

Submission No. 1

(ADFA Project)

Date: 29/03/2011



Australian Government

Department of Defence

AO

AUSTRALIAN DEFENCE FORCE ACADEMY REDEVELOPMENT

CANBERRA, Australian Capital Territory

Statement of Evidence

to the

Parliamentary Standing Committee

on Public Works

Canberra, Australian Capital Territory

February 2011

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Australian Defence Force Academy

Redevelopment

Need for Works

Identified need

1. The Australian Defence Force Academy provides a learning and living environment for Navy, Army and Air Force officers and cadets of the Australian Defence Force to undertake both military training and university studies whilst living on site and being exposed to the expectations and rigors of military life.
2. A number of changes have taken place to the scope and delivery of training since the Australian Defence Force Academy opened in 1986. Changes in teaching techniques and the spatial requirements of learning environments have resulted in a gap between the general teaching facilities available and the facilities required to deliver efficient training and education at the Australian Defence Force Academy. This gap will be addressed through the proposed Australian Defence Force Academy Redevelopment.
3. Administrative offices, living-in accommodation, messing, and physical training facilities associated with the learning environment are also included in the proposal. These associated facilities are 'tired' and require refreshing and enhancements to remain fully functional.

Options considered for meeting the need

4. To meet the identified need, Defence has considered either building new or refurbishing existing facilities to improve their functionality. In most cases, the option to alter and add to existing facilities to meet functional requirements has been assessed as being cost effective and most feasible.

Historical background

5. The Federal Government agreed in July 1977 to the establishment of the Australian Defence Force Academy on a site in the Canberra suburb of Campbell, adjacent to the Royal Military College Duntroon. In April 1984, the then Chief of the Defence Force Staff, Air Chief Marshal Sir Neville McNamara, formally established the Australian Defence Force Academy as a Joint Service Unit under Section 32c of the Defence Act 1903.

6. In January 1986 the Australian Defence Force Academy began providing undergraduate education and military training to Navy Midshipmen and Army and Air Force Officer Cadets. During a typical academic year, approximately 900 Navy Midshipmen and Army and Air Force Officer Cadets are enrolled in the three-year undergraduate training program, another 60 students are completing a fourth year, and a further 1,500 students are enrolled in postgraduate studies.
7. Up to 50 military members from other Defence Forces attend the Australian Defence Force Academy through military exchange programs. Countries that currently have personnel in residence or undertaking short courses at the Australian Defence Force Academy include Cambodia, France, Iraq, Malaysia, the Netherlands, New Zealand, Pakistan, the Philippines, Singapore, Thailand, Tonga, the United States of America and Vietnam.
8. To ensure that the academic outputs of the Australian Defence Force Academy are of comparable standard to other tertiary institutions in Australia, a formal agreement exists between the Commonwealth of Australia and the University of New South Wales for the provision of undergraduate, postgraduate and other teaching services through the University College of the Australian Defence Force Academy. Consequently, opportunities are available for postgraduate study to senior Australian Defence Force personnel, public servants and civilians.

Heritage impact

9. A Heritage Impact Statement has been prepared for the proposed redevelopment as part of the Australian Defence Force Academy and Royal Military College Zone Plan. Defence's Estate Policy and Environment Branch has considered the Heritage Impact Statement for the proposed redevelopment in relation to the Commonwealth's *Environment Protection and Biodiversity Conservation Act 1999*. It is not anticipated that a referral will be required under the Environment Protection and Biodiversity Conservation Act.
10. The Australian Defence Force Academy site is not on the Commonwealth Heritage List. However, it has potentially significant heritage values under the Commonwealth Heritage List criteria relating to principal characteristics, aesthetic characteristics as well as technical and creative achievement. The risk of the proposed project activities impacting on these values has been addressed during the project planning and design phases by ensuring that the existing campus' character, scale and architectural expression have been maintained and carried through into the new project elements. The siting and proposed usages of the new and refurbished buildings are in accordance with the Australian Defence Force Academy and

Royal Military College Zone Plan and reinforce the already strongly established features and framework of the existing campus.

Environmental impact

11. An Environmental Review prepared in 2007 for the proposed redevelopment indicates that the siting of the proposed works will overlay existing developed areas and have no flora or fauna impacts. It is not anticipated that a referral will be required under the Environment Protection and Biodiversity Conservation Act.
12. The design of the proposed works has specifically considered the outcomes and recommendations of the Environmental Review and incorporated features to mitigate any such impacts. Examples include the siting of buildings and facilities to minimise tree loss, choice of appropriate low water indigenous vegetation (where possible), stormwater reuse into gardens and grassed areas to reduce water consumption, and energy conservation measures such as insulation and energy efficient equipment. The Environmental Review has not identified any significant environmental concerns for the facilities at the Australian Defence Force Academy.
13. The proposed redevelopment will be managed in accordance with the Defence Environmental Management framework, including compliance with the regional Environmental Management System. The Managing Contractor's environmental procedures for construction activities will comply with the approved Construction Environmental Management Plan. A Defence Environmental Clearance Certificate will be issued prior to commencing construction activities.

Key legislation

14. The following key legislation is relevant to the project:
 - a. *Environment Protection and Biodiversity Conservation Act 1999*; and
 - b. *Building and Construction Industry Improvement Act 2005*.

Impacts on local communities

15. The proposal will have a positive economic impact on the Canberra community. The project will generate a significant amount of short-term employment during the construction phase through on-site labour and construction materials fabrication and supply. Works will be delivered by a Managing Contractor. Defence anticipates that local building sub-contractors would be employed for a large proportion of the construction works. During the construction

phase of the project, the on-site activities are expected to employ up to 300 personnel at any given time, and are also likely to generate some off-site job opportunities from the manufacture and distribution of materials over the construction period. Another positive economic impact is expected from the hiring of additional local staff to provide increased garrison support and comprehensive maintenance services during the facilities' operation in the long term. There will be minimal disruption to local community activities either during or post construction.

16. Construction traffic routes will be managed during the construction period to minimise any disruption to users of the Royal Military College Duntroon and the Australian Defence Force Academy. All construction will be located within the Australian Defence Force Academy boundaries and construction activities will be managed to avoid causing disruption to residents adjacent to the site.

Consultation with stakeholders

17. During the development of the project, extensive consultation has occurred with the University of New South Wales, the National Capital Authority and Defence stakeholders. Defence intends to convene up to two public meetings to brief the local community that would be affected by the project. Consultation has also occurred, or will occur, with the following key stakeholders:
 - a. Dr Andrew Leigh MP, Federal Member for Fraser.
 - b. Senator the Hon Kate Lundy, Senator for Australian Capital Territory.
 - c. Senator Gary Humphries, Senator for Australian Capital Territory.
 - d. Legislative Assembly for the Australian Capital Territory – Members for Molonglo:
 - i. Mr Andrew Barr.
 - ii. Mr Simon Corbell.
 - iii. Ms Katy Gallagher.
 - iv. Mr Jeremy Hanson.
 - v. Ms Caroline Le Couteur.
 - vi. Mr Shane Rattenbury.
 - vii. Mr Zed Seselja.
 - e. Australian Capital Territory Department of Territory and Municipal Services.

- f. Australian Capital Territory Fire Brigade.
- g. Australian Capital Territory gas, electricity, water and wastewater service provider (ActewAGL).
- h. Department of Sustainability, Environment, Water, Population and Communities.
- i. Department of Climate Change and Energy Efficiency.
- j. National Capital Authority.
- k. University of New South Wales.

Purpose of Works

Project location

18. This project proposes a range of refurbished, extended and new facilities within the Australian Defence Force Academy precinct. The Australian Defence Force Academy precinct is located in Canberra as shown in Attachment 1.

Project objectives

19. The aim of the Australian Defence Force Academy Redevelopment is to undertake works to:
- a. meet the current and future academic and military training needs for the next 20 to 30 years;
 - b. provide modern, high quality, safe and energy efficient facilities that meet these needs; and
 - c. achieve greater efficiency and increased flexibility to allow for future requirements.
20. The proposal has 12 scope elements that have been targeted to meet the key objectives of the redevelopment. Those scope objectives, located within the Australian Defence Force Academy site plan as shown at Attachment 2, are summarised below as:
- a. the creation of five new teaching spaces for 30 to 60 students each;
 - b. refurbishment of teaching and lecture facilities in Buildings 30 and 32;
 - c. refurbishment of the Cadets' Mess kitchen, servery and bar area;
 - d. a new 1,200 seat auditorium to replace the existing Adams Hall building;
 - e. refurbishment of the Divisional Officers' working accommodation;
 - f. a new indoor sports centre to cater for the physical training needs of the Academy;

- g. an upgrade to the site services infrastructure for the new 1,200 seat auditorium, the new indoor sports centre and mechanical plant upgrades to five existing buildings.
- h. new secure storage for cadets' bikes and flammable goods storage within the cadets' living-in accommodation precinct;
- i. refurbishment of the Other Ranks' and Senior Non Commissioned Officers' accommodation;
- j. refurbishment of the Chaplains' offices and prayer room;
- k. overhead cover to the existing gymnasium form-up area; and
- l. a new battle physical training area.

Project description and scope of works

21. **Five New Teaching Spaces.** The existing classroom facilities were designed and delivered in the early 1980s to suit teaching standards applicable at that time. The trend away from general academic courses, to more specialised courses with smaller class sizes, has meant that the current classroom configuration at the Australian Defence Force Academy is now inadequate for the required function.
22. Analysis of the current academic timetable has shown that there is a shortfall of learning spaces to accommodate groups of between 30 to 60 persons. The demand for this type of work space is expected to increase in the period to 2025. The proposed new teaching spaces address this shortfall and will be available to meet military training requirements as well as those of the academic program. Postgraduate and undergraduate student numbers are also expected to increase in the next few years as a function of the new Defence - University of New South Wales agreement.
23. The present teaching and instructional areas will be expanded to provide five additional flexible teaching spaces to seat between 30 to 60 students each. The proposal will aim to avoid interference with adjacent facilities during construction. The five new teaching spaces are incorporated into the proposed works for Buildings 30 and 32.
24. **Refurbished Teaching and Lecture Facilities in Buildings 30 and 32.** The existing teaching and lecture facilities in Buildings 30 and 32 have been in constant use for many years and their finishes and fittings are deteriorating due to wear and tear. A site plan showing the location of Buildings 30 and 32 is shown at Attachment 3. Plans of the proposed works are shown at Attachments 4 to 8. In summary, the proposed refurbishment includes:

- a. the reconfiguration of existing teaching spaces into more flexible formats;
- b. the provision of access for persons with disabilities;
- c. the adaptation of existing small (10 person) rooms into bigger (20 person) tutorial rooms which will give added flexibility to the university program of common teaching rooms at the Australian Defence Force Academy;
- d. the reconfiguration of existing break out spaces and under utilised undercroft areas into informal flexible learning environments to be used for both individual and team work and tutorial group work;
- e. replacement of existing fixed seating in tiered lecture theatres;
- f. replacement and/or renewal of all finishes; and
- g. modernisation of lecterns and provision of sub-floor computer and audio visual access.

25. **Refurbishment of Cadets' Mess Kitchen, Servery and Bar.** The Cadets' Mess at the Australian Defence Force Academy is one of the biggest single messes on the Defence Estate, with over 2,500 meals prepared and served each day. The mess kitchen is now over 25 years old and is rapidly ageing and is inefficient by modern practices.

26. The proposed works include:

- a. refurbishment and modernisation of the existing Cadets' Mess Kitchen finishes, furnishings and equipment;
- b. improved flow of Cadets through the kitchen servery; and
- c. upgraded bar facilities.

27. A plan of the proposed works to the Cadets' Mess kitchen and servery is shown at Attachment 9. The existing Cadets' Mess kitchen, servery and bars will be upgraded while maintaining current catering operations during refurbishment.

28. **New 1,200 Seat Auditorium.** Many years of regular use has proved that, while appearing usable, Adams Hall is deficient in meeting its range of functional uses that include examinations, Australian Defence Force briefs, lectures, presentations and graduation ceremonies. There is not enough seating capacity, even with extra chairs placed on the floor, to accommodate the cadet body plus the Australian Defence Force Academy military staff. The sight lines are poor due to the length of the space being disproportional to its width. The tiered seating is too steep and does not have the required aisle landings to facilitate safe access and egress. Speech intelligibility is poor for the audience and speech reinforcement does not

fully compensate for inadequate acoustic performance. Adams Hall and the adjacent Administration Building share a single air conditioning system that is not capable of servicing both areas simultaneously. The Australian Defence Force Academy Band also rehearses in an upstairs space within Adams Hall that is insufficiently sound isolated.

29. Defence investigated the feasibility of modifying Adams Hall to remedy its functional deficiencies through adaptive re-use. The key result of that feasibility study was that re-use of the existing building is not viable. The structural changes and the time required to reconfigure the auditorium volume to improve its sight lines and acoustic performance would be similar in cost to demolition and rebuilding over the existing site.
30. The proposed 1,200 seat facility will be configurable into a two-auditorium arrangement of 400 seats and 800 seats, suitable for a range of functions. It will provide a multi-use teaching space, which will meet the Australian Defence Force Academy's obligation to the University of New South Wales, and will be capable of accommodating the entire Cadet body and military staff. The facility would also be available for wider Defence use when not being used by the Australian Defence Force Academy.
31. The proposed new 1,200 seat auditorium will replace and enhance the functions currently provided by Adams Hall. The proposal also includes relocation of the Student Administrative Services offices from the top floor of the Administration Building to a more accessible public area on the ground floor of the proposed new auditorium. This new location will improve orientation for new students and accessibility for visitors. Plans and a cross section of the proposed works are shown at Attachments 10 to 13. In summary, the proposed new auditorium will include:
 - a. tiered seating for 1,200 people. This will allow the entire Cadet body to be seated for formal addresses. Additionally, the Auditorium can be 'split' into separate 800 and 400 seat spaces capable of concurrent usages;
 - b. three smaller spaces suitable for use as syndicate and seminar rooms for smaller group instruction. Two of these can be combined to form a larger seminar room capable of accommodating up to 50 people in 'workshop' mode;
 - c. access to toilets and rooms able to be used as change rooms;
 - d. a music practice room for the Australian Defence Force Academy Band;
 - e. a foyer area suitable for breakout;
 - f. storerooms for furniture and equipment used in the facility; and

- g. Student Administrative Services offices for 14 staff of the University of New South Wales at the Australian Defence Force Academy.

32. **Divisional Officers' Working Accommodation.** The current accommodation provided for Divisional Officers (Officers responsible for the administration and training of Cadets and Midshipmen) in Building 3, Level 1 is dysfunctional. The office area layout does not support the organisational structure of the work area and the office areas are cramped and over crowded. The proposed works aim to improve utilisation of the existing floor space by reducing the size of the corridors, rearranging the internal layout into open plan spaces, providing four sound proof interview rooms and refurbishing the wall and floor finishes. A plan of the proposed works is shown at Attachment 14.
33. **New Indoor Sports Centre.** The Australian Defence Force Academy must be able to conduct essential physical training during inclement weather conditions. There are 23 Divisions at the Australian Defence Force Academy, each of 48 cadets. The optimal physical training program requires 6 Divisions (or 288 cadets) to undergo physical training at the same time. The existing Indoor Sports Centre cannot spatially accommodate this number of personnel. Re-programming of training was considered, however, it is not suitable as physical training is interspersed with the academic timetable and limited opportunities exist for more flexibility given the matrix time-tabling of military training with academic training across several degree streams.
34. The proposed new Indoor Sports Centre will provide additional capacity so that 6 Divisions can undergo physical training during inclement weather. A secondary benefit of the new Indoor Sports Centre is that it will also provide a large flat floor area available for use as an examination hall for university examinations during June and November each year. This space is currently provided by Adams Hall.
35. A photomontage, plans and a cross section of the proposed works are shown at Attachments 15 to 19. In summary, the proposed new Indoor Sports Centre will include:
 - a. a gymnasium floor suitable to hold up to 350 cadets during examinations, equivalent to two basketball courts in size;
 - b. an indoor climbing wall and abseil tower;
 - c. storage areas for training and sports equipment; and
 - d. a new covered external form-up area to the new Indoor Sports Centre.

36. **Site Services Infrastructure Upgrades.** As a result of the changes being introduced by this project and to address a back-log of fixed plant and equipment deferred maintenance, elements of the site services infrastructure need to be upgraded. In summary, the proposed works include:
- a. provision of electrical, communications, hydraulics, and security services to the new 1,200 seat Auditorium and the new Indoor Sports Centre;
 - b. provision of a new substation to serve the new 1,200 seat Auditorium, including the diversion of existing and the provision of new high voltage cabling to the new substation located adjacent to Building 3;
 - c. re-routing of existing communication infrastructure and relocation of the existing telephone automatic branch exchange to the new 1,200 seat Auditorium. The existing telephone automatic branch exchange is located in Adams Hall and it will have to be relocated to a temporary location prior to the proposed demolition of Adams Hall; and
 - d. an end-of-life renewal of existing central mechanical services plant to existing Buildings 1, 3, 4, 24 and 32 which are all at the end of their 25 year life cycle.
37. **New Secure Storage for Bicycles and Flammable Goods.** Bicycles and flammable goods are improperly stored within the cadets' living-in accommodation around hot water services, under buildings or in spare rooms. New storage structures are proposed in close proximity to the cadets' living-in accommodation to remedy this unsafe situation. A site plan and layout of the proposed works is shown at Attachment 20. In summary, the proposed works include:
- a. flammable goods storage cabinets for cadets to house Liquid Petroleum Gas bottles, and small quantities of solvents, fuels, oils, paints etc; and
 - b. weatherproof and secure bicycle storage sheds.
38. **Refurbishment of Other Ranks' and Senior Non-Commissioned Officers' Living in Accommodation.** The living-in accommodation for Other Ranks and Senior Non-Commissioned Officers is occupied by the Australian Defence Force Federation Guard and Sergeants and Warrant Officers of the Australian Defence Force Academy military staff. The living-in accommodation is over 25 years old and is proposed to be refurbished to address deterioration in the furnishings, fittings and bathrooms arising from many years of repeated use. The finished works will not achieve Defence's level 5 living-in accommodation standards

due to the physical size of the room being too small to comply. The location of the living-in accommodation to be refurbished is shown on the site plan at Attachment 2.

39. For Other Ranks, Buildings 8, 9, 10 and 11 are proposed to be refurbished, including building exteriors, interior common areas and individual living-in accommodation rooms.
40. For Senior Non-Commissioned Officers, the living-in quarters of Building 7 are proposed to be refurbished, including building exteriors, interior common areas and individual living-in accommodation rooms.
41. **Refurbishment of Chaplains' Office and Prayer Room.** Chaplains have a role within the Australian Defence Force to provide pastoral care to military personnel of all religious faiths. Three full-time and one part-time reservist Chaplains at the Australian Defence Force Academy provide guidance to officers and cadets in reconciling their personal values with the values and expectations of military life. There is a need for confidential counseling of officers and cadets. However, privacy cannot be guaranteed between the existing Chaplain's offices. Group prayers are conducted in either a Chaplain's office or in the existing common waiting area. To accommodate the flexibility of prayer group size and to ensure prayers are not disrupted by the activities in the waiting area, a specific multi-faith prayer room is proposed. An existing space in Building 3 will be refurbished to improve the amenity of pastoral care. A plan of the proposed works is shown at Attachment 14. In summary, the proposed works include:
 - a. offices for four Chaplains with sufficient room to conduct confidential interviews with a minimum of three people;
 - b. a reception, waiting area and central meeting space with a workstation for reception;
 - c. a prayer room with an operable wall to divide the space into a smaller prayer room and meeting room or two meeting rooms; and
 - d. a storage and resource area.
42. **Overhead Cover to the Existing Gymnasium Form-Up Area.** The form up area adjacent to the rear access of the Indoor Sports Centre is exposed to the weather where packs and track suits get wet and blown around. Over 100 cadets can be there at change over time. It is proposed to construct a large car port like structure to cover over the existing form up area to protect the space from the weather. The location of the proposed works is shown on the site plan at Attachment 2.

43. **New Battle Physical Training Area.** Physical training for military fitness is a complimentary activity to the academic and military training undertaken at the Australian Defence Force Academy. Some deficiencies have been noted in preparing the confidence of Army cadets for obstacle training at the Royal Military College Duntroon. These new obstacles will better prepare all officers and cadets for their final year, particularly those that attend the Royal Military College Duntroon. A number of modifications to the existing physical training facilities will be made to provide the range of training exercises. A site plan is provided at Attachment 21. In summary, the proposed works include:
- a. a new battle physical training low ropes obstacle course comprising a low ropes traverse and an A-frame cargo net;
 - b. a new fine gravel pit for battle physical training; and
 - c. fresh water bubblers at the edge of the existing hard stand area to keep officers and cadets hydrated.

Details and reasons for site selection

44. The selection of sites for each project element has been undertaken in accordance with Infrastructure Division Planning policy requirements. A Site Selection Board was conducted in August 2009 and addressed the Australian Defence Force policy, environment, heritage and operational considerations.
45. All project elements are located within the boundaries of Commonwealth owned and Defence controlled land. The locations for the project elements are on a mix of greenfield sites and previously developed land.

Public transport

46. The Australian Defence Force Academy is serviced by ACTION Bus services. However, the bus route to major city centres is indirect, and as a result the service is not well patronised by Defence personnel, resulting in a high dependency on private motor vehicles.

Local road and traffic concerns

47. During construction of the proposed works, up to 300 personnel at any one time are expected to be directly employed on construction activities. Due to the dispersed nature of the Australian Defence Force Academy site and the timeline for construction, the impact on traffic flows in and around the Australian Defence Force Academy will be minimal.

Zoning, local approvals and land acquisition

48. All works referred to in this evidence are, or would be, constructed within the designated boundaries of Commonwealth land.
49. The Legislative framework for the planning and approval of works at the Australian Defence Force Academy includes:
 - a. Commonwealth Legislation.
 - b. National Capital and Territory legislation and planning instruments.
 - c. Defence policy and management frameworks.
50. The National Capital Plan applies to this site. The National Capital Plan is a requirement of the Australian Capital Territory (Planning and Land Management) Act 1988 (Commonwealth). The Commonwealth and Australian Capital Territory Government must not undertake an activity that is inconsistent with the National Capital Plan. The National Capital Plan identifies 'Designated Areas' to which specific design and planning requirements apply. The Australian Defence Force Academy is located within the 'Remaining parts of the Central National Area', which is a 'designated area' representing important characteristics of the National Capital.
51. As the Australian Defence Force Academy is a 'designated area', approval from the National Capital Authority approval is required for the Australian Defence Force Academy redevelopment in accordance with the provisions of the National Capital Plan. In April 2010 the Australian Defence Force Academy Redevelopment was presented to the National Capital Authority to ensure the proposed works are in accordance with the Authority's objectives for the site regarding general site usage, urban design principles, master planning considerations, specific new building siting, massing, heights and setbacks. The National Capital Authority accepted the proposal without amendment and invited Defence to lodge the proposal once the design was complete. Formal lodgment took place in October 2010. It is expected that the National Capital Authority approval process will be complete by April 2011.
52. The National Capital Authority's consideration of such proposals is based on Defence requesting a Works Approval and the National Capital Authority's assessment of the application against relevant provisions of the National Capital Plan. The National Capital Authority submission includes the necessary information in relation to the Department of the Environment and Heritage considerations.

53. The proposed redevelopment does not require acquisition of additional land or involve land disposal aspects. There will be no change to existing land use conditions.

Planning and design concepts

54. The general philosophy adopted for the design of the proposed facilities incorporates the following considerations:
- a. provision of cost effective and functional facilities of energy efficient design suitable for the climate of the site and of a style compatible with the existing base aesthetics;
 - b. adoption where possible of conventional construction techniques and materials, in particular those commonly used by the construction industry and consistent with those already utilised on the Australian Defence Force Academy campus;
 - c. maximum use of existing infrastructure and facilities to minimise capital costs;
 - d. utilisation of readily available and durable materials that combine long life while minimising maintenance;
 - e. recognition of site constraints, security requirements, the established zone plan, functional relationships to existing facilities and operational determinants; and
 - f. planning services and structure design to accommodate flexibility.
55. The proposed design will provide a safe, efficient and pleasant learning, training, working and living environment and represents value for money. The design offers 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. During the preliminary design stage, the designers have considered the implications and estimates of cost for design, materials, construction techniques, finishes, equipment and energy systems which will deliver economy on a life cycle costing basis.
57. In the selection of services and associated equipment, the capital costs have been balanced against forecast operational and maintenance costs. Operating cost 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 and other facilities have been determined to ensure that future expansion is possible. This is of particular importance in

sizing and terminating in-ground services. New mechanical plant, where possible, is 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, minimal use has been made of structural internal walls or columns. In general terms, internal walls in open plan office areas are demountable partitions or workstation type to facilitate economic rearrangement. Building services are compatible with this requirement.
60. The building works and services will be fully fitted out with all communication, 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 have the capability to be integrated with any future site-wide Building Management System.

Structural design

61. The structural design has accounted for the soil and weather conditions encountered at the site. Proposed new facilities will generally be concrete or steel framed structures with concrete floor slabs. They will generally comprise masonry, precast and pre-finished cladding or equivalent external walls, and metal roofing appropriate to the environment. Internal walls, wherever possible, will generally be non-load bearing framed construction with linings appropriate to the intended usages.

Materials and furnishings

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

Mechanical services

63. The mechanical services works involve a number of systems. The selection of building services and associated equipment to new air-conditioned facilities will be required to achieve an economic balance between capital cost and operation/maintenance costs. Selection will be based on a life cycle costing analysis and particular consideration has been given to energy efficient design solutions employing passive solar and natural ventilation where achievable. Air-conditioning is provided to areas where usage dictates the need.

Hydraulic services

64. Water supply, sewerage and stormwater services within each facility will be extended where necessary to suit design requirements. There will also be 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, as well as sub-metering of all major water supplies to each new building. Where practical, rainwater harvesting from roof areas will be utilised to supply adjacent landscaping areas. Rainwater harvesting systems are being provided to the new 1,200 seat Auditorium, Learning Spaces and the new Indoor Sports Centre.

Electrical services and fire protection

65. Lighting, power, lightning protection and fire detection will be provided in accordance with the relevant Australian Standards and additional Defence requirements. Electrical infrastructure and switchboards will have modest spare capacity to allow for some future growth or demand. Fire detection systems, indication panels, emergency and exit lighting will be provided to suit the existing site systems.

Acoustics

66. Noise assessments have been, and will continue to be, conducted for the proposed facilities. 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 or 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 (AS) 2670.2, AS 2763, and additional Defence requirements.

Landscaping

67. This proposal will not cause any substantial change to the landscape character of the site. Landscaping works will restore areas disturbed during construction and provide general improvement to the built environment. Precautions will be taken to avoid compromising environmental sensitivities by adopting landscaping practices in accordance with local environmental conditions and the Construction Environmental Management Plan. Landscaping design will minimise potable water usage.

Water and energy conservation measures

68. The Commonwealth is committed to Ecologically Sustainable Development and the reduction of greenhouse gas emissions. Defence reports annually to Parliament on its energy management performance and on its progress in meeting the energy efficiency targets established by the government as part of its commitment to improve Ecologically Sustainable Development. Defence also implements policies and strategies in energy, water and waste to improve natural resource efficiency and to support its commitment to the reduction of energy consumption, potable water consumption and waste diversion to landfill. This project has addressed this policy by adopting cost-effective and ecologically sustainable development as a key objective in the design development and delivery of new facilities.
69. The ecologically sustainable development targets and measures for the project have been balanced with other requirements for Defence buildings (e.g. security, heritage considerations, Occupational Health and Safety) to ensure that, first and foremost, Defence's operational capability is not compromised.
70. All buildings included in this project will be designed, constructed, operated and maintained to ensure that energy is used efficiently. To achieve this, as a minimum, the buildings will comply with the following (as applicable to the classification of each building):
 - a. Part I.2 and Section J of Volume One of the Building Code of Australia.
 - b. Part 3.12 of Volume Two of the Building Code of Australia.
 - c. The Energy Efficiency in Government Operations policy.
 - d. Defence Green Building Requirements Part 1.
71. All buildings have been design to the standards of the Defence Green Building Requirements Part 1 which requires a 20% improvement on the 2009 Building Code of Australia minimum energy efficiency performance requirements.
72. All mixed-use buildings that have office floor area of less than 2000m² (i.e. the new Auditorium and Student Administrative Services building, the new Indoor Sports Centre, the refurbished Divisional Offices and the Chaplains' offices), will have real-time digital metering installed and office lighting will not exceed 10 W/m². Where available, fit for purpose and cost-effective appliances will be 'Energy Star' compliant with power management features enabled at the time of supply.

73. Each new building has been modelled to determine 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 included are:
- a. orientating the buildings to minimise east and west solar gain;
 - b. installing a Building Management System in each new building with a capability to be integrated with any future site-wide Building Management System;
 - c. in-building load control devices such as motion sensors on lighting, where practical;
 - d. natural ventilation and mixed mode systems wherever feasible and cost-effective;
 - e. installation of ceiling fans in selected areas to alleviate the use of air conditioning;
 - f. energy efficient lighting (T5 fluorescent light fittings in office areas) supplemented by energy efficient controls such as occupancy sensors and after-hours automatic shut-off controls; and
 - g. energy efficient appliances.
74. Efficient water use is a key aspect of the design. Key water saving measures will include:
- a. all tap ware and fittings compliant with the Water Efficiency Labelling Standards scheme to provide a minimum 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. rain water harvesting from roof areas complete with storage tanks and pressure pumping to supply localised landscaping areas is being provided to the new Auditorium, Learning Spaces and Indoor Sports Centre.
75. The Department of Climate Change and Energy Efficiency will be consulted with respect to these energy efficiency requirements.

Demolition and disposal of existing structures

76. It is proposed to demolish the existing Adams Hall. Demolished materials will be separated and recycled where possible. The demolitions are in accordance with the Defence Heritage Management Plan for the site, and have been addressed in the Heritage Impact Statement.

Zone planning

77. Where the proposed facilities are new construction they are either located on previously developed sites or sited in accordance with the Australian Defence Force Academy and Royal Military College Zone Plan that was approved in 2008.

Provisions for people with disabilities

78. Access and facilities for people with disabilities will be provided where required in accordance with the Building Code of Australia, Australian Standard AS1428 and Defence's policy of 'Disabled Access and Other Facilities for Disabled Persons'. Where possible, the use of existing facilities and access has been identified and incorporated in the design.

Childcare provisions

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

Occupational Health and Safety measures

80. 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 Australian Capital Territory Government Occupational Health and Safety legislation and will operate in accordance with an approved project Occupational Health and Safety Plan.
81. The Australian Government is committed to improving occupational health and safety outcomes in the building and construction industry. In accordance with Section 35(4) of the *Building and Construction Industry Improvement Act 2005 (Commonwealth)*, contractors will be required to hold full occupational health and safety accreditation from the Office of the Federal Safety Commissioner under the Australian Government Building and Construction Occupational Health and Safety Accreditation Scheme.
82. All construction sites will be secured appropriately to prevent public access during the construction period. No special or unusual public safety risks have been identified.

Cost-effectiveness and public value

Outline of project costs

83. The estimated total out-turned cost of this project is \$98.5 million (excluding GST). This cost estimate includes the construction costs, management and design fees, furniture, fittings and equipment, contingencies and an escalation allowance.

84. An 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.

Details of project delivery system

85. A Project Manager / Contract Administrator will be appointed by the Commonwealth to manage the proposed works and administration of the contracts for construction. A Managing Contractor, using the Defence form of Managing Contactor Contract, will be appointed to control the completion of design development; procurement of trades, and construction of the proposed works. The Managing Contractor will provide the Commonwealth with buildability experience and fitness for purpose warranties while promoting access for small to medium enterprises through sub-contact design and construction trade packages.

Construction schedule

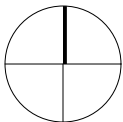
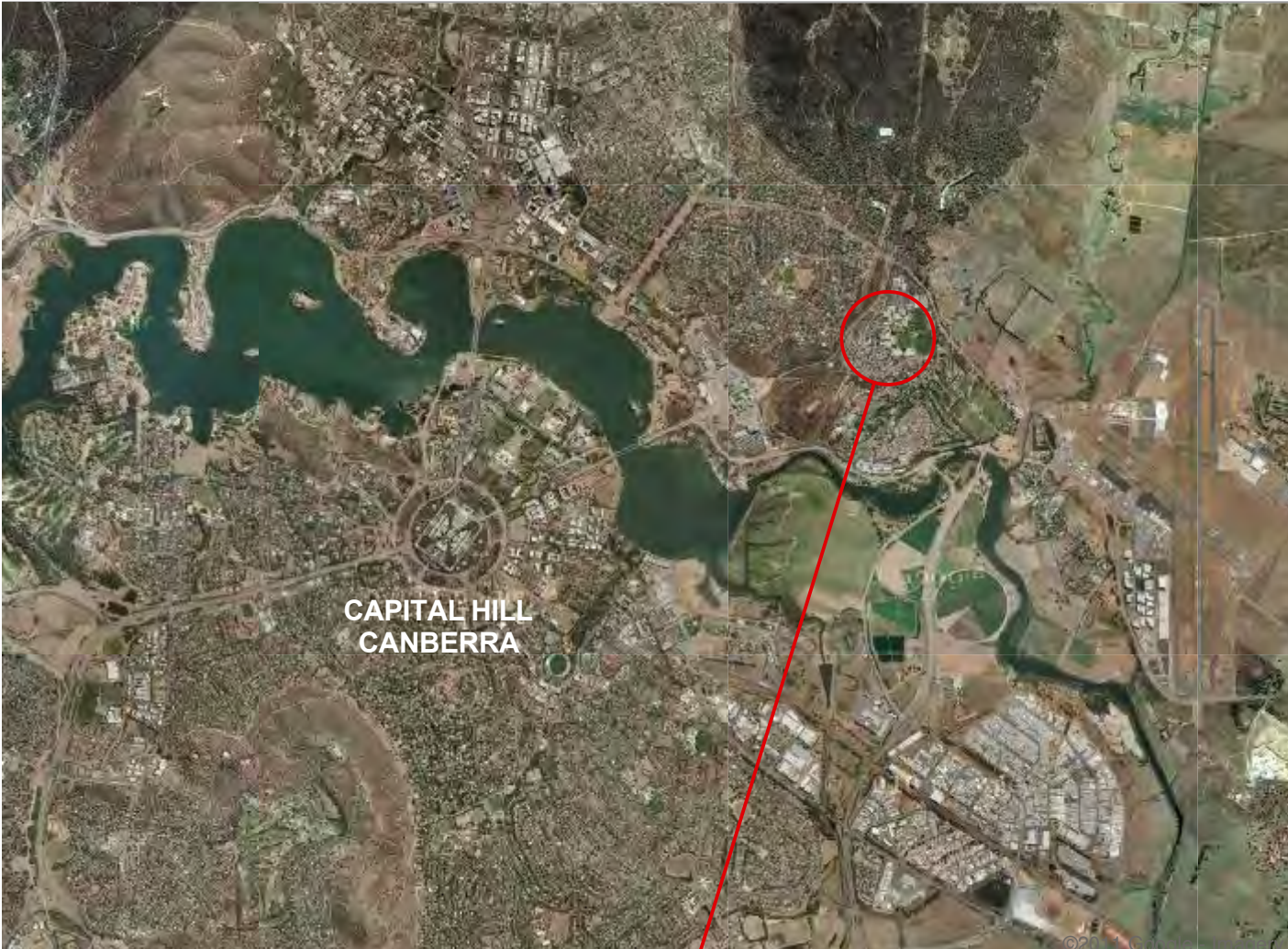
86. Subject to Parliamentary clearance of the proposed redevelopment, construction is expected to commence in late 2011 and be completed by the end of 2014.

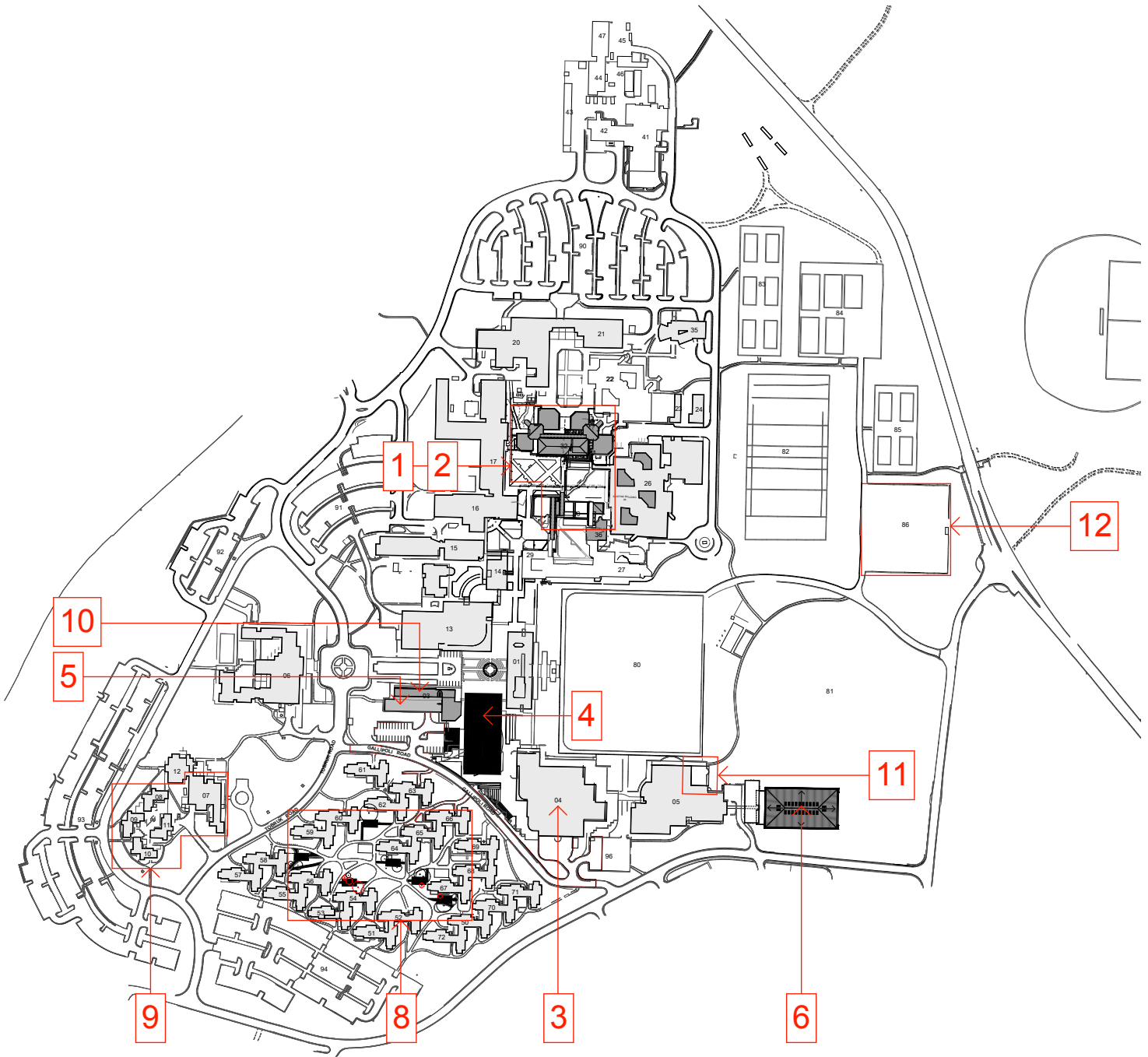
Public value

87. 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 has been assessed as being cost effective and appropriate, so these facilities will be upgraded to meet functional requirements. A limited number of new facilities are proposed for construction, and these are located primarily on previously developed sites.
88. The cost of investment, both in capital and operating terms, has been optimised in a number of the proposed purpose-designed facilities. The proposed redevelopment of facilities includes the renewal of engineering services infrastructure to ensure these services will be adequate support the functions of the Australian Defence Force Academy.

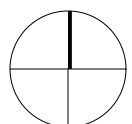
Revenue

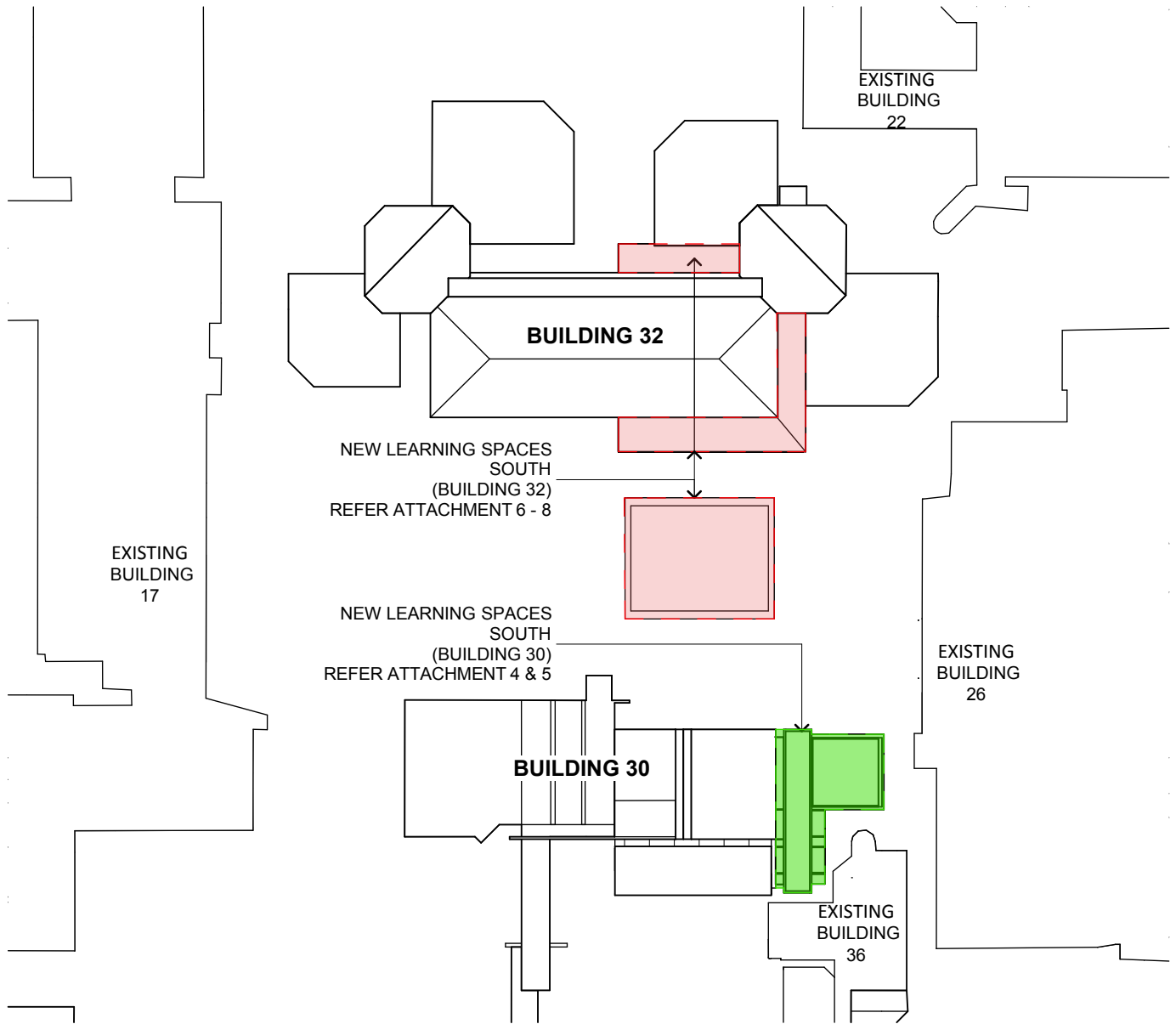
89. No revenue will be derived from this proposal.









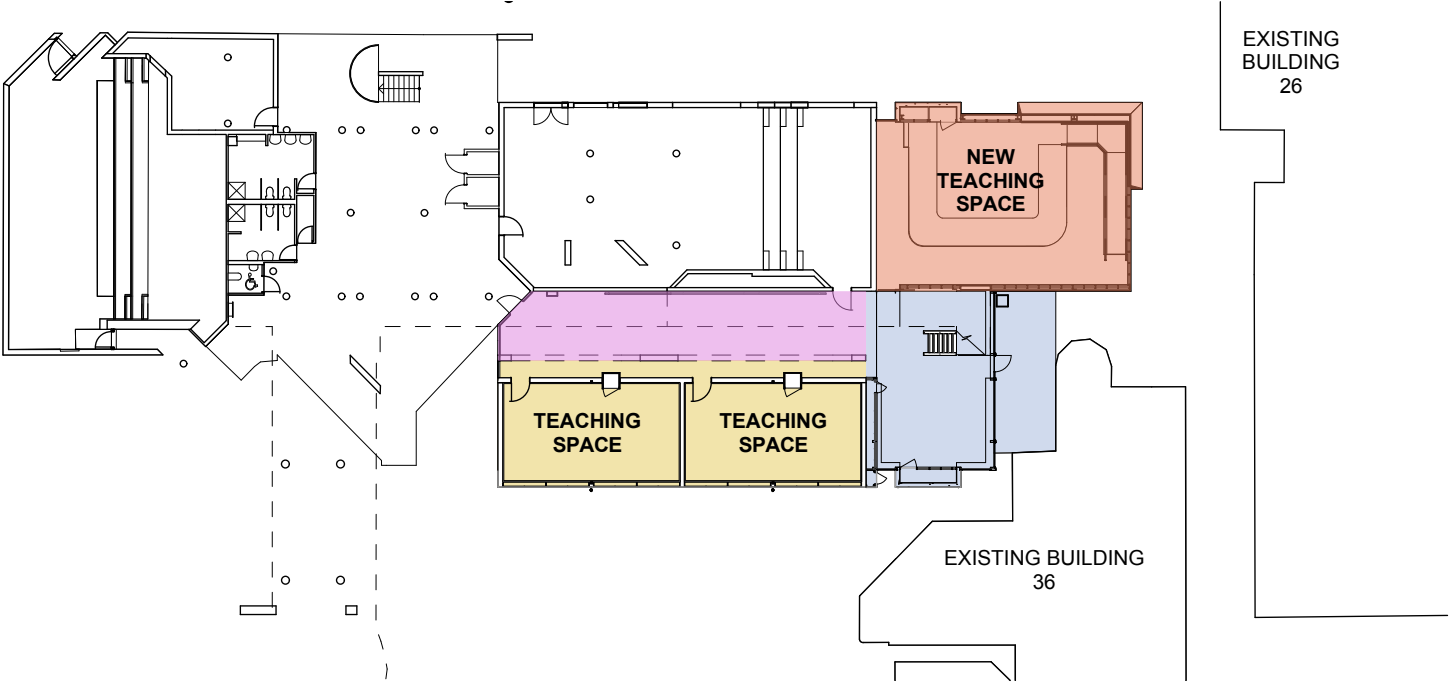
- | | | | |
|----|---|-----|--|
| 1. | NEW LEARNING SPACES | 7. | SITE SERVICES INFRASTRUCTURE UPGRADE
(LOCATIONS NOT SHOWN ON SITE PLAN) |
| 2. | REFURBISHMENT OF EXISTING LEARNING SPACES | 8. | NEW BIKE STORAGE SHEDS AND FLAMMABLE
GOODS CABINETS |
| 3. | REFURBISHMENT OF CADETS' MESS | 9. | REFURBISHMENT OF LIVING-IN ACCOMMODATION |
| 4. | NEW 1200 SEAT AUDITORIUM | 10. | REFURBISHMENT OF CHAPLAINS' OFFICES |
| 5. | REFURBISHMENT OF DIVISIONAL OFFICES | 11. | NEW FORM-UP CANOPY |
| 6. | NEW INDOOR SPORTS CENTRE | 12. | NEW BATTLE PHYSICAL TRAINING AREA |





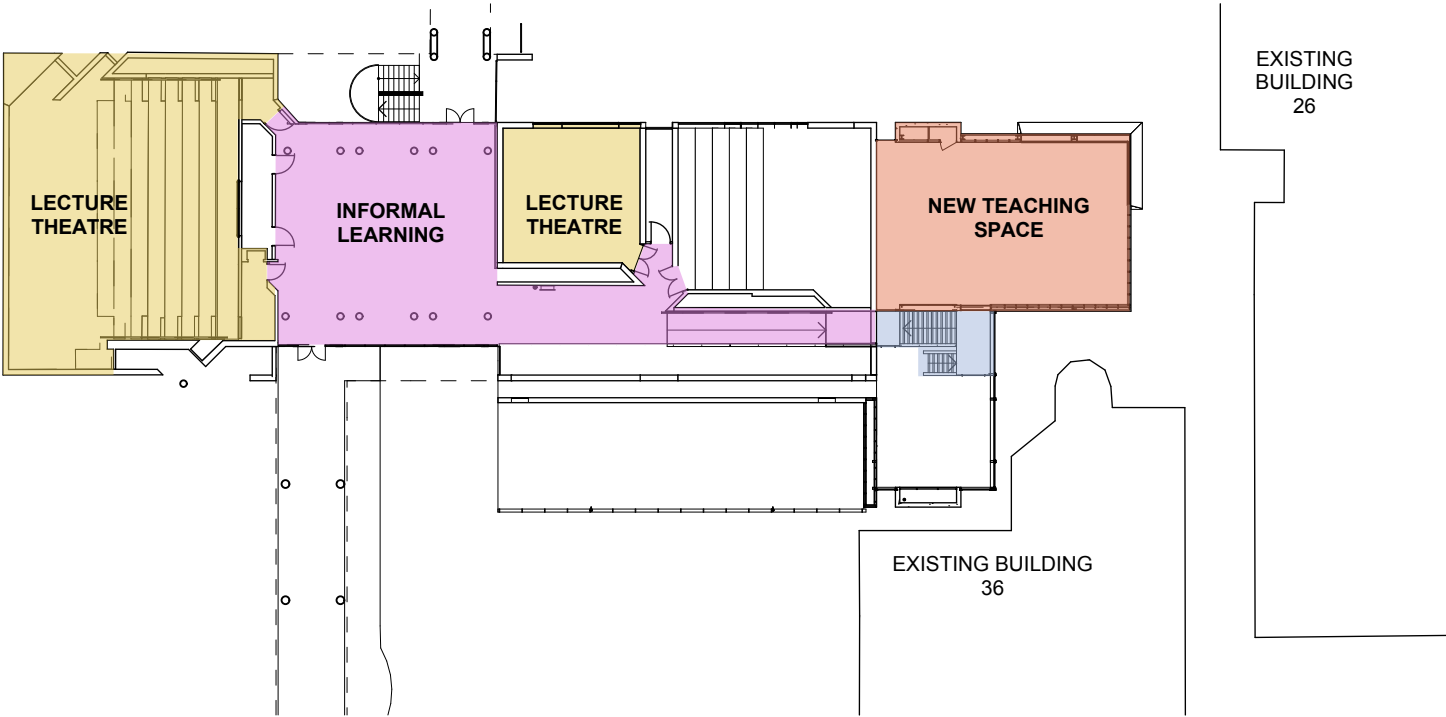
BUILDING 30 - LOWER GROUND FLOOR PLAN

-  NEW TEACHING SPACE
-  NEW COMMON SPACE
-  REFURBISHED COMMON SPACE
-  REFURBISHED TEACHING SPACE







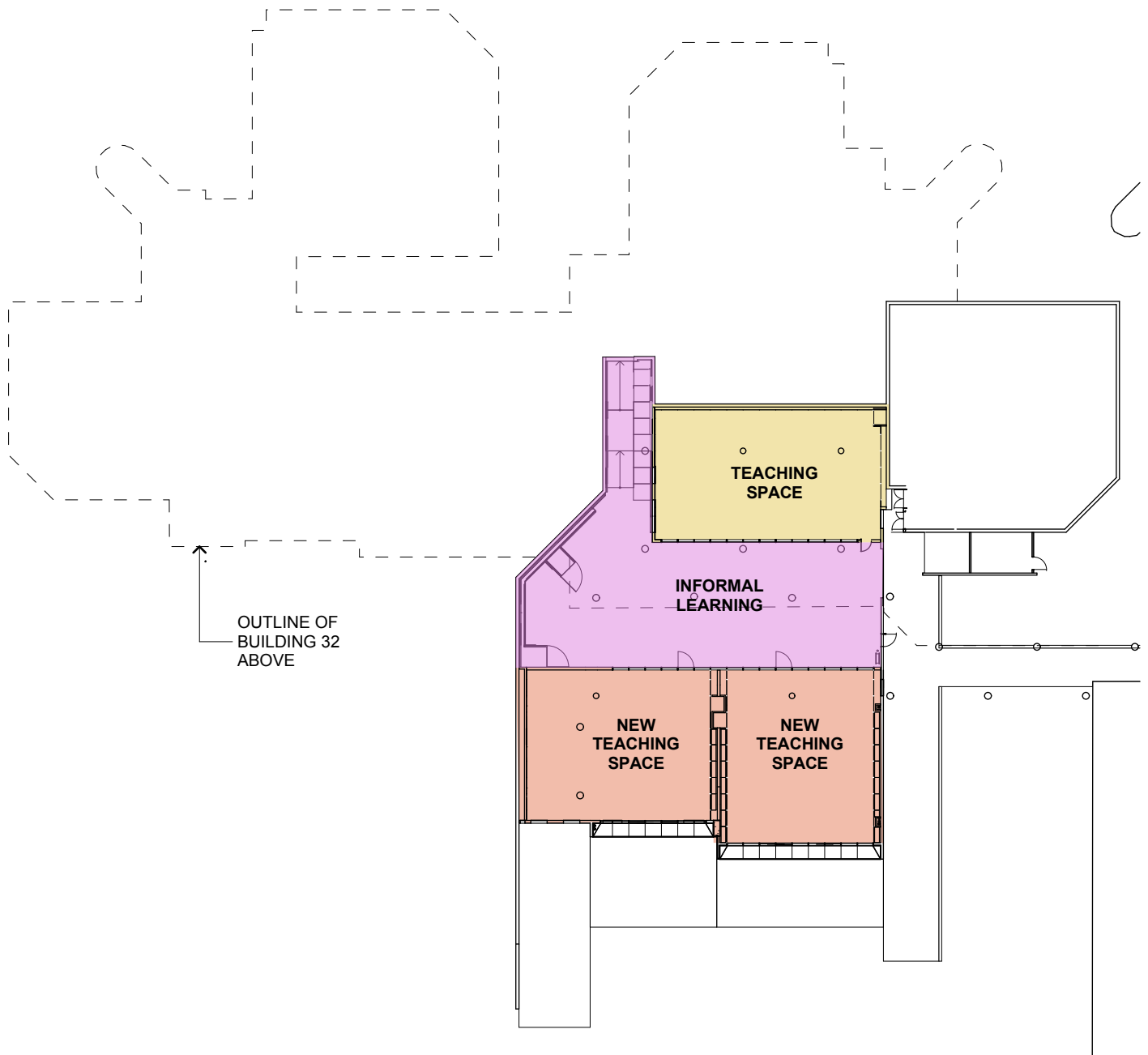
BUILDING 30 - GROUND FLOOR PLAN

- NEW TEACHING SPACE
- NEW COMMON SPACE
- REFURBISHED COMMON SPACE
- REFURBISHED TEACHING SPACE







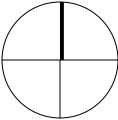
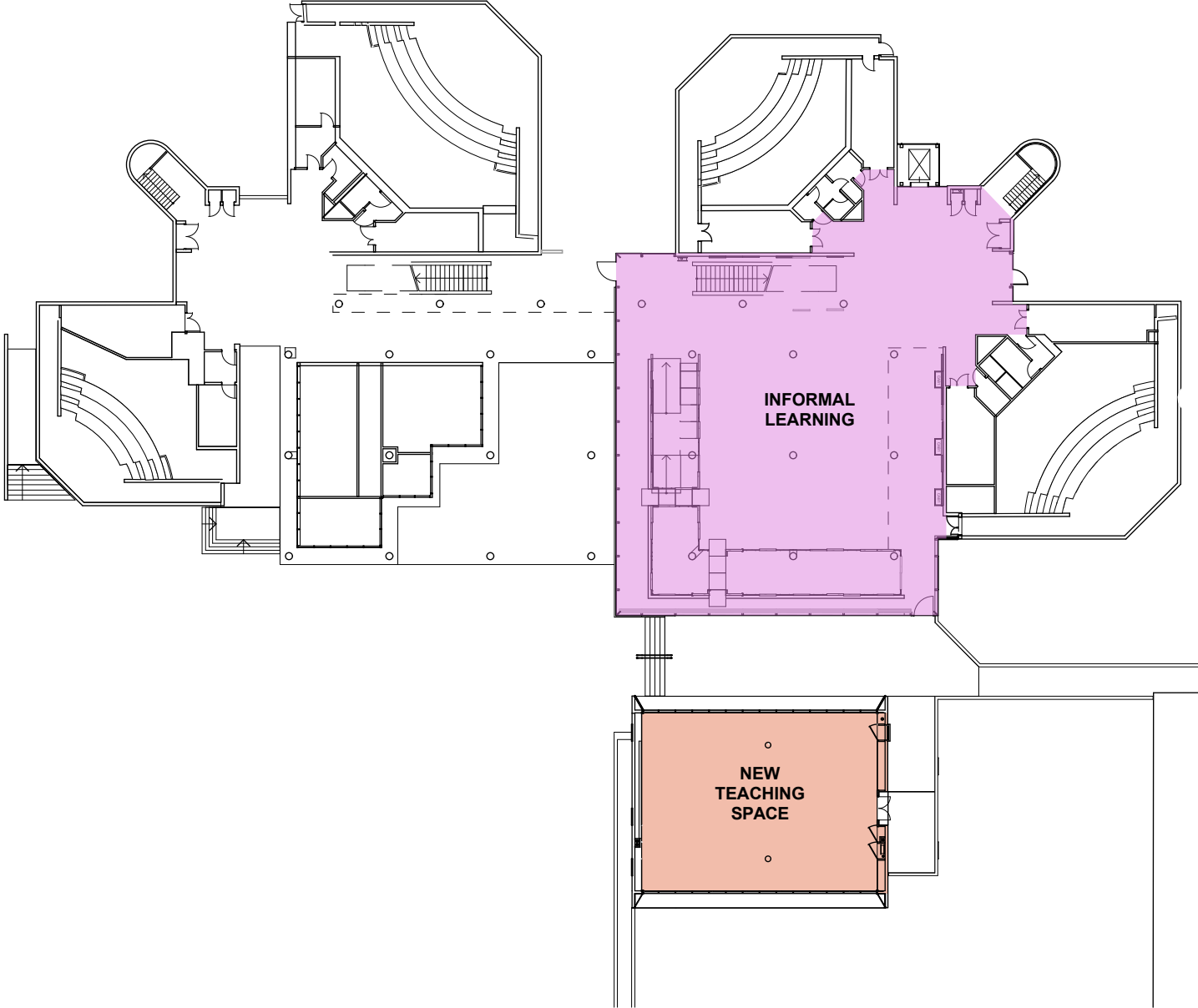
BUILDING 32 - LOWER GROUND FLOOR PLAN

-  NEW TEACHING SPACE
-  NEW COMMON SPACE
-  REFURBISHED COMMON SPACE
-  REFURBISHED TEACHING SPACE







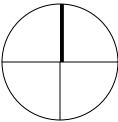
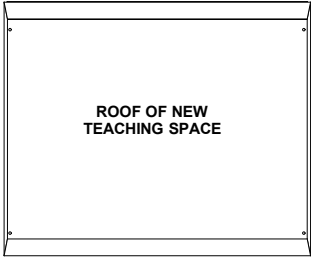
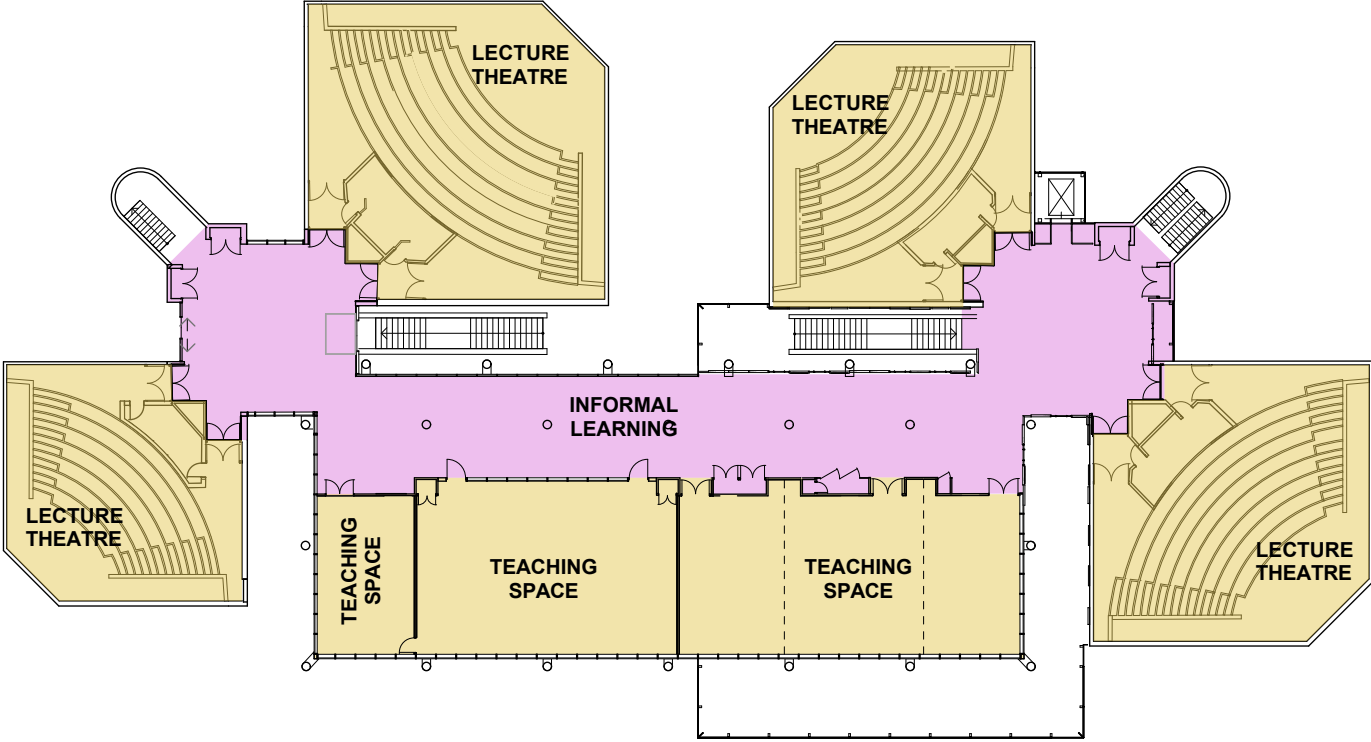
BUILDING 32 - GROUND FLOOR PLAN

-  NEW TEACHING SPACE
-  NEW COMMON SPACE
-  REFURBISHED COMMON SPACE
-  REFURBISHED TEACHING SPACE

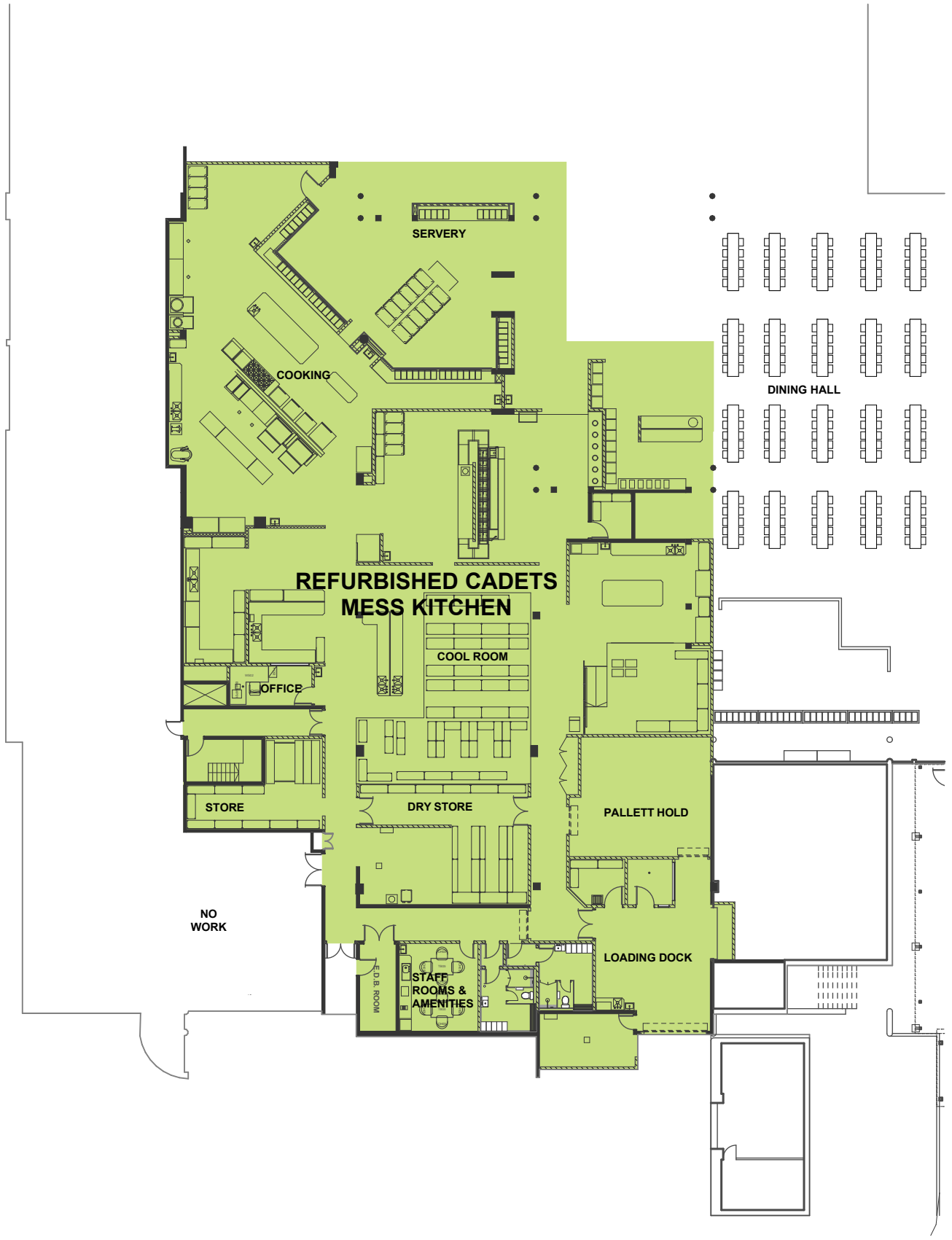


BUILDING 32 - FIRST FLOOR PLAN

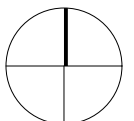
-  NEW TEACHING SPACE
-  NEW COMMON SPACE
-  REFURBISHED COMMON SPACE
-  REFURBISHED TEACHING SPACE



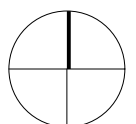
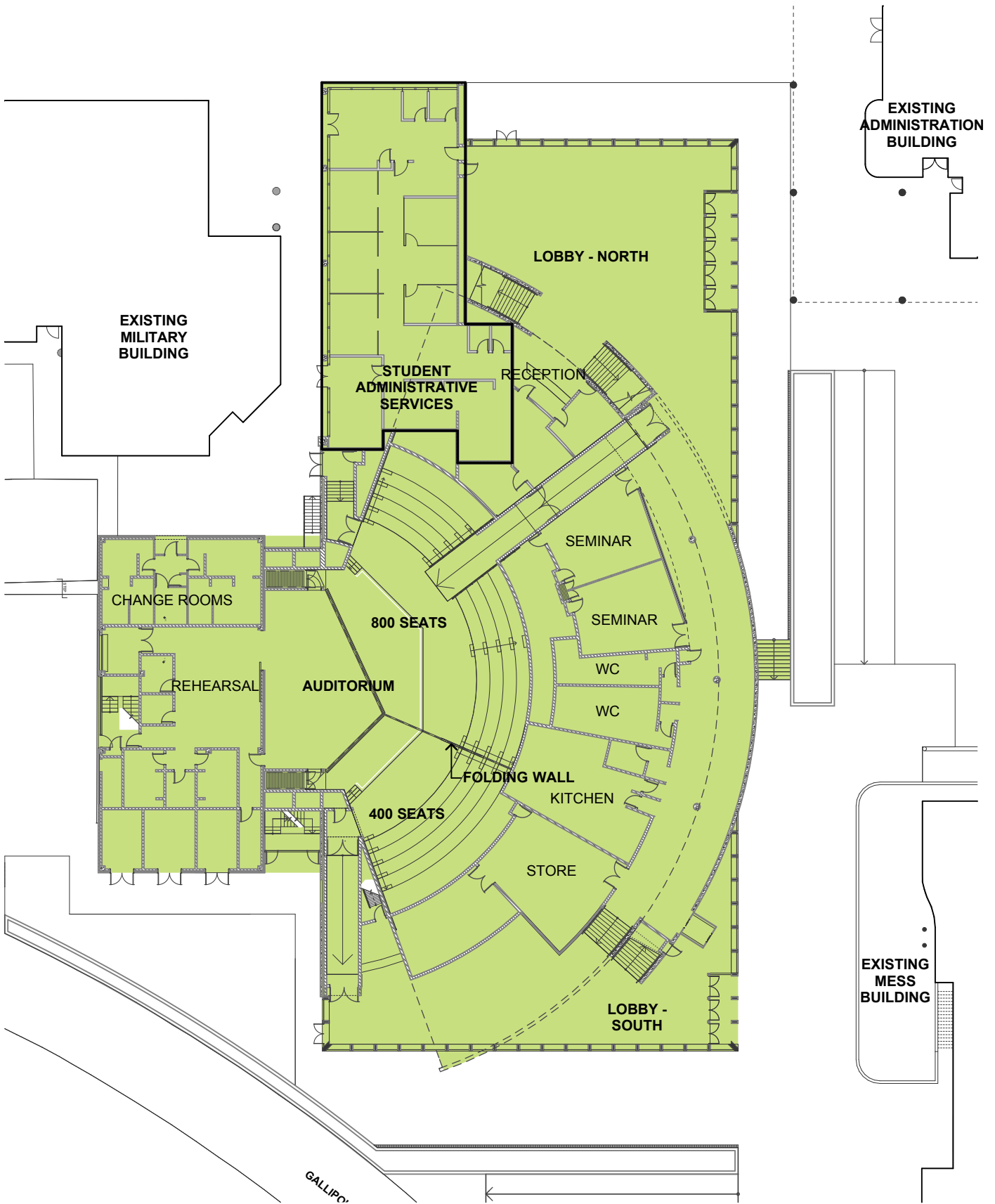
CADETS' MESS KITCHEN / SERVERY PLAN



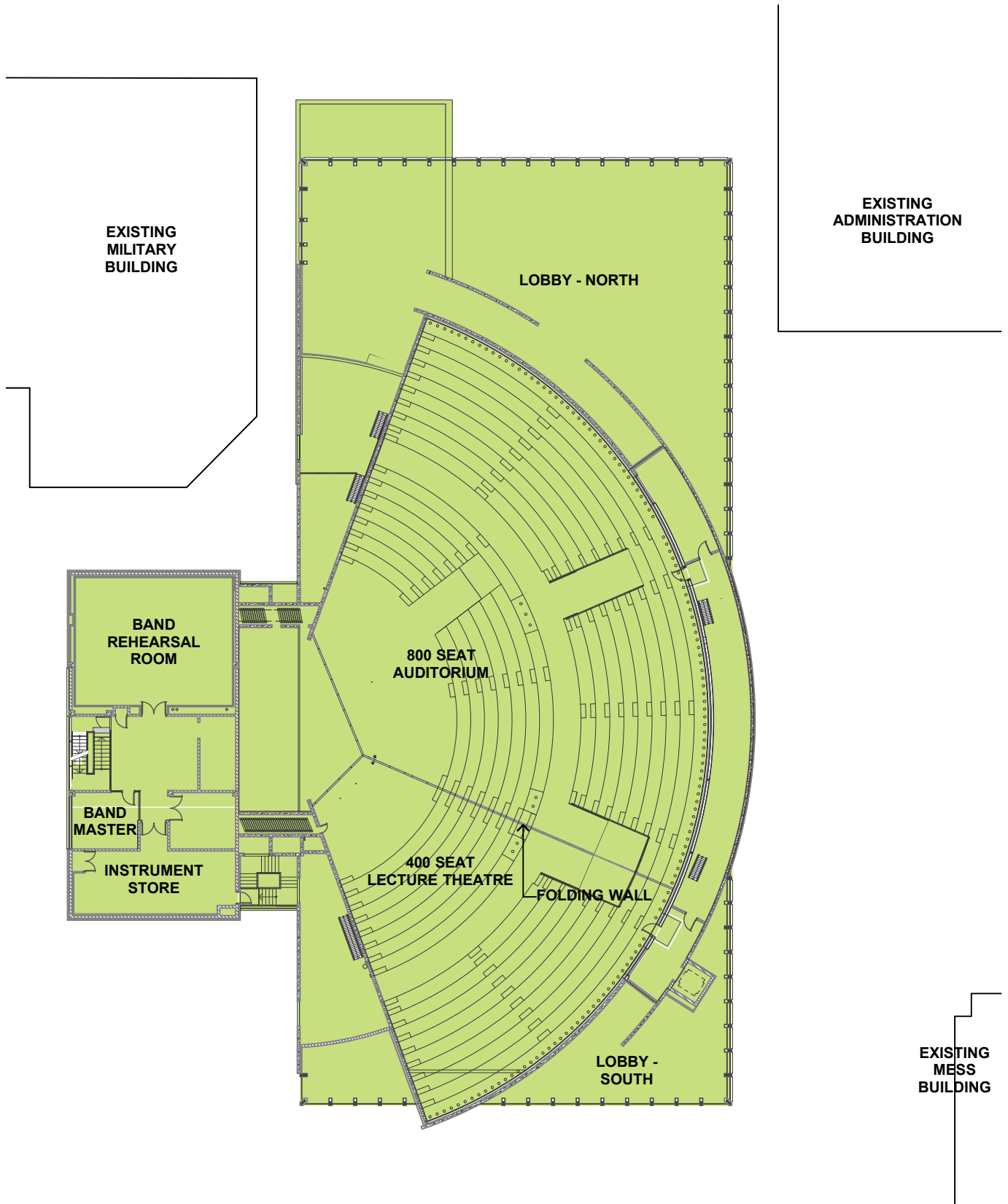
GROUND LEVEL PLAN

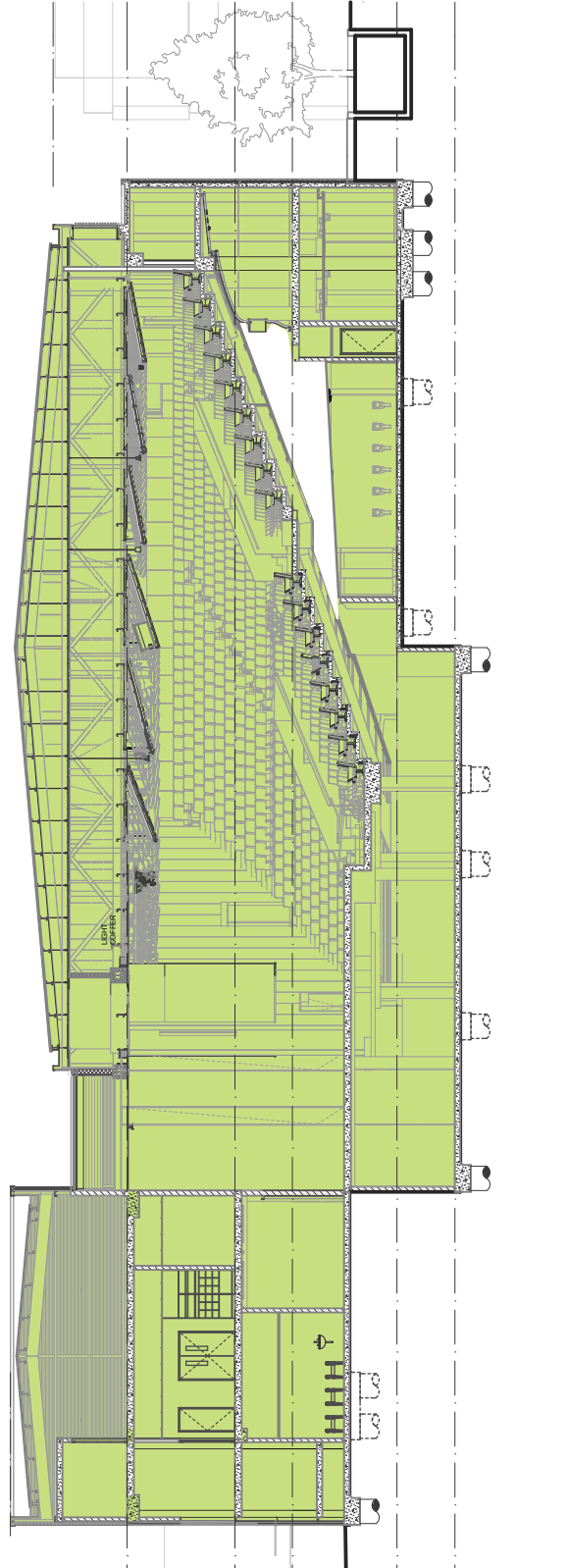


NEW AUDITORIUM - GROUND FLOOR PLAN



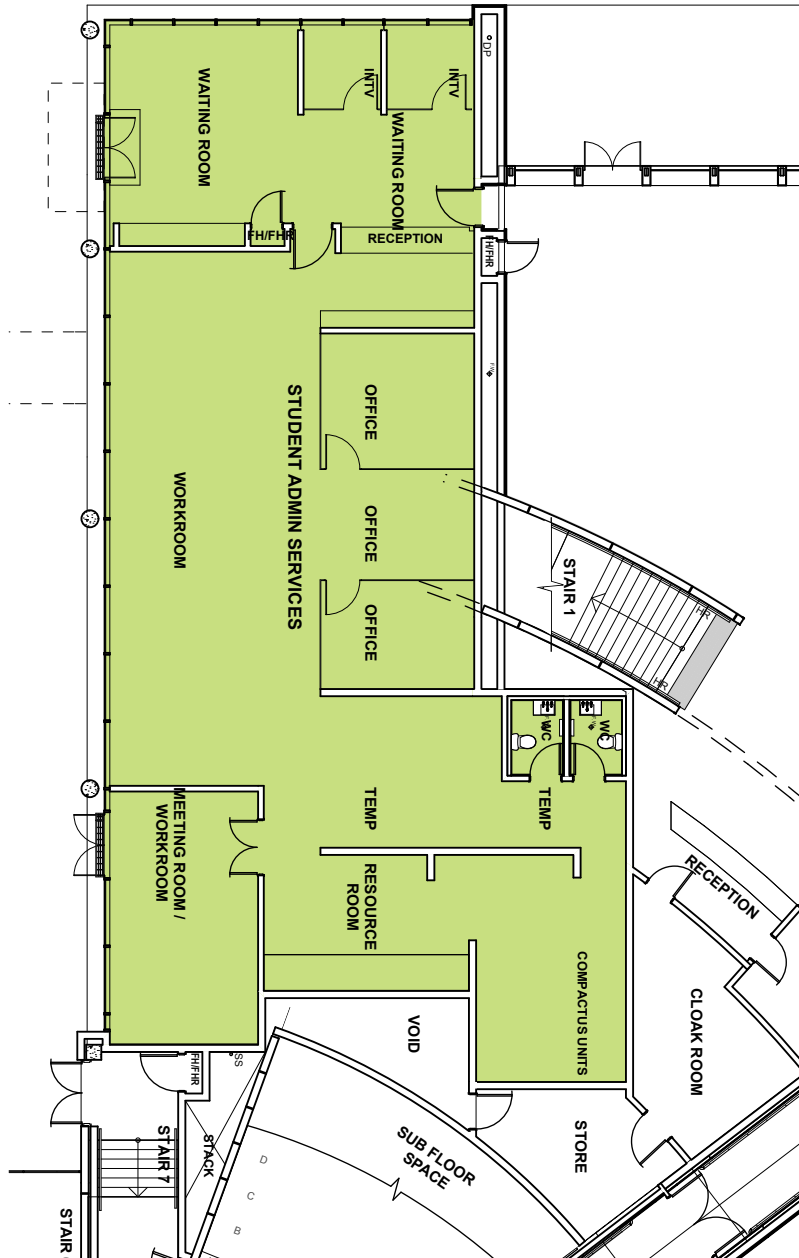
NEW AUDITORIUM - UPPER FLOOR PLAN



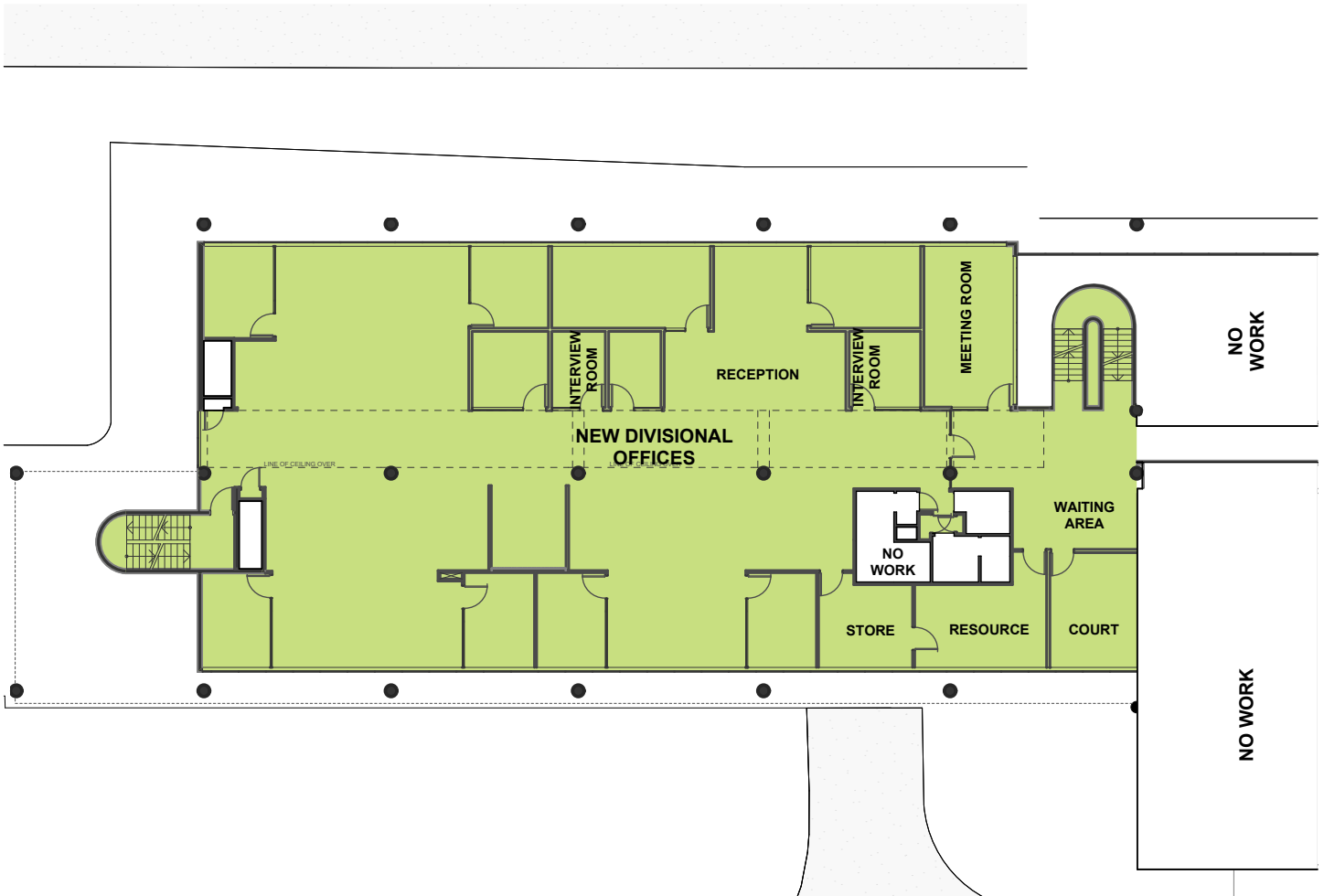


SECTION

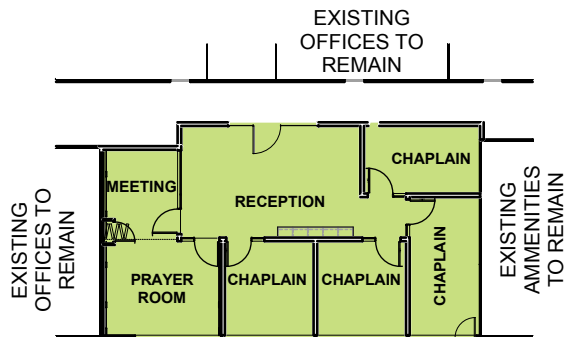
NEW AUDITORIUM - DETAIL PLAN STUDENT ADMINISTRATION SERVICES



DIVISIONAL OFFICES - FIRST FLOOR PLAN
CHAPLAINS' OFFICE & PRAYER ROOM - GROUND FLOOR PLAN



DIVISIONAL OFFICES - FIRST FLOOR PLAN



CHAPLAINS' OFFICE & PRAYER ROOM - GROUND FLOOR PLAN

NEW INDOOR SPORTS CENTRE - PHOTO MONTAGE

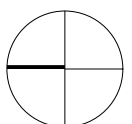
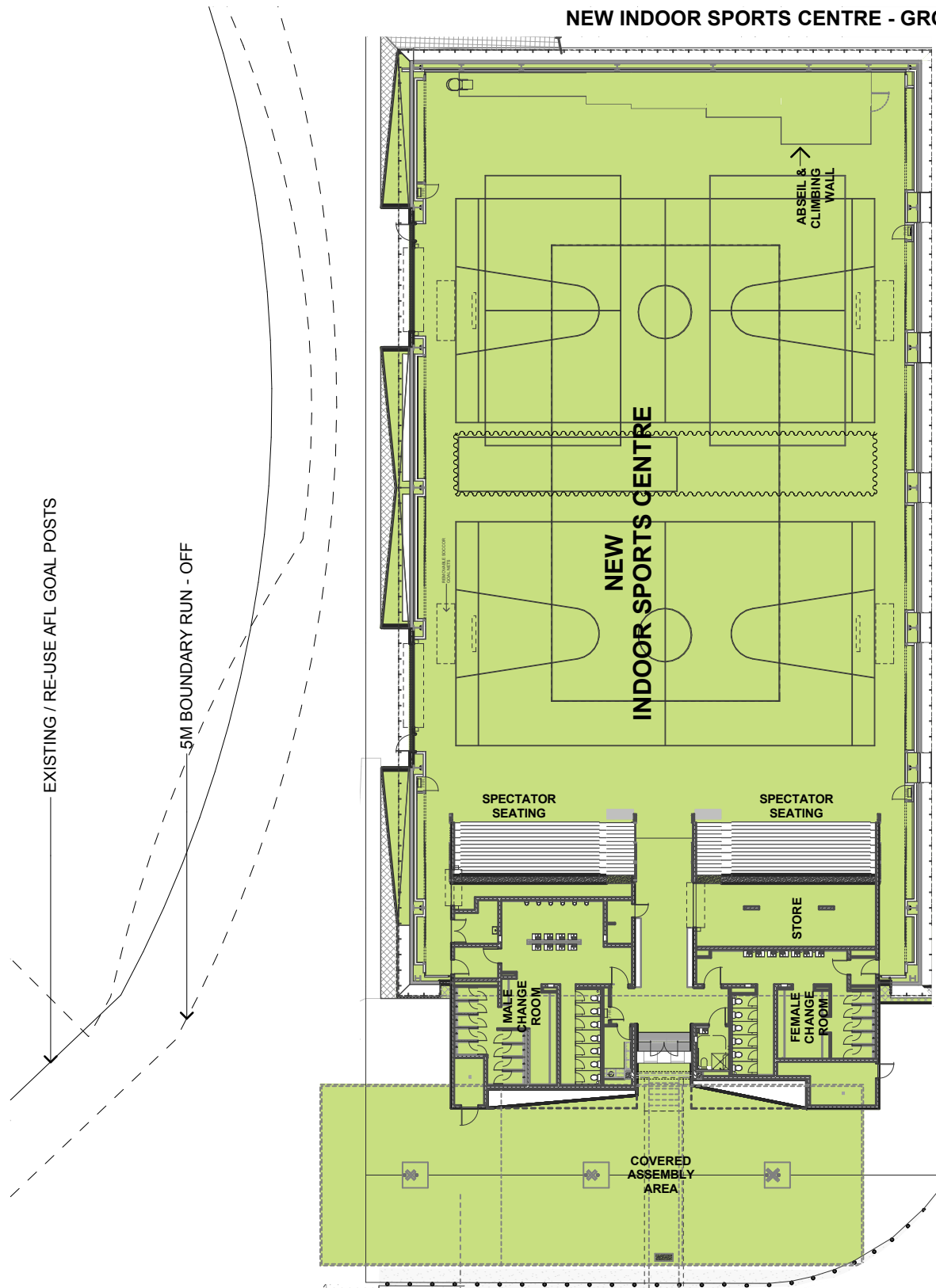


BEFORE

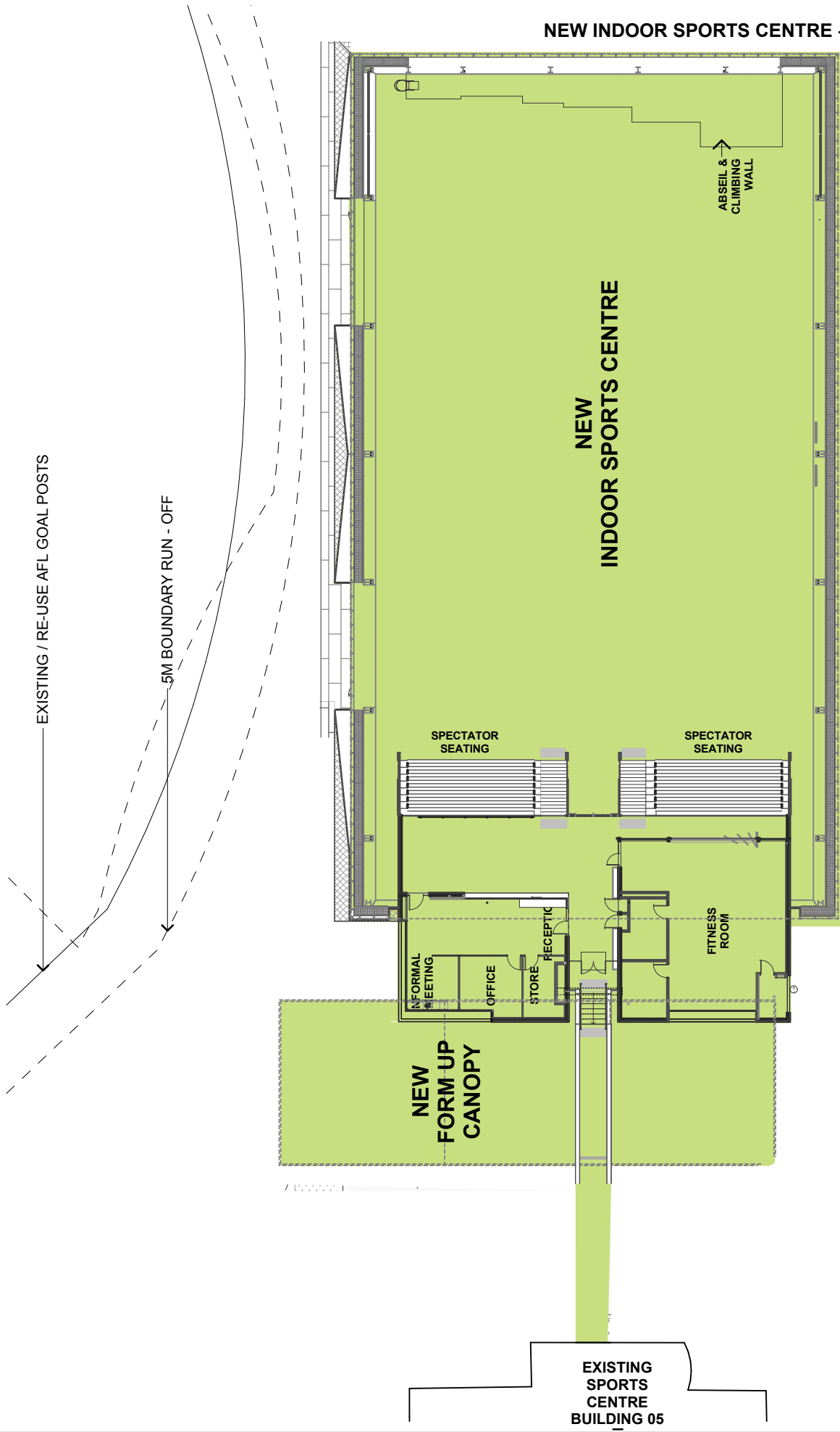


AFTER

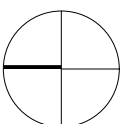
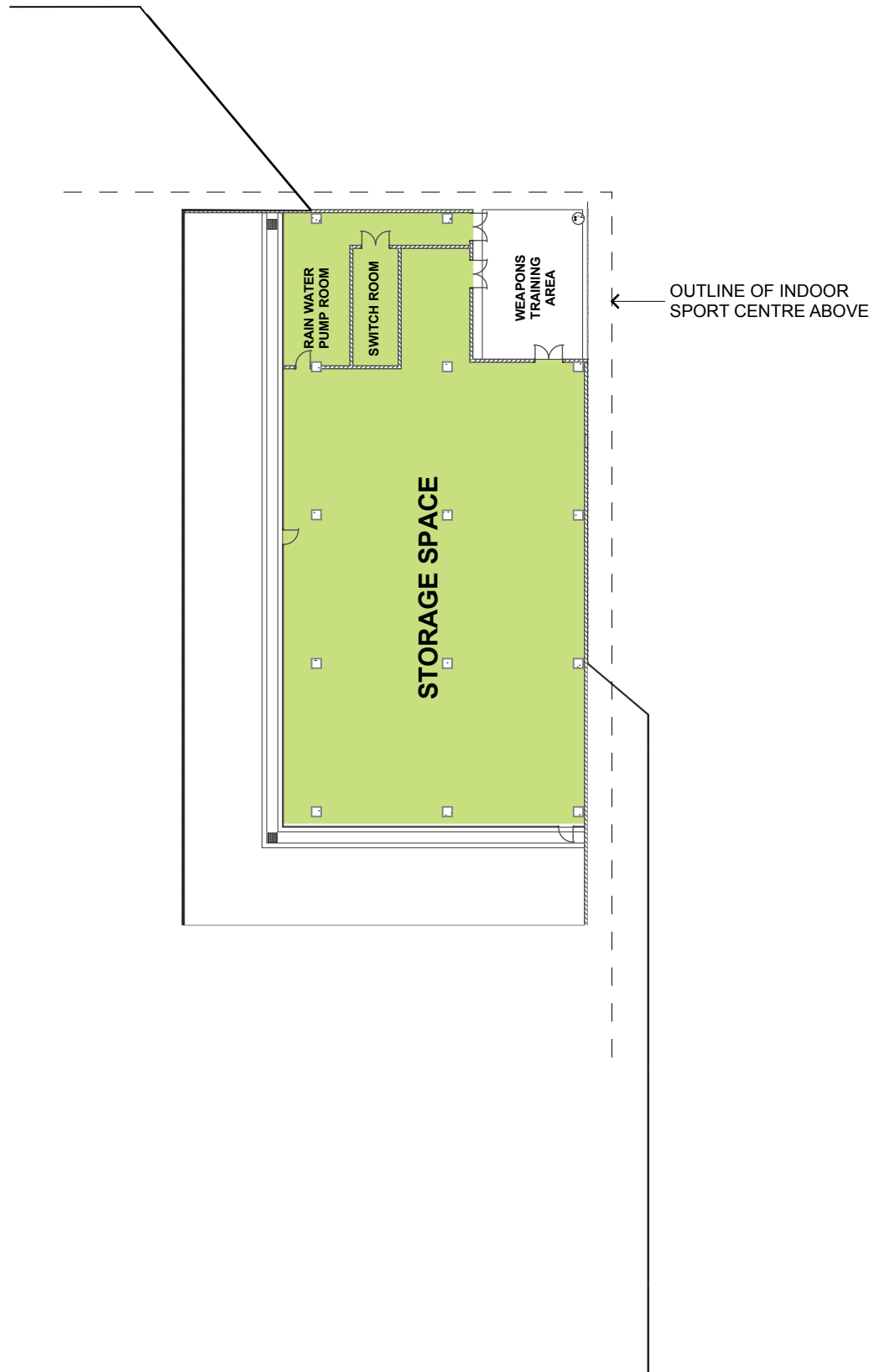
NEW INDOOR SPORTS CENTRE - GROUND LEVEL PLAN



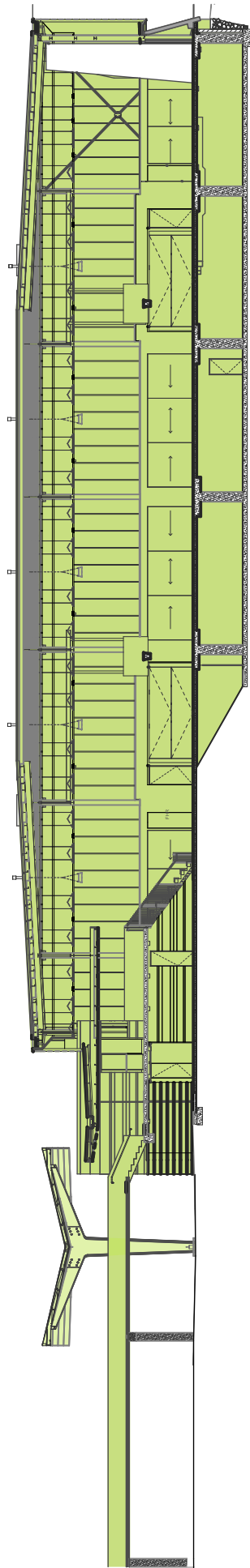
NEW INDOOR SPORTS CENTRE - MEZZANINE PLAN



NEW INDOOR SPORTS CENTRE - UNDERCROFT PLAN



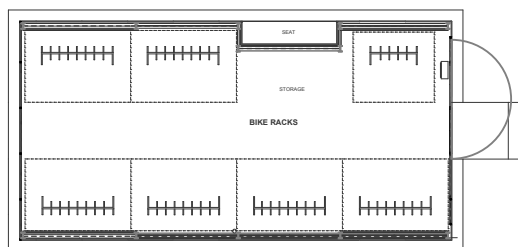
NEW INDOOR SPORTS CENTRE - SECTION



CADETS' BICYCLE STORAGE & FLAMMABLE GOODS CABINETS - SITE PLAN



0 10 15



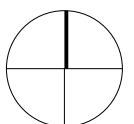
BIKE SHELTER



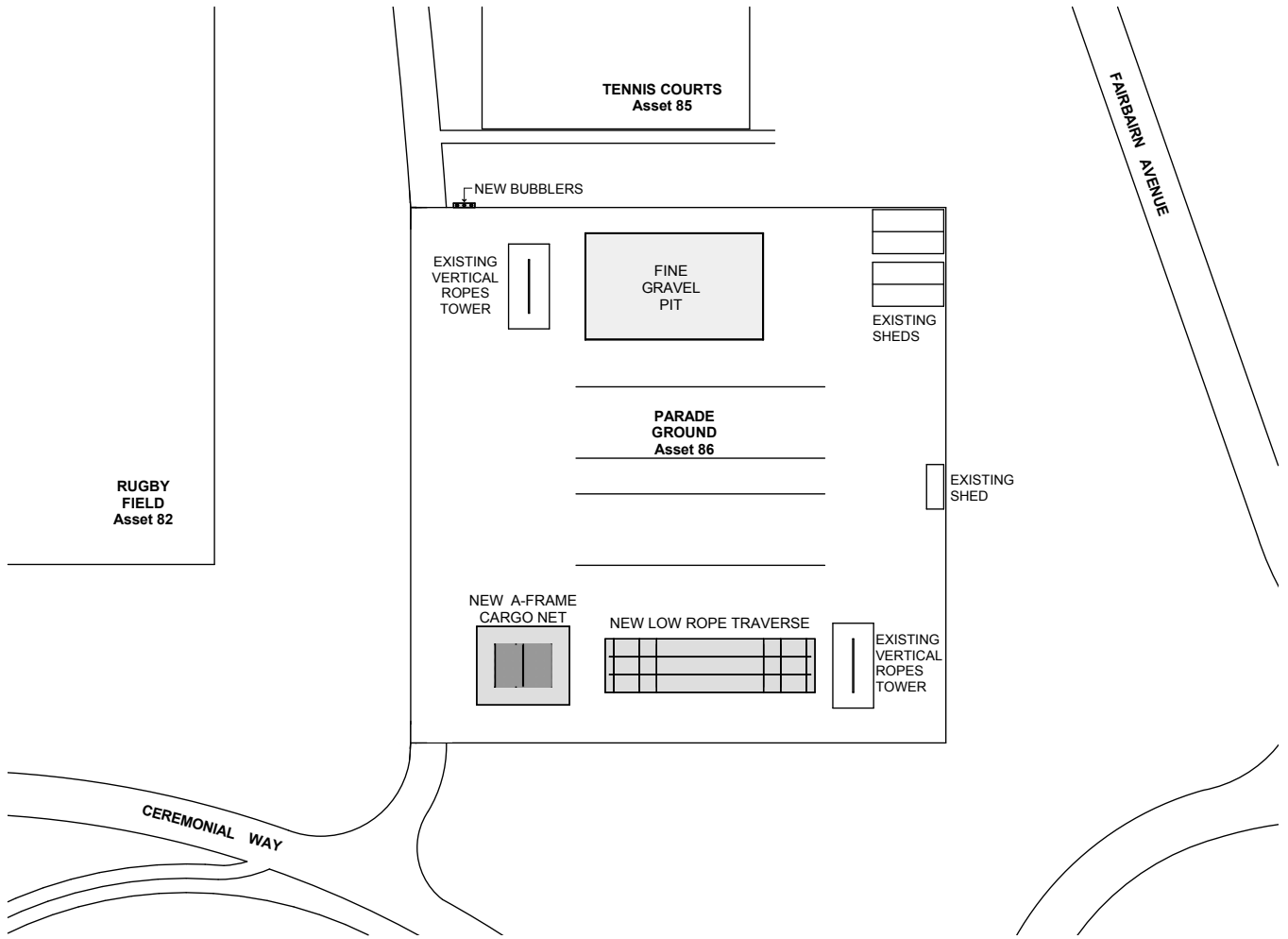
FLAMMABLE GOODS CABINETS

CADETS' BICYCLE STORAGE PLAN

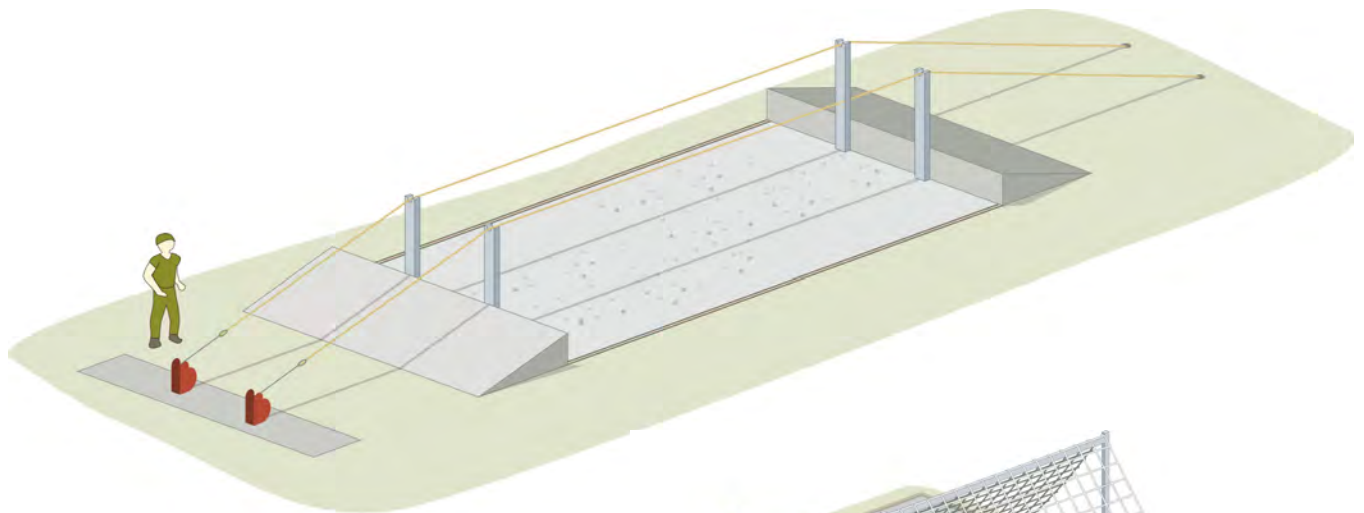
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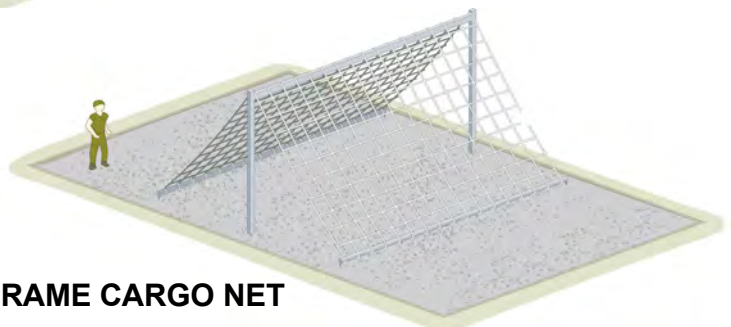
NEW BATTLE PHYSICAL TRAINING AREA



PLAN



LOW ROPE TRAVERSE



A-FRAME CARGO NET

