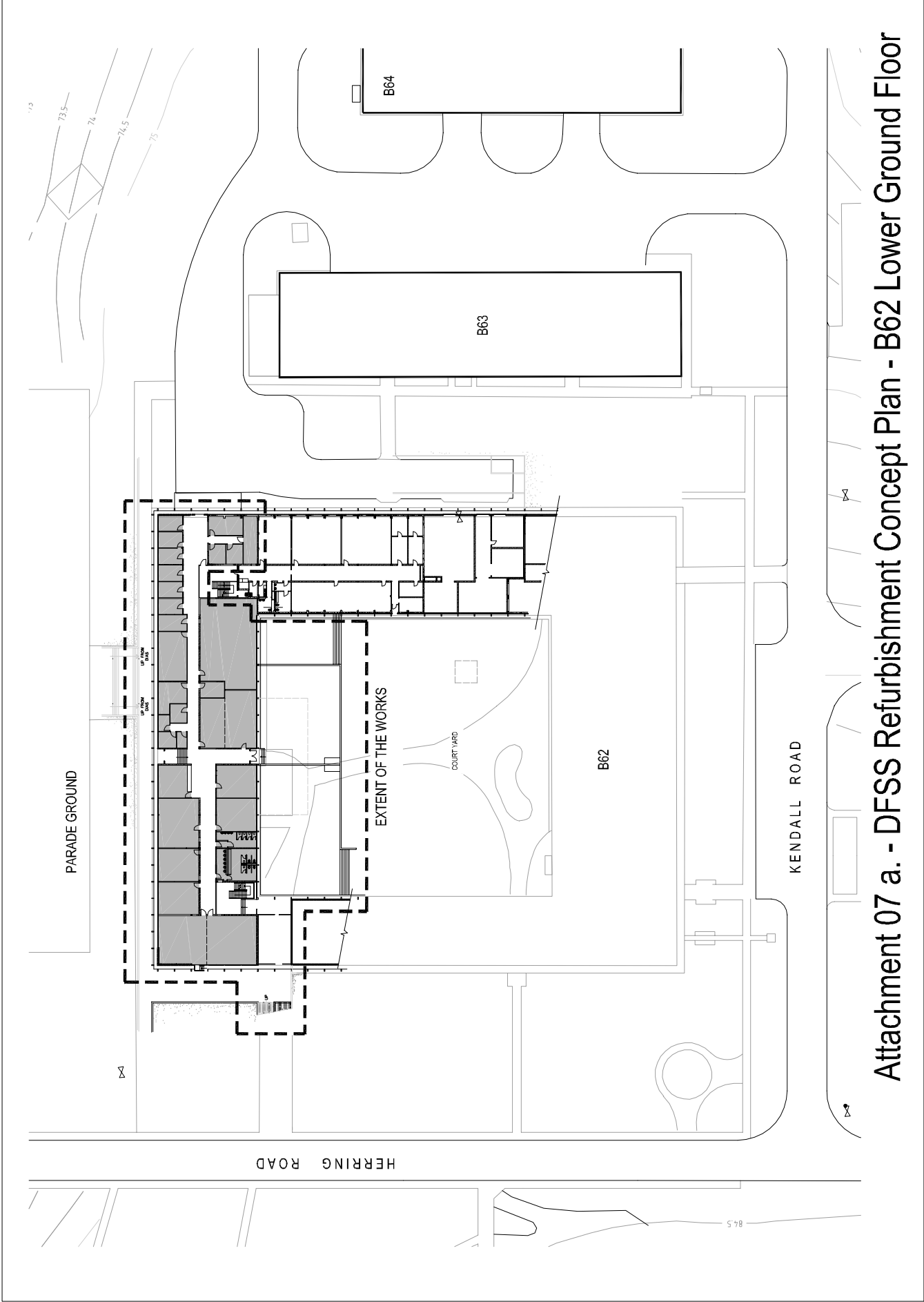
Attachment 03. - Simpson Barracks - Existing Site Plan



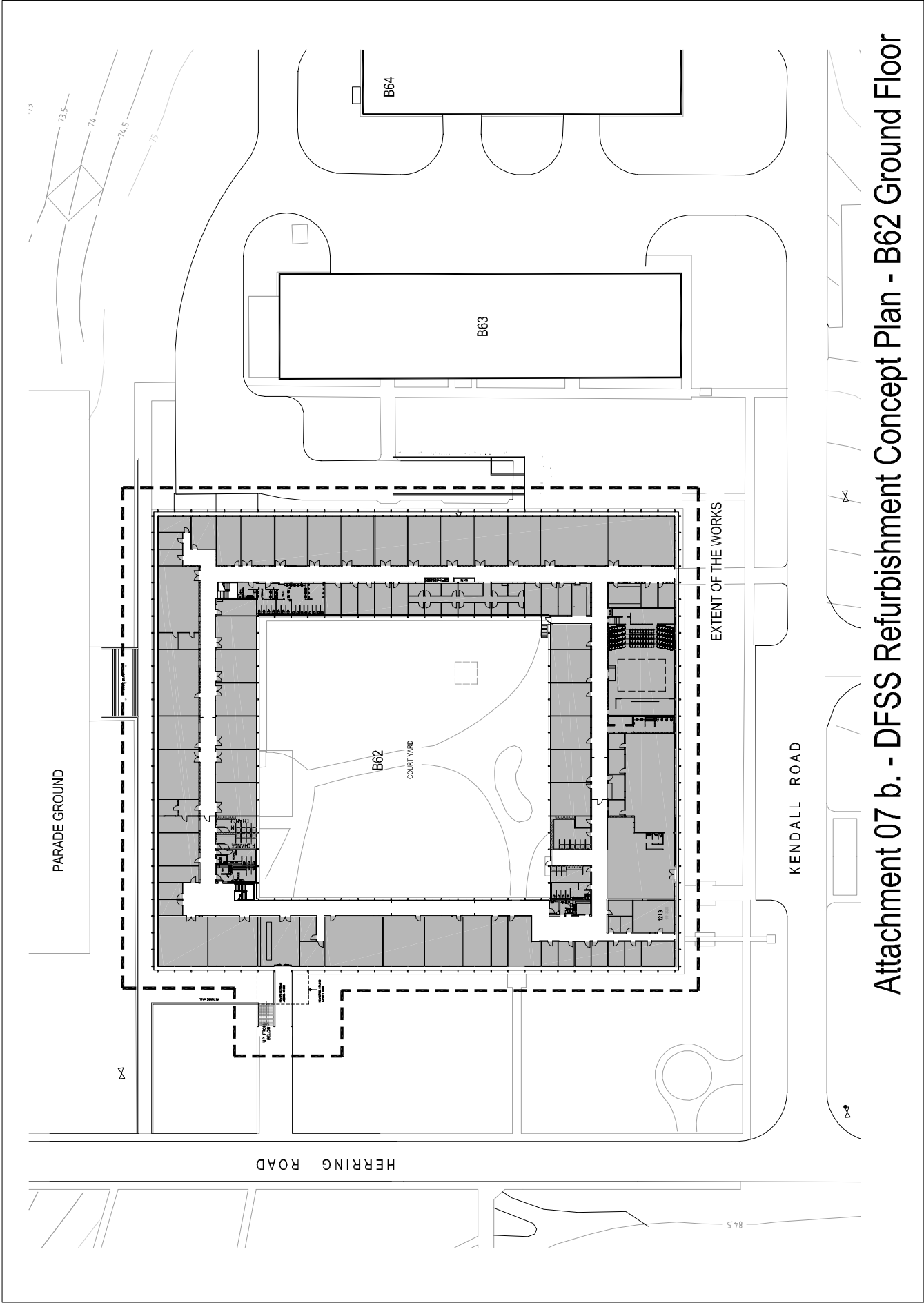
Attachment 04. - Simpson Barracks - Proposed Works Plan



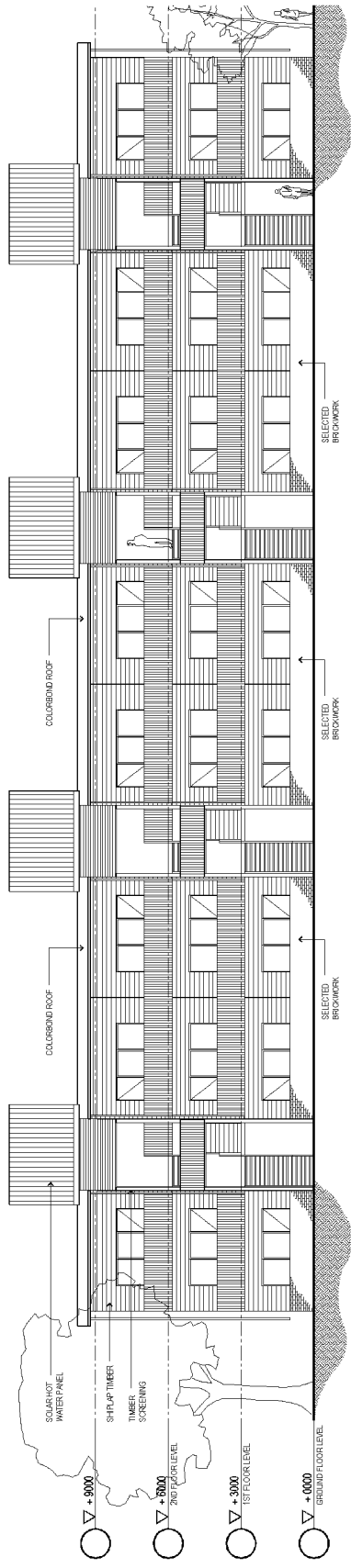
Attachment 05. - Simpson Barracks - Future Development Sites



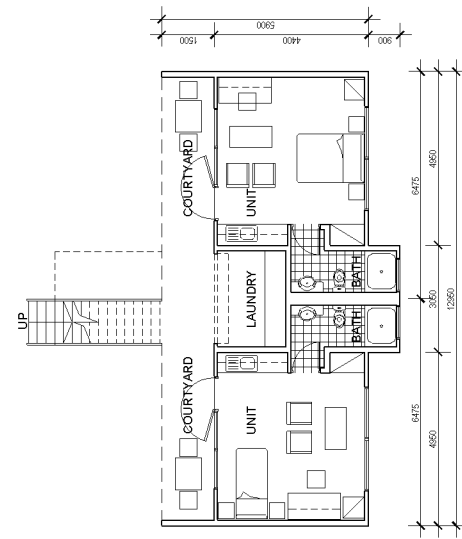
Attachment 07 a. - DFSS Refurbishment Concept Plan - B62 Lower Ground Floor



Attachment 07 b. - DFSS Refurbishment Concept Plan - B62 Ground Floor

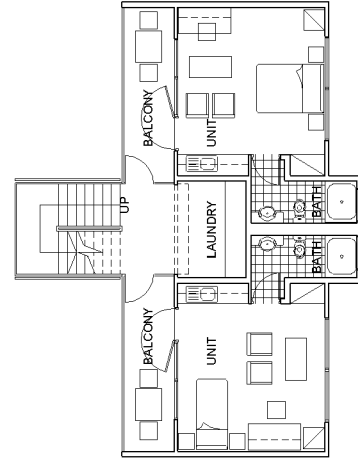


1 NORTH-A 00
TYPE_A00



1 TYPE A GROUND FLOOR PLAN
TYPE_A00

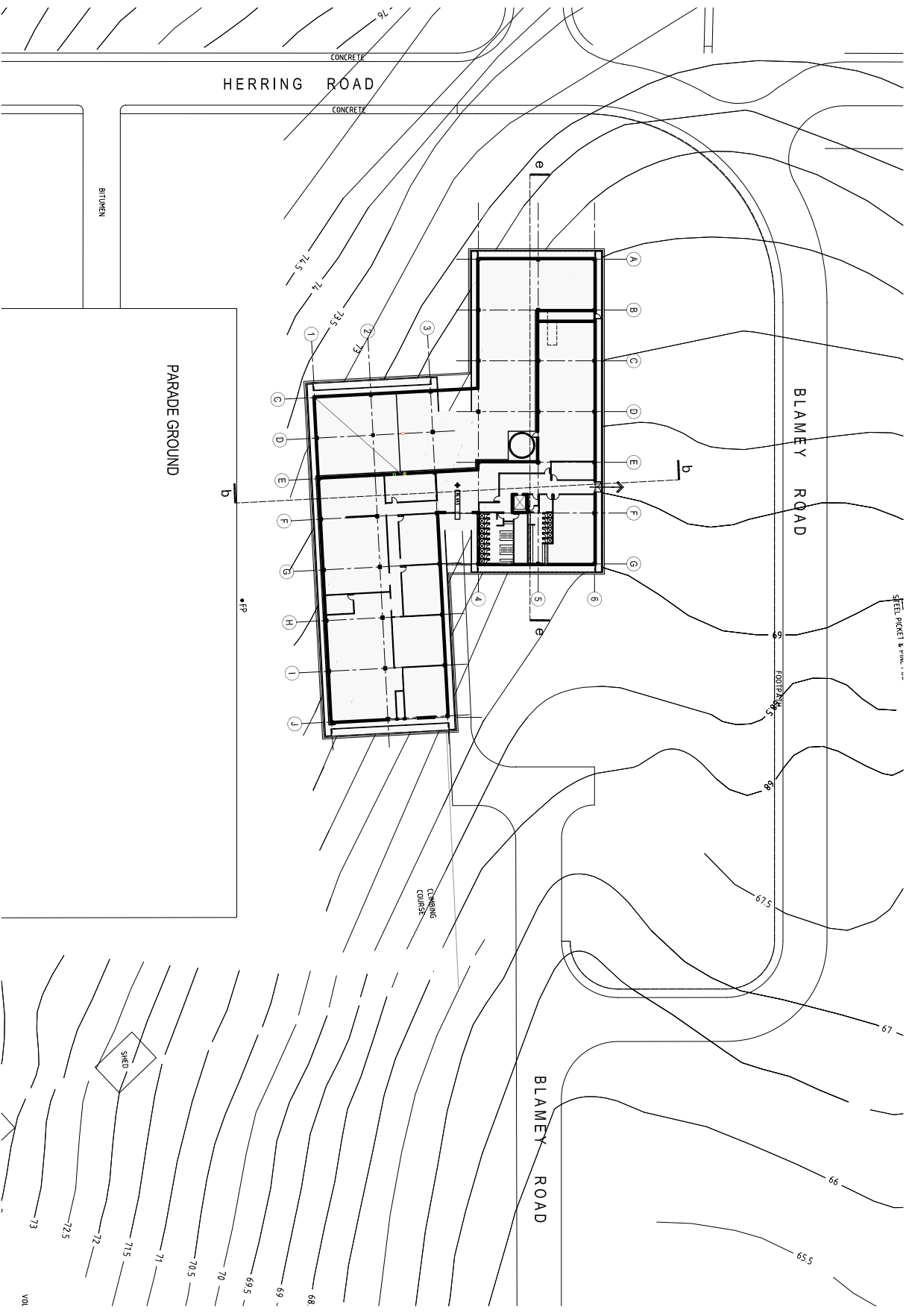
1:100



2 TYPE A 1ST FLOOR PLAN
TYPE_A00

1:100

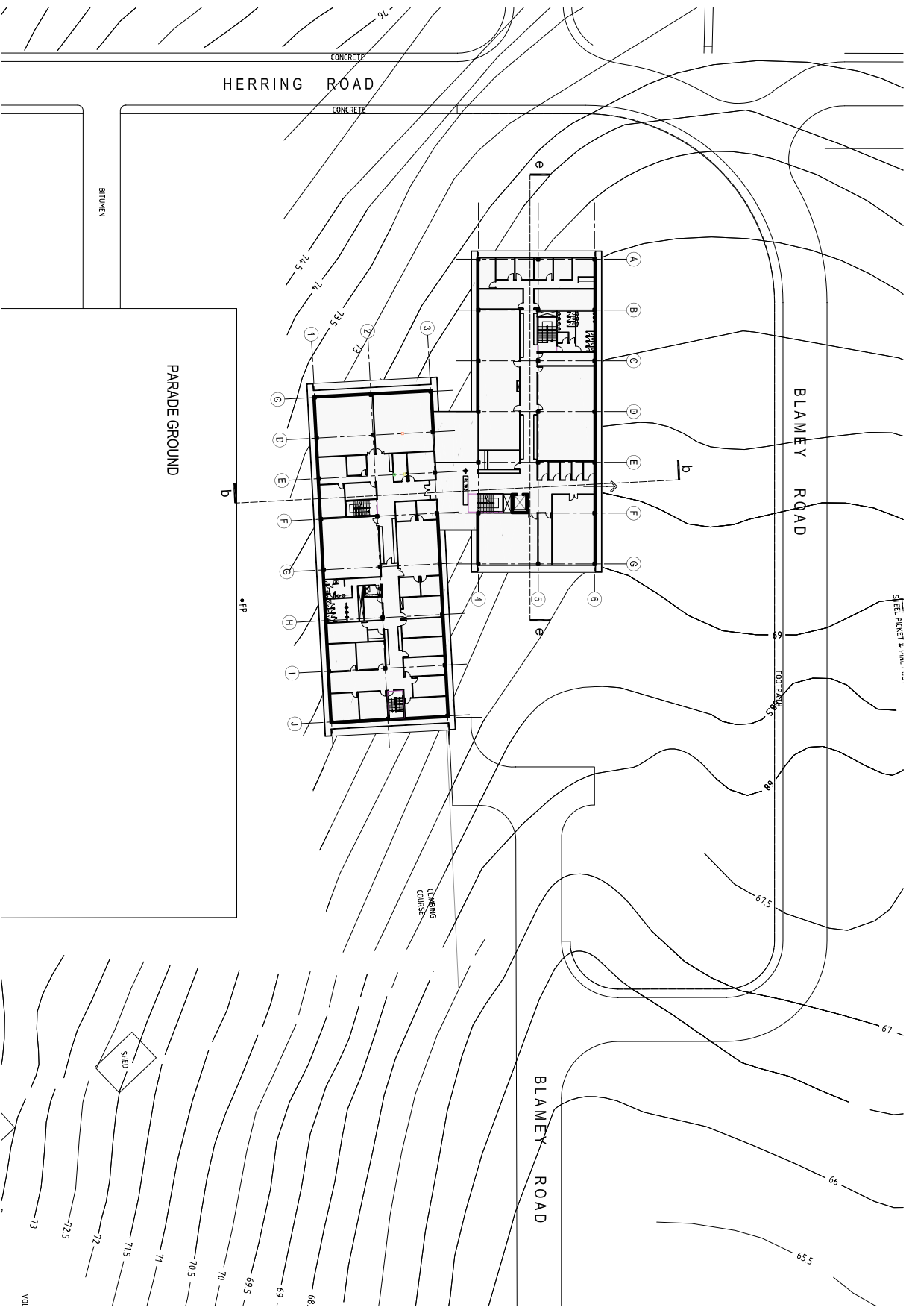
Attachment 08. - LIA Concept Plans & Elevation



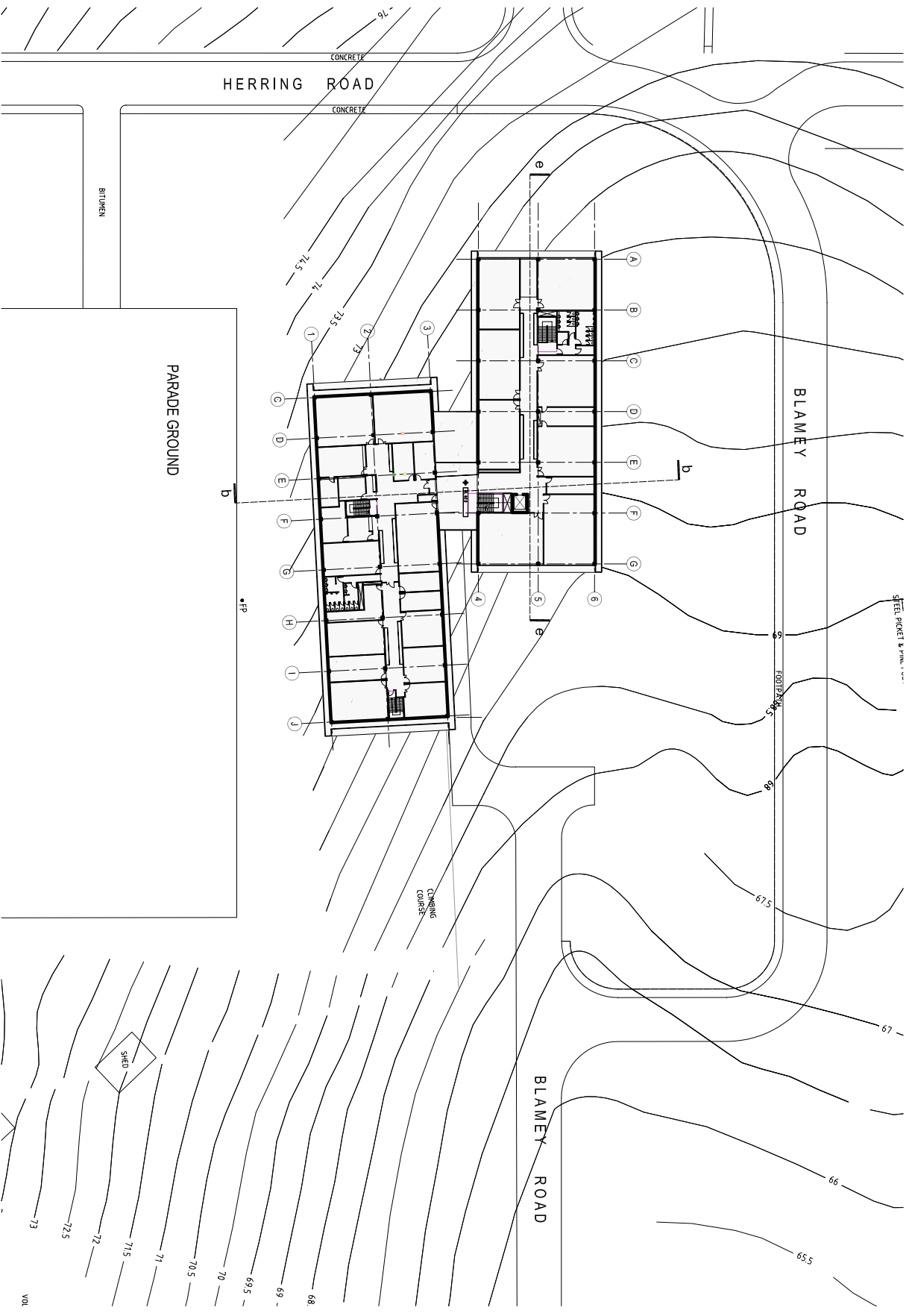
Attachment 06 a. - New DFSS Concept Plan - Lower Ground Floor



Attachment 06 b. - New DFSS Concept Plan - Ground Floor



Attachment 06 c. - New DFSS Concept Plan - First Floor



Attachment 06 d. - New DFSS Concept Plan - Second Floor