



Australian Government

Department of Defence

**JP9000 Phase 7 Helicopter Aircrew Training System (HATS)
Facilities Project**

HMAS *Albatross*, NSW and Jervis Bay Airfield, ACT

**Statement of Evidence
to the
Parliamentary Standing Committee
on Public Works**

**Canberra, Australian Capital Territory
October 2014**

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JP9000 Phase 7 Helicopter Aircrew Training System (HATS)

Facilities Project

Need for the Works

1. To support Australia's future Defence requirements, the Government is acquiring new naval combat and battlefield helicopters. These are advanced, new generation, helicopter types and consequently an upgrade to the introductory helicopter training system is also required to ensure aircrew are adequately trained to operate these new capabilities.
2. JP9000 Phase 7 Helicopter Aircrew Training System (HATS) was approved by Government on 8 August 2014 to replace the existing Navy and Army *ab-initio* helicopter training systems. HATS will provide a new training system incorporating both live and synthetic training elements and will consolidate Navy and Army *ab-initio* helicopter training into a single joint helicopter aircrew training system at HMAS *Albatross*, NSW and Jervis Bay Airfield, ACT.
3. The new HATS capability will prepare Navy and Army aircrew (Pilots, Aviation Warfare Officers and Aircrewmen/Sensor Operators) for conversion to advanced, new generation, operational helicopter types including the MH-60R Seahawk, MRH-90 Army Multi -Role and Navy Maritime Support Helicopter, S-70A-9 Blackhawk, CH-47D/F Chinook and EC655 Tiger Armed Reconnaissance Helicopters.
4. The project will use Commercial-Off-The-Shelf / Military-Off-The-Shelf technologies to deliver a complete training system which will be supported by hangar, maintenance, training, administration, storage and warehousing facilities.
5. The new helicopter training system, including aircraft and simulators, will be acquired from a single prime capability contractor.

Current Capability

6. Australian Defence Force (ADF) helicopter aircrew training is based on a continuum. Trainees develop aviation competencies and experience through initial military aviation

training, followed by introductory rotary wing (helicopter) training and then conversion training on specific operational aircraft types, to develop into fully mission capable frontline helicopter aircrew. Aircrew undertaking introductory helicopter training can be categorised into the primary streams of Pilot, Aviation Warfare Officer, and Aircrewman, with the Sensor Operator role a subset of Aircrewman.

7. Currently, the different streams of aircrew commence introductory helicopter training with different levels of flying experience, which are summarised below:
 - a. Pilots. Navy, Army and Air Force pilot trainees commence training in military fixed-wing aviation at the Basic Flying Training School at Tamworth, NSW. After initial fixed wing training Army pilot trainees commence introductory helicopter training. Navy and Air Force pilots undertake advanced fixed-wing training at Number 2 Flying Training School at Pearce, WA. On completion, Navy pilots commence introductory helicopter training. Army and Navy pilot training paths are not identical due to the different requirements of aircraft manning and operations on the different operational helicopter types and in different operating environments.
 - b. Aviation Warfare Officers. In addition to pilots, Navy employs Aviation Warfare Officers, who are non-pilot aircrew officers specialising in tactics and who act as the mission commander in Navy's maritime combat helicopters. Navy aviation warfare officers gain basic air warfare mission commander skills at the School of Air Warfare at East Sale, Victoria. On completion Aviation Warfare officers proceed to introductory helicopter training.
 - c. Aircrew. Navy and Army aircrewman candidates are non-commissioned officers and are not expected to have experience in military aviation prior to undertaking introductory helicopter training. Candidates are drawn from a wide variety of employment backgrounds in the general service and proceed straight to introductory helicopter training.
 - d. Sensor Operators. Navy aircrewmen undergo further specialist training to become Navy Sensor Operators, who manage information from advanced sensor systems and tactical equipment employed with Navy's maritime combat helicopters.

8. Currently, the ADF conducts introductory helicopter aircrew training in two locations and using different training platforms. Army aircrew are trained at the Army Helicopter School, Oakey, QLD, on the Bell 206-B1 Kiowa. Navy aircrew are trained at 723 Squadron at *Albatross* on the AS350BA Squirrel.

Current Capability Deficiencies

9. The existing introductory helicopter aircrew training system is based on simple, single-engine helicopter platforms that lack the ability to simulate the complex avionics and engine management requirements of contemporary twin-engine operational aircraft. The existing introductory helicopter aircrew training system employs only limited simulation that is rudimentary at best. As a result, the majority of introductory helicopter aircrew training is conducted in the live training environment, leading to training inefficiencies.
10. Existing live training platforms are ageing and no longer fit-for-purpose given the current training requirements of helicopter aircrew on new generation, operational helicopter types, resulting in an ever widening training gap. The amount and value of training conducted at the helicopter aircrew training schools at Oakey and Nowra is variable due to the limitations of the different existing live training aircraft types.
11. Over time the training gap between current training platform capabilities and the required competencies has led Defence to adopt work-around solutions. These include the use of operational aircraft types for a significant amount of introductory helicopter training. The use of operational aircraft types for introductory helicopter training is an inefficient use of flying hours in these airframes, limits their availability for operational training and tasking, and results in higher than optimal operating costs.
12. The current introductory helicopter aircrew training environment makes no use of synthetic training devices such as flight simulators and flight training devices that could relieve the training burden on operational aircraft to improve learning outcomes and decrease training risks associated with the live environment. While simulation is included in the training management packages for aviation warfare officer and Army aircrewman training, the simulation programs are rudimentary and based on ageing software. Consequently, the

limited synthetic training capacity perpetuates current inefficiencies and risks in achieving the training curriculum.

13. Defence requires a modern, introductory helicopter training system that employs an integrated mix of in-flight and synthetic training environments designed to prepare Army and Navy aircrew in a safe and efficient manner for conversion to current and future combat helicopter types, and which integrates with the wider aircrew training continuum.

Proposed New Capability

14. The new HATS capability is intended to be a significant component of a holistic Australian Defence Force aircrew training continuum in which trainees develop aviation competencies and experience through fixed wing, initial rotary-wing and operational conversion training to develop into fully-mission-capable frontline helicopter aircrew.
15. The new HATS capability will accept candidates for *ab-initio* helicopter training from the existing initial aircrew training systems and will deliver training in a safe, fully integrated, modern environment, using a combination of live and synthetic training experiences on both modern twin-engine helicopters, based on the Airbus EC135 helicopter, and flight simulators. The new system will rely heavily on the use of synthetic training to relieve the *ab-initio* helicopter training burden on operational aircraft by repositioning the teaching of necessary skills into the synthetic training component of HATS.
16. The new training curriculum will integrate with the proposed AIR5428 Pilot Training System (PTS) and AIR5232 Air Combat Officer Training System (ACOTS) upon their introduction into service, ensuring consistency through the training continuum.

Historical Background

17. The initial facilities requirement developed as part of the Joint Training Helicopter Management Study (JTHMS) during capability First Pass, identified and recommended that the best location for a joint training school is *Albatross* in Nowra, NSW. This recommendation was approved by Government in September 2007.

18. The *Albatross* site, initially a Royal Australian Air Force (RAAF) airfield, commenced operations on 7 May 1942. In 1944, the base was transferred to the Royal Navy and was commissioned as Royal Navy Air Station HMS *Nabbington*. The base reverted to RAAF control in 1946, and in 1948 was commissioned as HMAS *Albatross*, the home of the Royal Australian Naval Air Station NOWRA.
19. Today, *Albatross* is the Royal Australian Navy's only Naval Air Station. It is the centre of the Royal Australian Navy's maritime aviation capability. *Albatross* also accommodates the Headquarters Fleet Air Arm, the Navy Aviation Training Authority, the Navy Aviation Systems Program office, the Australian Joint Acoustic Analysis Centre, the Navy Tactical Electronic Warfare Support Section, the Aircraft Maintenance and Flight Trials Unit, the Army Parachute Training School, the Fleet Air Arm Museum, and the Navy's Historic Flight.
20. *Albatross* is currently home to two operational squadrons (816 SQN and 808 SQN) and one training squadron (723 SQN). During the HATS capability acquisition a further operational training squadron (725 SQN) will be raised at *Albatross*. Importantly, the base provides ready access to both maritime and land training areas and is in close proximity to the East Australian Exercise Area off Jervis Bay. Defence facilities at *Albatross* represent the best opportunity to deliver a fit-for-purpose and value-for-money solution to providing high quality initial helicopter training for both Navy and Army, in one location, due to the proximity of suitable training environments for both Services requirements.

Purpose of the Works

Project Locations

21. The proposed works will be undertaken at the following Commonwealth owned and Defence controlled establishments:
 - a. *Albatross*, which is located approximately 6km south west of Nowra on the south coast of NSW; and
 - b. Jervis Bay Airfield, which is located 33km south east of *Albatross*, and is managed through *Creswell*.

22. A plan showing the location of each Defence establishment is at Attachments 1, 2 and 3.

Facilities Project Requirements

23. The implementation of the JP9000 Phase 7 HATS project will reduce the training burden on operational aircraft, provide efficiencies across the Australian Defence Force (ADF) by capturing aircrew training competencies that are common in each of the different ADF helicopter types, and provide greater opportunity for the ADF's combat helicopters to focus on core operational capability. The Facilities Project is required to enable JP9000 Phase 7 HATS to meet these outputs.
24. The capability being acquired under the JP9000 Phase 7 HATS project includes:
- c. 15 Airbus EC135 helicopters;
 - d. three full flight simulators (with capacity for installation of an additional simulator in the future);
 - e. one marshalling synthetic trainer;
 - f. one aircraft replica trainer;
 - g. two desktop trainers;
 - h. two tactical part task trainers; and
 - i. through life support contracts.
25. The facilities work proposed at *Albatross* and JBAF to support the JP9000 Phase 7 HATS project include offices space; workshops and hangars for maintenance and storage of the aircraft; training facilities (classrooms, flight simulators and synthetic trainers) for instructors, pilots, aviation warfare officers, aircrewmen and sensor operators; parking aprons and refuelling facilities; briefing and crew rooms; and living-in accommodation.
26. **Office Space.** Office space is required for the unit executives, instructors, administrative support staff, operations cell, training development staff, contractor support staff, maintenance, technician and software support staff, and Logistic Management Unit staff and the flight line office. A mixture of individual and open plan office space is required for a total of 136 staff.

27. **Hangars, Maintenance Areas, Workshops and Stores.** Hangars are required to store all 15 aircraft under cover. Maintenance on the aircraft will be conducted in the hangars supported by collocated maintenance workshops.
28. **Apron Parking.** Of the 15 aircraft provided under JP9000 Phase 7, apron parking is required for a maximum of 13 aircraft. Two aircraft are expected to be in maintenance at a time. The two aircraft in maintenance will remain in the hangars and do not require apron space.
29. When helicopter training is conducted from JBAF, apron parking is required for up to five aircraft.
30. **Refuelling Facilities.** Refuelling of helicopters will be required throughout the day. The time spent refuelling reduces the time available to conduct helicopter live training serials. To enable the most efficient conduct of helicopter training serials, refuelling of up to four aircraft simultaneously is required to maximise live training efficiency.
31. **Training Facilities.** Class rooms are required to run training courses and accommodate the various synthetic training devices for the helicopter students (pilots, Aviation Warfare Officers, Aircrewmen and Sensor Operators). Classrooms are also required for the courses run by Instructor Training Wing. To meet the training system throughput for both helicopter trainees and Instructor Training Wing, a total of nine class rooms are required. Facilities are also required to accommodate the full flight simulators being delivered under Project JP 9000 Phase 7 HATS.
32. **Living-in Accommodation.** Student numbers will peak at 96 students based on the HATS throughput, course size, course overlap and course duration. Students will be expected to study after-hours and suitable student accommodation is required.
33. **Briefing and Crew Rooms.** Briefing rooms are required for instructors to brief and de-brief students and crew rooms are required for instructors and students to conduct pre-flight and post-flight administration. Briefing and crew rooms will also be required at the nearby airfield at Jervis Bay to support helicopter training serials conducted away from *Albatross*.

34. **Car Parking.** There is no public transport servicing *Albatross* or JBAF. Movement to and from the sites and within the sites is predominantly by private transport or Defence-provided transport. Sufficient car parking is required in the vicinity of the living-in accommodation and the training facilities to support all students, staff and visitors. Sufficient car parking spaces are required at JBAF to support the training activities conducted at that site.
35. The existing facilities at *Albatross* and Jervis Bay Airfield (JBAF) do not satisfy the specialised facility requirements necessary for HATS. Modification of existing facilities and infrastructure services, along with the construction of new facilities are required to address this current shortfall. The proposed facilities will support the safe and effective delivery of the new training system.

Detailed Description of the Proposed Scope of Works

36. **HATS Training Facilities at *Albatross*.** Defence proposes to adaptively re-use the airside Asset 402 (K hangar) to accommodate a Live Training Facility and construct a non-airside purpose-designed new build Synthetic Training Facility:
- a. **Live Training Facility.** The proposed Live Training Facility will be developed through the adaptive reuse of the existing K Hangar facility to provide:
- (i) sufficient hangar space to accommodate 15 Airbus EC135 helicopters out of the weather,
 - (ii) maintenance facilities to enable operational maintenance on the helicopters,
 - (iii) off-aircraft maintenance workshops,
 - (iv) tool and spare parts stores,
 - (v) office space for maintenance staff,
 - (vi) aircrew life support equipment workshops and storage,
 - (vii) a Flight Line office to manage flying operations,
 - (viii) office space for Instructor Training Wing,

- (ix) three classrooms for Instructor Training Wing, and
 - (x) staff amenities.
- b. **Synthetic Training Facility.** The proposed Synthetic Training Facility will be a new build construction that includes:
- (i) office space for unit executives, instructors, administrative support staff, operations cell, training development staff, contractor support staff, maintenance, technician and software support staff, and Logistic Management Unit staff;
 - (ii) simulator hall to house three full flight simulators (with capacity for installation of an additional simulator in the future);
 - (iii) classrooms for:
 - (1) one marshalling synthetic trainer,
 - (2) one aircraft replica trainer,
 - (3) two desktop trainers, and
 - (4) two tactical part task trainers;
 - (iv) main briefing room;
 - (v) meeting rooms;
 - (vi) briefing / de-brief rooms;
 - (vii) flight planning room;
 - (viii) study area,
 - (ix) library,
 - (x) student crew rooms;
 - (xi) instructor crew rooms;

(xii) workshops and store for maintenance of flight simulators and training devices; and

(xiii) staff amenities.

37. **Temporary 723 SQN Training Facilities.** As the Live Training Facility is proposed to be developed through adaptive reuse of the existing K Hangar, there is a requirement to provide temporary facilities to accommodate the existing operations of 723 SQN during transition to HATS. 723 SQN will be required to maintain training competencies until 2020, while JP9000 Phase 7 HATS ramps up to full operating capability. Minimal work is required to refresh the temporary facilities as the hangar and office space was previously used for helicopter squadron operations.
38. **Proposed Living-In Accommodation (LIA) at *Albatross*.** Defence proposes to deliver a new-build LIA facilities to provide:
- j. accommodation for 96 students (Training Level 1 accommodation standard based on up to six months course duration);
 - k. associated amenities; and
 - l. 130 space car-parking (one-to-one ratio for HATS students and 34 replacement carparks).
39. **Proposed Briefing Facility at Jervis Bay Airfield (JBAF).** Defence proposes to deliver a new build shared facility at JBAF including:
- m. briefing/communication rooms to accommodate up to 12 personnel;
 - n. helicopter operations area;
 - o. amenities to accommodate HATS and other site users, including the Army's Parachute Training School;
 - p. crew room;
 - q. works to existing apron/flight-line; and
 - r. six space carparking (including one compliant Disabled Carpark), one mini bus parking space and minor road upgrades leading into the airfield from the base entrance.

Options Considered for Fulfilling the Identified Need

40. To meet the identified facility needs, Defence considered the viability of adaptively re-using or refurbishing existing facilities to reduce the requirement for new construction. In most cases, the options to re-use facilities were not cost effective because of the dilapidation, structural inadequacy, dysfunctional layout or inappropriate siting of the available facilities. Consequently, the majority of facilities proposed in this project are to be new construction in order to meet the functional needs of HATS. The exception is the live training component of HATS which will be housed in the existing K hangar. K Hangar was assessed as cost effective for refurbishment and adaptive reuse as it currently fulfils similar functions.
41. To ensure that the facilities design achieved value for money for the Commonwealth, and meets the functional requirements of the HATS capability, Defence initially investigated ten Training Facilities options, five Living in Accommodation options and two Jervis Bay Briefing Facility options.
42. Through a process of elimination during multiple design reviews, value management reviews and siting option workshops, each project element option was assessed for its suitability to meet the HATS requirements. Viable options were then carried forward and the option which was assessed as providing the best value for money solution was identified as the proposed option.

Development of the Proposed Options

43. The facilities solution for HATS was required to:
 - a. enable the integration of live training with synthetic training devices, including flight simulators and computer based training platforms;
 - b. consider best use of the estate, in particular the airside real estate at *Albatross* and Jervis Bay Airfield; and
 - c. mitigate the key risk to the project, which is schedule. To achieve the JP9000 Phase 7 Initial Operational Capability milestone, the Synthetic Training Facility needs to be completed by late 2016, and the full flight simulators need to start installation in August 2016 to support the commencement of the Initial HATS Pilot Training Course.

Development of Options for the HATS Training Facilities

44. Initially ten options were assessed to a +/-30% cost uncertainty level. These options included a range of adaptive re-use and new build options, and considered the viability of multiple placements of the HATS Training Facilities around the *Albatross* flight-line.
45. During the development of the HATS Training Facilities options, it became apparent that a key issue was the ability to ensure the current Navy capabilities (723 SQN and 816 SQN) that occupy Assets 402 and 403 (K & L Hangars) remained operational.
46. 816 SQN currently operates S-70B-2 Seahawks out of Asset 403 (L Hangar). While 816 SQN will transition to the new MH-60R Seahawk and relocate to new accommodation provided under the MH-60R Seahawk facilities project, the S-70B-2 Seahawk will remain operational beyond the inception of the HATS capability, albeit in a reduced capacity, and require facilities until a planned draw down post-2020.
47. 723 SQN currently operates the Squirrel AS350BA and the Bell 429 from Asset 402 (Hangar K). The 723 Squadron AS350BA and Bell 429 will remain operational, and require fit for purpose facilities, beyond the inception of the HATS capability but will draw down following declaration of HATS Initial Operating Capability in 2018.
48. Based on the operational requirements of both existing Squadrons, two viable options were carried forward to a +/-10% cost uncertainty level of design development maturity and assessed to determine a preferred value for money solution.
49. **Option 1 New Build.** This option proposes demolition of J Hangar (Asset 105) to build the new Live Training Facility. It also includes demolition of the existing Engine Repair Facility (Asset 643) to build the new Synthetic Training Facility. This option would result in physical separation of the two Training Facilities.
50. **Option 2 Adaptive Reuse of K Hangar.** This option proposes the refurbishment of Asset 402 (K Hangar) to become the Live Training Facility. It also includes demolition of the existing Engine Repair Facility (Asset 643) to build the new Synthetic Training Facility. This option would locate the Synthetic Training Facility directly opposite the Live Training Facility. This option requires the relocation of 723 SQN into alternative temporary facilities

(until 723 SQNs planned withdrawal date) to enable the refurbishment of Asset 402 (K Hangar) for the Live Training Facility.

51. **Preferred Option.** The preferred option for the HATS Training Facilities is Option 2 as it:
- a. complies with the *Albatross* Zone Plan, locating the HATS Training Facilities in an operational zone;
 - b. significantly reduces program risk to meet the critical ‘Initial HATS Pilot Training Course’ milestone by de-coupling the Synthetic Training Facility works from the refurbishment of Asset 402 (K Hangar) for the Live Training Facility. This decoupling will ensure the synthetic training facility programme will not be affected by the inherent programme risk associated with the refurbishment works;
 - c. enables onsite construction of the new-build Synthetic Training Facility to commence in-ground works with minimal delays, as the two facilities will be delivered independently on separate construction sites;
 - d. frees up the existing airside precinct real estate for future capability developments by locating the Synthetic Training Facility away from the flight line; and
 - e. it presented as the best value for money option..
52. Detailed Site plans and layout drawings of the preferred facility solution for the HATS Training Facilities can be found at Attachments 4-12.

Development of the Options for Living-In Accommodation (LIA)

53. The HATS training courses have durations of up to six months, and are programmed to be running for the majority of the year once the IOC state is achieved. In accordance with Defence policy on LIA standards, the project is required to provide Training Level 1 accommodation to meet HATS training requirements.
54. A review of all LIA facilities on base identified that there is currently no suitable LIA to meet the HATS requirement at *Albatross*. LIA facilities provided under project Single Living Environment and Accommodation Precinct (Single LEAP), completed in 2012, provide accommodation for long-term residents at *Albatross*. These Single LEAP facilities are currently at capacity year round, and cannot accommodate the need for 96 students for

periods of 6 months. Other base LIA facilities are in an advanced state of disrepair and do not meet the minimum Defence requirement to be regarded as suitable for use.

55. In order to achieve 96 rooms, new build and adaptive reuse options were considered to ensure the best value-for-money for the Commonwealth. To adaptively reuse the existing LIA at *Albatross* would require extensive refurbishment of three existing and very old LIA Blocks, including significant structural modification works to the existing buildings to change rooms from a size of 13m² to the required standard of 18m², to comply with the Training Level 1 requirement. Additional major engineering services upgrade works would be required to ensure compliance with the Building Code of Australia.
56. Five options were initially developed at master planning stage, which included a mixture of new build and adaptive re-use options at multiple brownfield sites across *Albatross*.
57. Two viable options were then carried forward to design development maturity in order to determine a preferred value for money solution.
58. **Option 1.** This option proposed the demolition of the currently uninhabitable Oxley Block (Asset 260), replacing it with two new purpose-built LIA buildings on the site of the existing building and adjacent to it. This site would not comply with the HMAS *Albatross* Zone Plan, which requires LIA to be located in the domestic zones of the base. The Option 1 site is located in the Future Development Zone, and is close to the Base Support and Operational Zones. This Option also has security implications as it falls within the restricted zones perimeter fence of the Base.
59. **Option 2.** This option proposed the demolition of the currently uninhabitable Melbourne Block (Asset 342) replacing it with two new purpose built LIA facilities. This site would locate the LIA facilities in the Domestic Zone of the base, complying with the requirements of the HMAS *Albatross* Zone Plan. It is adjacent to the newly built Single LEAP accommodation, and has adequate space across the road, in a Base Support Zone, for car-parking. The proposed site is currently used as carparking for Training Authority -Aviation. The HMAS *Albatross* Redevelopment Project, approved by Parliament on 1 March 2012, is currently upgrading engineering services to this area, which would enable support to new LIA facilities in this site.

60. **Preferred Option.** Option 2 is the preferred option as it represents the best use of land, locating LIA on an available brownfield site within the Domestic Zone of the HMAS *Albatross* Zone Plan. The LIA would be located within the base perimeter, but not within the ‘Restricted’ higher-tier security rating perimeter, thereby leaving that site for future more appropriate development and avoiding the additional management imposts associated with construction in that zone. The proposed site is collocated within the LIA precinct close to the newly constructed Single LEAP accommodation and there is existing space to provide shared car-parking in the Base Support Zone of the LIA precinct. This site also requires minimal engineering services upgrades as the main engineering services to this site are being upgraded under the approved HMAS *Albatross* Redevelopment Project.

Development of the Options for the HATS Briefing Facility at Jervis Bay Airfield (JBAF)

61. Two options were developed for the Briefing Facility at JBAF including an option to refurbish an existing facility. Detailed investigations determined the existing facility was not suitable for refurbishment for the HATS requirement, as it would need extensive upgrade and modification works to create a fit for purpose, Building Code of Australia compliant facility. This option would also require additional works to provide new access and car-parking for the Army’s Parachute Training School personnel who currently access the existing facility via the existing apron that will be utilised by HATS. The refurbishment of the existing facility did not represent a value for money solution.
62. The preferred value for money solution for the HATS Briefing Facility at JBAF is a new purpose-built, shared facility option, which will be utilised by other base users including the Parachute Training School. The proposed site is adjacent to the apron and runway, and is located just off the access road that services the airfield. The site for the proposed new facility is located within the Operational Zone and complies with the HMAS *Creswell* Zone Plan.
63. The new build option will reduce the JBAF facility footprint by demolishing the current facility and dilapidated amenities freeing up airside real estate for any future capability development. It allows for a new carpark to be built directly off the access road on the airside secured zone, ensuring cars are kept off the existing apron. The preferred option

provides cost savings compared to the refurbishment option by integrating other user needs, and in doing so avoiding the costs to build a separate new access road to the existing facility for continual use by the Parachute Training School.

64. The proposed new facility is located so that both runways, as well as the apron upon which up to five HATS helicopters can taxi in and park, can be observed from a small flight-line office in the new facility. The preferred solution for the HATS Briefing Facility provides value for money and improves the amenities available to all Australian Defence Force training undertaken at JBAF.

Reasons for Adopting the Proposed Course of Action

65. The preferred facility solutions for the HATS Training Facilities and Living in Accommodation at *Albatross*, and the Briefing Facility at JBAF were adopted as they all:
- a. provide value for money solutions that address the current facilities deficiencies to fully support the HATS capability;
 - b. create effective and streamlined interaction between like functions which will improve the efficiency of the HATS Training Curriculum;
 - c. meet current compliance legislation and other statutory requirements;
 - d. maximise opportunities to achieve optimised ecologically sustainable design and green building outcomes;
 - e. maximise opportunities to integrate similar functions to achieve construction economies of scale and facility performance efficiencies post construction;
 - f. minimise the requirement for temporary facilities and decanting, which in turn minimises disruption to ongoing training and operations; and
 - g. minimise whole of life costs.

Details and Reasons for Site Selection

66. The selection of the sites for each scope element has been undertaken in accordance with Defence Estate Planning and Policy requirements. A Site Selection Board was completed for all proposed works, to assess the appropriateness of siting in regards to the local zone plan, the future use of the Defence estate, and compliance with Defence policies including environmental, heritage and base operations.

67. Compliance with the HMAS *Albatross* Zone Plan is achieved by locating the proposed LIA site within the Domestic Zone (LIA precinct) of the Base Zone Plan. The carparking associated with the LIA is sited appropriately within a Base Support Zone.
68. The siting of the HATS Training Facilities is compliant with the HMAS *Albatross* Zone Plan. The Live Training Facility is located airside and within an Operational Zone, and the new Synthetic Training Facility is located non-airside and within an Operational Support and Base Support Zone.
69. The proposed new Jervis Bay Briefing Facility complies with the HMAS *Creswell* Zone Plan, as it is suitably sited within the Operational Zone.

Details of Stakeholder and Relevant Authority Consultations

70. Defence recognises the importance of providing local residents, statutory authorities and other interested stakeholders an opportunity to provide input into, or raise concerns relating to, major projects such as the facilities requirements for the HATS capability.
71. Defence will engage with a variety of internal and external stakeholders in the Shoalhaven community, notably in Nowra and at Jervis Bay, including the following stakeholders:
 - a. Shoalhaven City Council;
 - b. Mrs Ann Sudmalis MP, Federal Member for Gilmore;
 - c. The Honourable Shelley Hancock MP, New South Wales State member for the South Coast;
 - d. Wreck Bay Aboriginal Community Council;
 - e. Utility providers; and
 - f. The local Nowra and Jervis Bay communities, including industry groups.
72. Defence will convene public consultation sessions for the proposed works at *Albatross* and Jervis Bay Airfield prior to the Parliamentary Standing Committee on Public Works hearing for the HATS facilities project.

Impact on Local Community

73. The project will generate short-term local employment predominantly in the building, construction and unskilled labour markets. A peak workforce of approximately 380 is expected to be directly employed on construction activities as well as off-site functions for manufacturing and distribution of materials.
74. Under a Managing Contractor form of delivery, Defence anticipates that local building sub-contractors will be employed on a large proportion of the construction works. The Managing Contractor will engage with local industry groups to maximise opportunities for local businesses, providing a positive economic impact to small and medium enterprises in the region. Where the local market has insufficient capacity to manage the volume of the work, Defence anticipates employing major sub-contractors from city based markets, which will provide wider economic benefits to the community.
75. Construction traffic routes will be managed through a project traffic management plan. Minimal disruption to the local community is anticipated as both *Albatross* and Jervis Bay Airfield are not accessed via major trunk roads.

Related Projects

76. Current or future projects that may potentially interface with the HATS Facilities project include:
 - a. AIR 9000 Phase 8 MH-60R Seahawk facilities project (in delivery).
 - b. HMAS *Albatross* Redevelopment project (in delivery).
 - c. The unapproved AIR 5428 (ADF Pilot Training Systems) project: although not likely to be located at *Albatross*, there will be a functional relationship between the product of AIR 5428 and the HATS curriculum. Curriculum planning will commence mid-2015.
 - d. The proposed AIR 5431 Phase 2/3 ADF Air Traffic Control Complex Infrastructure Project will replace or upgrade air traffic management systems at ADF bases across Australia. Subject to approval, works to upgrade the sensor equipment building on Nowra Hill and air traffic management and control system works at *Albatross* are anticipated to commence in 2017/18.

77. Defence currently holds a monthly *Albatross* project coordination meeting to synchronise all capital works projects on base, including AIR 9000 Phase 8 MH-60R Seahawk facilities project and the HMAS *Albatross* Redevelopment project.
78. The AIR 9000 Phase 8 MH-60R Seahawk facilities project, located on the western side of *Albatross*, while the largest recipient of the HATS product, is expected to have no impact on the proposed HATS precinct.
79. The HMAS *Albatross* Redevelopment project is scheduled to complete construction by mid 2017. The HATS Facilities project is dependent on the HMAS *Albatross* Redevelopment project to complete engineering services upgrade works to the base electrical ring mains, provision of a fuel supply line from the *Albatross* Fuel Farm, and some demolitions.

Environmental Impact Assessments

80. An Environmental Report completed for the HATS facilities project considered the potential impacts of the new works on visual amenity, traffic management, soil contamination, noise, water quality, waste management, air quality, flora and fauna at the proposed sites.
81. The report reviewed the nine areas of the *Environment Protection and Biodiversity Conservation Act 1999 (Cth)* and determined that the project did not warrant a referral under the Act. Environmental and heritage issues identified are minor and will be managed through the internal Defence Environmental Compliance Certificate (ECC) process.
82. Both *Albatross* and JBAF were identified in the Environmental Report as containing habitat for threatened species. The Project will avoid encroachment on remnant eucalypt forest area and compliant environmental management techniques will be implemented to ensure that facilities do not have a significant impact on any threatened species and ecological communities. Although migratory species may be occasional visitors to the site, the proposed HATS Facilities Project footprint is not considered to impact on valuable habitat due to the very limited extent of trees or grassed areas on the proposed sites.
83. The design of the proposed works has specifically considered the outcomes and recommendations of the Environmental Report and has incorporated features to mitigate environmental impacts. This includes siting facilities to maximise passive solar design, the

appropriate use of insulation and the use of energy efficient equipment to minimise energy consumption.

84. The project will be managed in accordance with the Defence Environmental Management framework, which includes the requirement for the contractor to prepare an acceptable Construction Environmental Management Plan (CEMP) and obtain a Defence Environmental Clearance Certificate prior to construction commencement.

***Albatross* Australian Noise Exposure Forecast (ANEF)**

85. Aircraft noise exposure on surrounding civilian communities has been carefully considered at both *Albatross* and Jervis Bay Airfield sites due to the changes being made to the airframes operating at these bases. The current *Albatross* ANEF was a forecast from 2005 to 2014. An updated ANEF study, which captures planned aircraft movements at *Albatross* and Jervis Bay Airfield between 2015 and 2029, has been developed.
86. The new *Albatross* and JBAF 2029 ANEF is being finalised in conjunction with all relevant base stakeholders. Initial consultation with the local council has been undertaken by the *Albatross* Commanding Officer and the project team. An ANEF public consultation will be undertaken in October 2014, as part of the regular review of base noise profiles.

Site Contamination

87. The HATS Facilities Environmental Report identified a low to medium risk of in-ground contamination within the proposed footprint of the HATS facilities. Subsequently, a hazardous material and geotechnical desktop study was undertaken, and further exploratory investigations and testing will be undertaken in the next design phase to better identify potential contamination and enable appropriate remediation strategies to be identified.
88. A Construction and Environmental Management Plan (CEMP) will be developed for the project that will identify soil testing requirements and the process for dealing with any potential contaminated ground, including but not limited to asbestos, hydrocarbons, heavy metals, other chemicals and unexploded ordnance.

89. The following additional issues will be addressed in the Construction and Environmental Management Plan and Environment Clearance Certificate in accordance with Defence Policies and best practice prior to commencement of the construction works:
- a. dust management;
 - b. air quality and odour management;
 - c. foreign object damage hazards;
 - d. noise and vibration;
 - e. hazardous materials storage and waste management; and
 - f. stock-piling of construction materials and pavement millings.

Indigenous Heritage

90. The HATS Facilities Environmental Report found that the potential for indigenous heritage values is reduced where the land has been impacted by earlier development, which is the case with the proposed sites within *Albatross*, and at Jervis Bay Airfield. Indigenous artefact locations have been identified outside the airfield perimeter at Jervis Bay Airfield, away from the preferred new HATS Briefing Facility site. Mitigation measures prior to commencing construction include consultation with the Nowra Aboriginal Land Council in line with the Australia Heritage Commission's publication *Ask First: A Guide to Respecting Indigenous Heritage Places and Values*. Site induction training will be provided prior to any ground disturbance works to ensure that if there are any unexpected finds, works will cease immediately and the representatives of the Nowra Aboriginal Land Council are notified. Relevant authorities will be consulted prior to any further works.

Non-Indigenous Heritage

91. There are no non-indigenous heritage issues identified which will be impacted by the proposed facilities.

Details of Key Legislation and Standards

92. The following key legislation is relevant to this project:
- a. Defence Act 1903 (Cth);
 - b. Native Title Act 1993 (Cth);

- c. Environment Protection and Biodiversity Conservation (EPBC) Act 1999 (Cth);
 - d. Fair Work (Building Industry) Act 2012 (Cth);
 - e. Work Health and Safety Act (WH&S) 2011 (Cth); and
 - f. Disability Discrimination Act 1992 (Cth).
93. The design of the proposed works will comply with all relevant and current Defence standards, Australian standards, codes and guidelines including the following:
- a. National Construction Code - Building Code of Australia (NCC-BCA);
 - b. Defence Manual of Fire Protection Engineering (MFPE);
 - c. Defence Security Manual (eDSM); and
 - d. Defence Estate Quality Management System (DEQMS).

Zoning and Local Approvals

94. All proposed works will be constructed within the designated boundaries of *Albatross* and Jervis Bay Airfield, which are Commonwealth owned and Defence controlled land. There will be no change to existing land usage, or any land acquisition or disposals that may require local zoning approvals.

Public Transport

95. Neither *Albatross* nor Jervis Bay Airfield is directly serviced by public transport. As a result, personnel are required to use private means of transport to and from these locations.

Details of Land Acquisition

96. No land acquisition will be required.

Planning and Design Concepts

97. The project will provide safe, functional, cost effective, energy efficient facilities designed to be suitable for the local climate and of a style consistent with the character of the sites and other comparable Defence facilities.

98. Infrastructure services planning and structural design has been developed taking into account future flexibility. The design is based on projected demand and Defence policies for redundancy and reliability.
99. Where security requirements permit, buildings have been planned in such a manner as to allow ease of adaptability of internal spaces over time by utilising a structural frame with lightweight partition walls that can be modified should requirements change. Office spaces are in accordance with the latest Defence accommodation standards. A high ratio of open plan workstations to enclosed offices will enable greater flexibility in planning for surges in facility operations. Per person spatial allowances are in accordance with Defence standards and comparable to other Defence facilities.
100. The design has adopted techniques and materials that are sustainable, robust, have low or no maintenance requirements, and reduce whole of life costs. They are consistent with the capacity and capability of the local construction industry to reduce risk on site with respect to both program and quality.

Acoustics

101. The proposed facilities works will comply with the National Construction Code – Building Code of Australia and Australian Standards for noise and acoustics. Acoustic attenuation has been designed into the exterior facade and has been considered between rooms with internal walls designed to meet user requirements and building functions. The HATS facilities have been designed in accordance with AS2021-2000 'Acoustics - Aircraft Noise intrusion - Building Siting and Construction' and 'AS/NZS2017:2000 Acoustics – Recommended Design Sound Levels and Recommended Reverberation Times for Building Interiors'.

Reuse of Existing Structures

102. The existing Asset 402 (K Hangar) at *Albatross* will be adaptively reused to provide an efficient solution to meet the live training functions of the HATS Training Facility. Extensive analysis was undertaken into the suitability of adaptive re-use of additional existing assets for other project scope elements, but they did not provide a value for money solution for the Commonwealth.

103. All other new purpose-built facilities at *Albatross* will be constructed on existing brownfield sites.

Demolition and Disposal of Existing Structures

104. Demolition works under the project will include:
- a. Asset 643 Engine Repair Facility for the HATS Synthetic Training Facility;
 - b. Asset 342 (Melbourne Block) for LIA; and
 - c. Asset 402 (Hangar K) requires major internal demolition to facilitate the HATS Live Training Layout.

Provisions for People with Disabilities

105. Disabled access and facilities will be provided to all project elements in accordance with the Disability Discrimination Act (DDA) 1992 (Cth), National Construction Code – Building Code of Australia, Australian Standard AS1428 - 2009 Design for Access and Mobility – New Building Work, and Defence’s policy ‘Disabled Access and Other Facilities for Disabled Persons’. Where possible, the use of existing facilities access has been reused in the facilities design.
106. DDA compliant passenger elevators will be provided in the proposed HATS Synthetic and Live Training Facilities at *Albatross*. Disabled access to, and any connections between buildings and facilities at all HATS sites, including car-parking, will also be designed in accordance with relevant access standards listed above.

Childcare Provisions

107. This project will not significantly increase the base population or affect the requirement for childcare places. No additional childcare facilities are being provided under this project. .

Fire Protection and Security Measures

108. The respective responding Fire Brigades at *Albatross* and *Creswell* have, or are in the process of being consulted on the proposed works at these sites. The proposed fire detection systems, indication panels, emergency and exit lighting and Aqueous Film-Forming Foam

(AFFF) fire protection systems are suitable for the existing base systems. All construction and fire protection will comply with the National Construction Code – Building Code of Australia, the Defence Manual of Fire Protection Engineering and all other applicable codes and Australian standards.

109. Bushfire protection will be provided by building all structures in accordance with the Australian Standard AS 3959 – 2009 ‘Construction of buildings in bushfire prone areas’. The exposure to bushfire was determined by referencing the standard tables of vegetation type and slope for specified weather conditions and a level of construction selected in compliance with the National Construction Code - Building Code of Australia approved methodology to suit the setback distance from unmanaged vegetation, and in accordance with the completed Bushfire Study for the HATS facilities.
110. All proposed facilities design includes the installation of automatic fire alarm and detection systems as required by the Defence Manual of Fire Protection Engineering. The fire indicator panel in each of the buildings will be monitored centrally on base.
111. Security protection will be provided in accordance with the Defence Security Manual and the facilities will be secured as appropriate to the classification level required for the activities conducted in the facility. The project team has been engaging with the Defence Security Agency throughout the development phase to ensure compliance with all required security related standards.

Work Health and Safety Measures

112. The proposed facilities design and construction will be managed in accordance with the requirements of the Work Health and Safety Act 2011 (Cth), the Department of Defence Work Health and Safety Manual and operate in accordance with an approved Work Health and Safety Plan.
113. The Australian Government is committed to improving work 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 (Cth), the Managing Contractor 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.

114. Safety in design management workshops have been undertaken as part of the design, and will continue throughout the development and delivery of the project. The safety in design risk register identifies any risks and hazards, then records mitigation treatments (elimination or control measures) necessary to reduce any construction or operational risks and hazards.
115. All construction sites will be secured appropriately to prevent public access, or access by unapproved Defence personnel, during the construction period.

Mechanical Services

116. The mechanical services for each new building have been designed according to the function and needs of each building. The purpose of the mechanical services systems is to provide mandatory ventilation, thermal comfort and air quality facilities in accordance with specific user needs and the requirements of the Building Code of Australia.

Hydraulic Services

117. Existing natural gas, sewerage and storm water services are proposed to be extended to each facility to suit design requirements. Potable water will be connected to the existing supply via sub-metering to each new building. Roof water will be collected and stored in above ground storage tanks and plumbed for use in toilet flushing and landscape irrigation.

Electrical Services

118. Lighting, power and lightning protection will be provided in accordance with Australian Standards and Defence engineering requirements.
119. Electrical infrastructure and switchboards will have spare capacity to allow for future growth. Sub-metering will be included to each re-used and new building. The meters will be monitored through a new Building Management System, which will support an active energy management program on the site.

Landscaping

120. Proposed new landscape works will complement and enhance the character of each site whether on foot, bicycle or vehicle. The landscape design will focus on a functional, low maintenance approach with the use of indigenous plants. Precautions will be taken to avoid compromising environmental sensitivities by adopting landscaping practices in accordance with local environmental conditions and the Construction Environmental Management Plans.

Environmental Sustainability of the Project

121. The Commonwealth is committed to Ecologically Sustainable Development (ESD) and the reduction of greenhouse gas emissions. Defence reports annually to Parliament on its energy efficiency targets established by Government as part of its commitment to improve ESD. Defence also implements policies and strategies in energy, water and waste to improve natural resource efficiency and to support its commitment to the reduction of energy consumption, potable water consumption and waste diversion to landfill.
122. The ESD targets and requirements for Defence projects comply with the Defence Building Energy Performance Manual. The ESD targets and measures for this project have been balanced with other requirements for Defence buildings such as functional and security requirements, heritage considerations and Work Health and Safety. Defence ESD policies have been addressed by adopting cost-effectiveness and ESD Activities as key objectives in the design development and delivery of the proposed facilities.

Energy Targets

123. Defence has adopted the principles of the Energy Efficiency in Government Operations policy in relation to office accommodation. As the HATS Synthetic Training Facility has a floor area of greater than 2000m² and an office area comprising greater than 50 per cent of the total building area, the whole building will target 4.5 stars under the National Australian Built Environment Rating System. An energy management plan will be developed for each building for implementation by Defence.

124. For all other mixed-use buildings that have office floor area of less than 2000m² or where the office area does not comprise 50% of the total building area, separate digital energy monitoring devices will be installed and office lighting will not exceed 10W/m².

Compliance with Local, State/Territory and Commonwealth Water and Energy Policies

125. All buildings will be designed, constructed, operated and maintained in order to use energy and water as efficiently as possible and comply with the following statutory and Defence requirements:
- a. Parts J1 – J8 of Section J of the National Construction Code – Building Code of Australia 2014;
 - b. Building Energy Performance Manual, November 2012;
 - c. The Energy Efficiency in Government Operations policy;
 - d. National Australian Built Environment Rating System;
 - e. Defence Energy Policy; and
 - f. Department of Defence Water Management Strategy.

Water and Energy Conservation Measures

126. The ESD measures for the project have been selected in conjunction with other requirements for Defence buildings, including operational, security and work health and safety considerations, to ensure that Defence's operational capability is not compromised.
127. Each new facility has been modelled to predict energy consumption levels, which determine the design targets based on the building classification. Energy management is a key aspect in the design of the new facilities. Energy management initiatives which have been considered include:
- a. orientating the facilities and installing shading devices to minimise east and west solar gain;
 - b. installing a Building Management System (BMS) which provides efficient and automatic controls for heating, ventilation and control systems in each major facility, with the capability to link in to a future site wide Regional Utilities Management System;

- c. building control devices such as motion sensors will be used where practical to maximise energy efficiency;
 - d. the use of natural light is utilised where practical and artificial lights are linked with daylight sensors to limit energy use;
 - e. separate digital energy metering for regulated and unregulated energy uses (general office spaces, central services, central services and computer rooms);
 - f. energy efficient lighting (LED light fittings) supplemented by energy efficiency techniques (lighting control systems) such as occupancy detection and after-hours automatic shut-off controls;
 - g. energy efficient appliances, plant and equipment;
 - h. solar preheat hot water system; and
 - i. a dedicated Energy Management System for reporting and tracking energy consumption performance.
128. Efficient water use is a key aspect of the design. Key water saving measures for all new construction will include:
- j. all tap ware and fittings being compliant with the Water Efficiency Labelling Standards scheme to provide a minimum of a 4 Star water conservation rating and 2 star for showers;
 - k. pressure limiting valves to limit water pressure at all appliances;
 - l. rainwater harvesting; and
 - m. sub-metering of all major water supplies to each new building.

Cost Effectiveness and Public Value

Outline of Project Costs

129. The funding source for this project is through the Defence Capability Plan (DCP) for the approved JP9000 Phase 7 HATS project. The total estimated out-turned cost of this proposed facilities project is \$157.1 million, excluding Goods and Services Tax¹. The

¹ A component of Goods and Services tax has been included in the out-turned cost to account for the requirements of Living In Accommodation to incur a GST liability for accommodation over 28 days.

estimated cost includes all development and delivery costs, including management and design fees, temporary facility costs, construction costs, information communication technology, furniture, fittings and equipment, contingencies, and an allowance for escalation.

130. An increase in the Net Operating Costs is anticipated due to the addition of new facilities and infrastructure which will increase the facilities maintenance, cleaning and utilities expenses.

Details of Project Delivery System

131. Following a tender process through the Defence Infrastructure Panel, a Project Manager / Contract Administrator was appointed by the Commonwealth to manage the project works and undertake the associated administration of the project contracts in the development phase. Subject to Parliamentary approval of the project, satisfactory development phase performance, and satisfactory outcomes from delivery phase negotiations, the current Project Manager / Contract Administrator may be appointed for the delivery phase.
132. A two stage publically advertised tender procurement strategy was used to engage a Managing Contractor, using the Department of Defence - Managing Contract (MCC-1 2003) form of contract.
133. Using the Managing Contractor form of delivery was deemed the most suitable to match the HATS Facilities project risks following a procurement risk analysis, as it transfers the fit-for-purpose design risk from Defence to the contractor, while enabling Defence to still maintain reasonable control over the design process. The Managing Contractor is responsible for ensuring the facilities design meets the needs of the Defence user group, and ensures that significant contractor buildability knowledge is transferred into the design phase to mitigate delivery phase programme risks.
134. Subject to Parliamentary approval of the project, satisfactory performance of the Managing Contractor in the development phase, and reaching agreement on the delivery phase costs and program, the current Managing Contractor may be engaged for the delivery phase.

135. Under the MCC-1 2003, the Managing Contractor does not itself undertake construction, with construction work let to subcontractors on a competitive basis, to maximise value for money for Defence. Defence and the Managing Contractor will actively promote opportunities for local small to medium enterprises through the construction trade packages. The Managing Contractor is contractually required to deliver all works in accordance with, but not limited to, Building Code 2013 guidelines, Commonwealth Procurement Rules, National Construction Code – Building Code of Australia, relevant Australian Standards, relevant Defence Policy, and Workplace Health and Safety Legislation.

Construction Program / Project Schedule

136. Subject to Parliamentary approval of the project, construction is expected to commence in mid 2015 at *Albatross*. All works required to support the HATS Initial Pilot Training Course will be completed by late 2016, with the balance of works at *Albatross* and Jervis Bay Airfield programmed to be completed by mid 2017.
137. The HATS Facilities project works to support the HATS Initial Pilot Training Course are on the critical path to achieving the HATS Initial Operating Capability (IOC) milestone. Accordingly the project programme has been developed to best mitigate schedule risks and avoid any delay to meeting the IOC milestone, which would directly impact Navy and Army's rotary wing operational capability.

Public Value

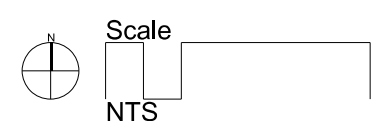
138. The proposed works will contribute significantly to Army and Navy training capability outputs by providing effective new and reused facilities at *Albatross* and Jervis Bay Airfield, to support the capability requirements of HATS. Existing facilities and brownfield sites have been reused to meet the HATS requirements, and minimise operating costs and environmental impacts.
139. The proposed works will provide a workplace that is fit for purpose and allows personnel to undertake their duties, roles and responsibilities in an environment that meets the specific task. The works will also improve personnel morale, impacting on recruitment and retention, which will have a flow-on impact to capability support levels.

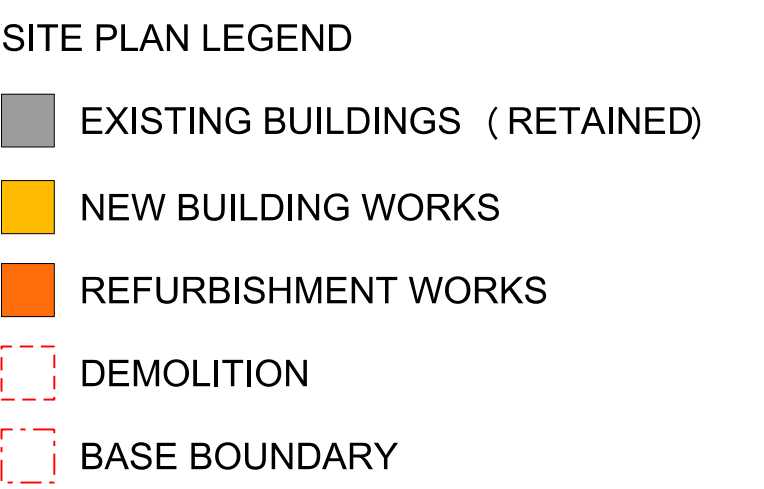
Revenue

140. No revenue will be derived from this proposal.



LOCATION PLAN





NEW CARPARK.
(EXISTING BUILDING
DEMOLISHED AS PART
OF HMAS ALBATROSS
REDEVELOPMENT
PROJECT)

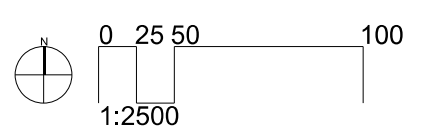
LIVING IN ACCOMMODATION

SYNTHETIC TRAINING FACILITY

LIVE TRAINING FACILITY

NEW CARPARK
(EXISTING BUILDING DEMOLISHED AS PART OF
HMAS ALBATROSS REDEVELOPMENT PROJECT)

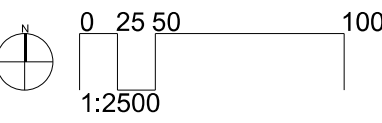
SITE PLAN - HMAS ALBATROSS





- SITE PLAN LEGEND
- EXISTING BUILDINGS (RETAINED)
 - NEW BUILDING WORKS
 - BASE BOUNDARY

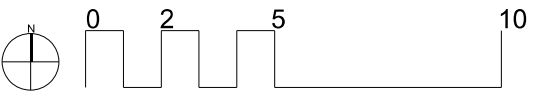
SITE PLAN - JERVIS BAY AIRFIELD





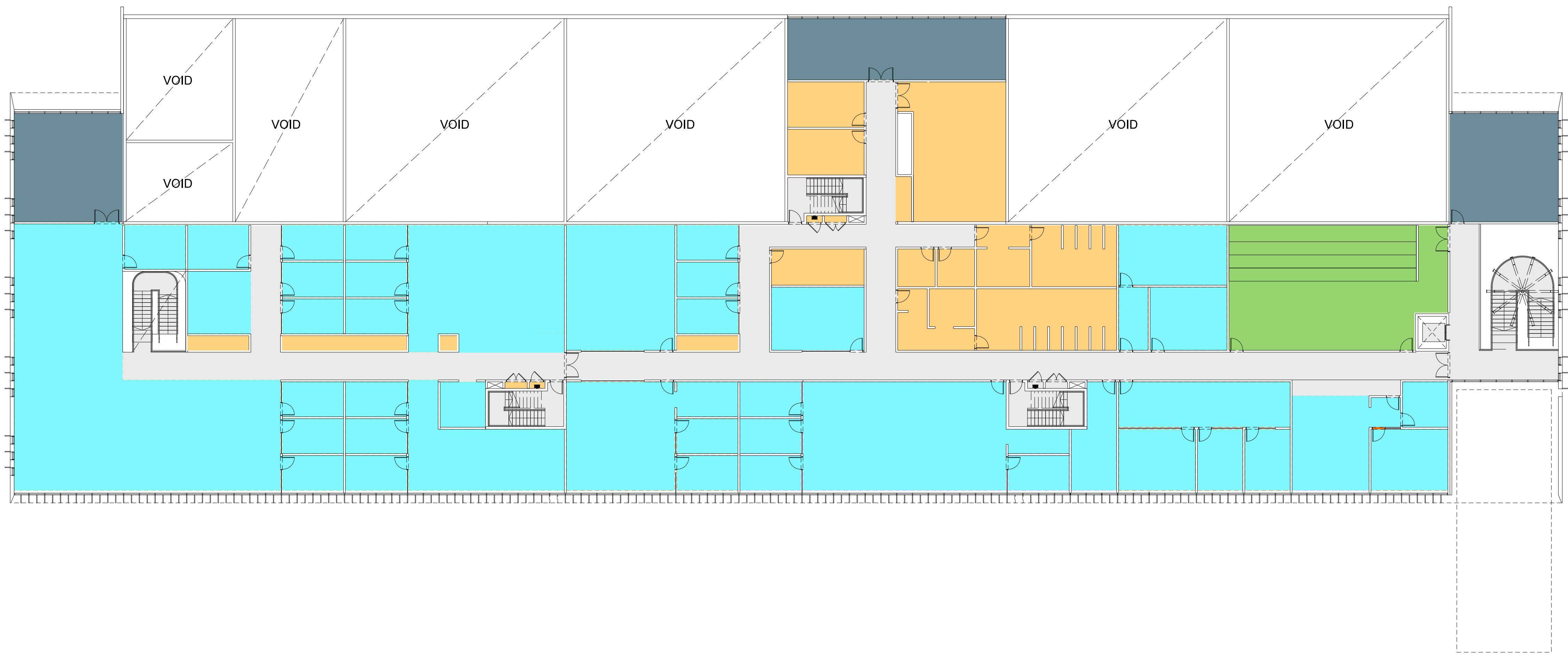
- BUILDING WORKS LEGEND**
- EXISTING BUILDINGS (RETAINED)
 - ENTRY/ CIRCULATION
 - SYNTHETIC TRAINING
 - CLASSROOM / BRIEFING AREAS
 - CREW ROOMS
 - AMENITIES/ PLANT/ COMMS / STORE

SYNTHETIC TRAINING FACILITY - GROUND FLOOR

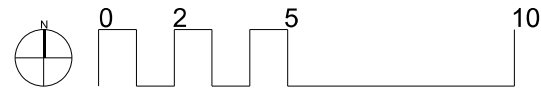


Attachment 04: Synthetic Training Facility - Ground Floor

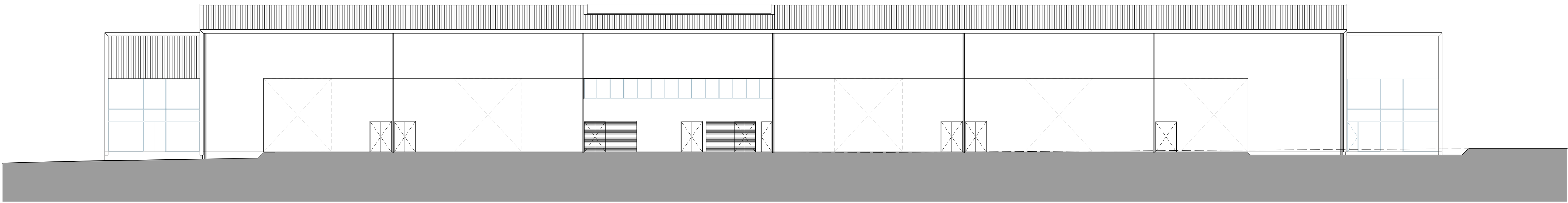
- BUILDING WORKS LEGEND
- EXISTING BUILDINGS (RETAINED)
 - ENTRY/ CIRCULATION
 - SYNTHETIC TRAINING
 - CLASSROOM / BRIEFING AREAS
 - OFFICE AREAS
 - CREW ROOMS
 - AMENITIES/ PLANT/ COMMS



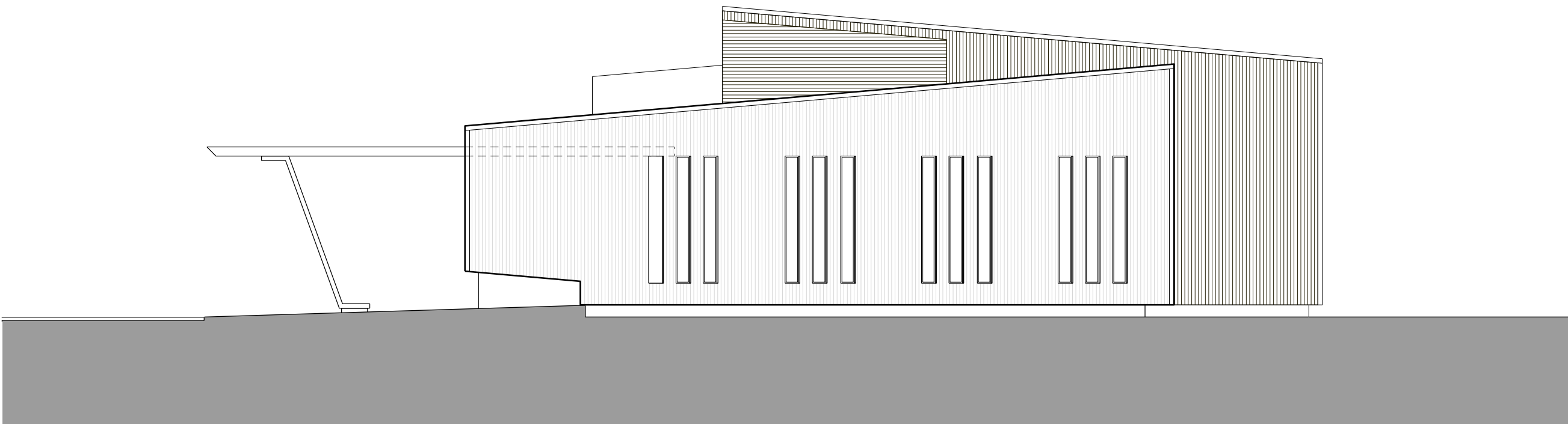
SYNTHETIC TRAINING FACILITY - LEVEL 1



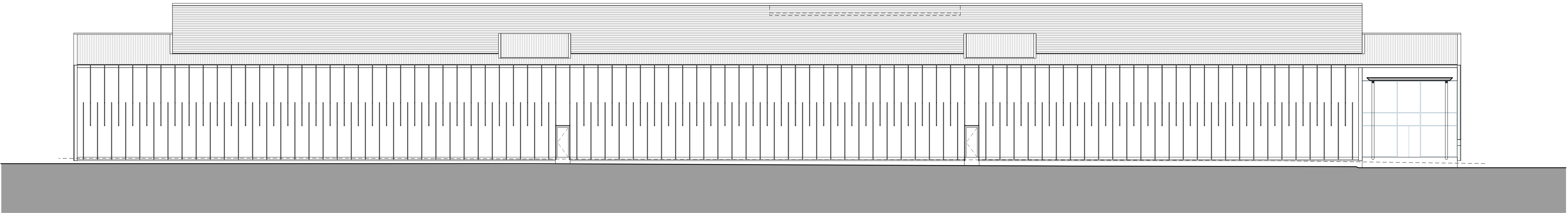
Attachment 05: Synthetic Training Facility - Level 1



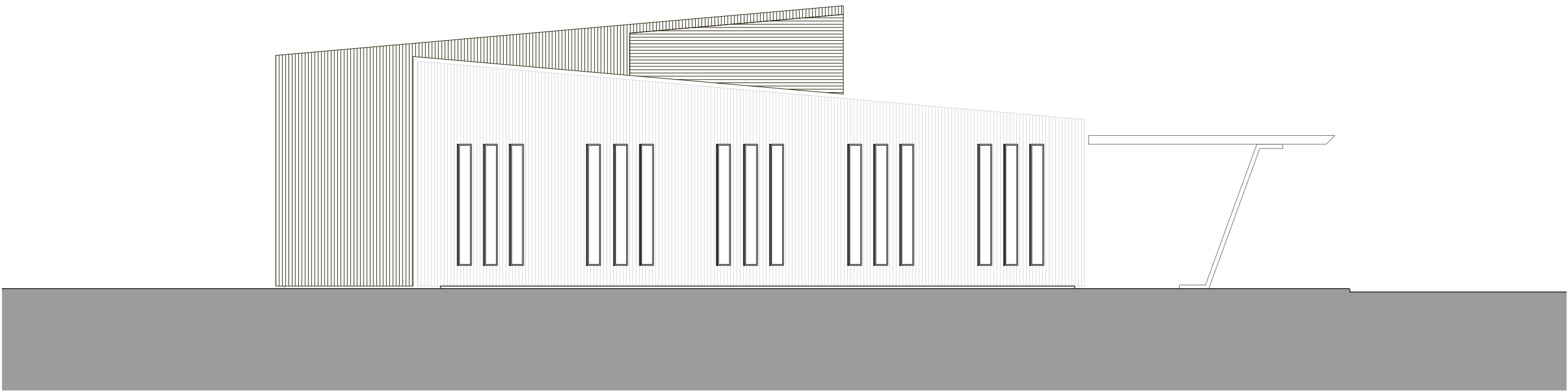
EAST ELEVATION



SOUTH ELEVATION

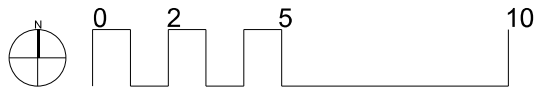


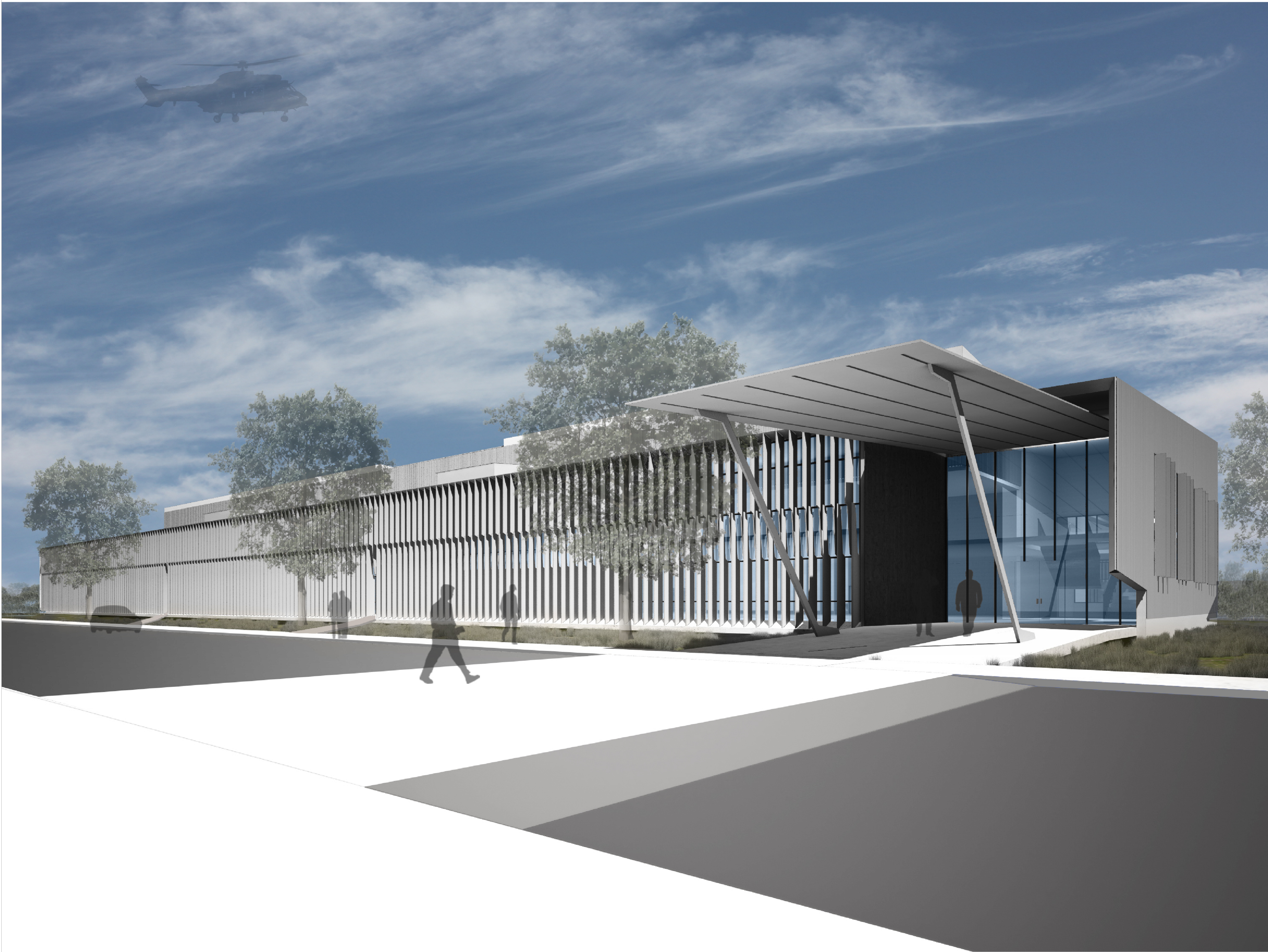
WEST ELEVATION



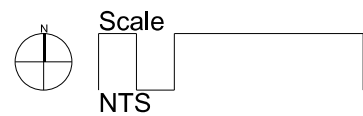
NORTH ELEVATION

SYNTHETIC TRAINING FACILITY - ELEVATIONS





SYNTHETIC TRAINING FACILITY - PERSPECTIVE





- BUILDING WORKS LEGEND**
- EXISTING BUILDINGS (RETAINED)
 - NEW EXTENSION TO BUILDING
 - ENTRY/ CIRCULATION
 - HANGARS
 - OFFICES/WORKSHOPS
 - CREW ROOMS
 - AMENITIES/ PLANT/ COMMS/ STORE

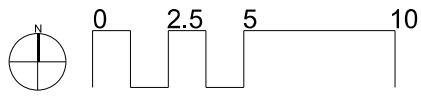
LIVE TRAINING FACILITY - GROUND FLOOR

Attachment 08: Live Training Facility - Ground Floor

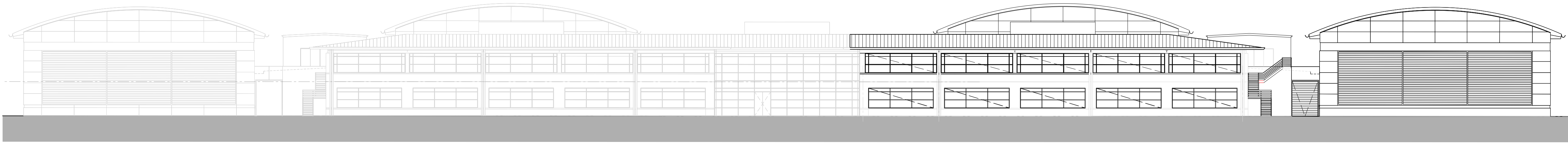
- BUILDING WORKS LEGEND
- EXISTING BUILDINGS (RETAINED)
 - NEW EXTENSION TO BUILDING
 - ENTRY/ CIRCULATION
 - CLASSROOMS
 - OFFICES
 - CREW ROOMS
 - AMENITIES/ PLANT/ COMMS/ STORE



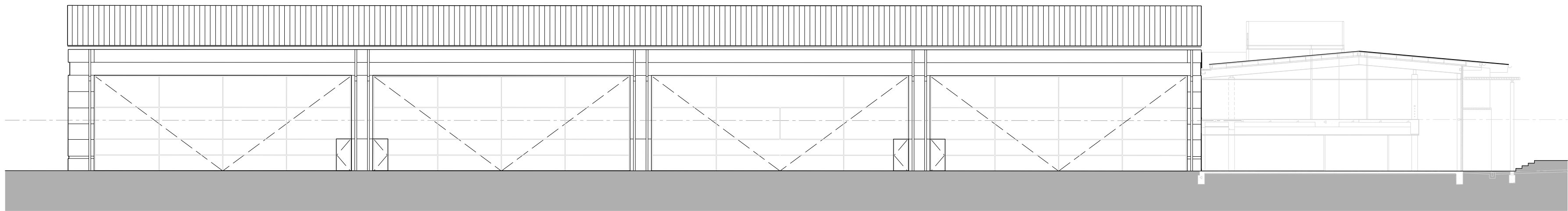
LIVE TRAINING FACILITY - LEVEL 1



Attachment 09: Live Training Facility - Level 1



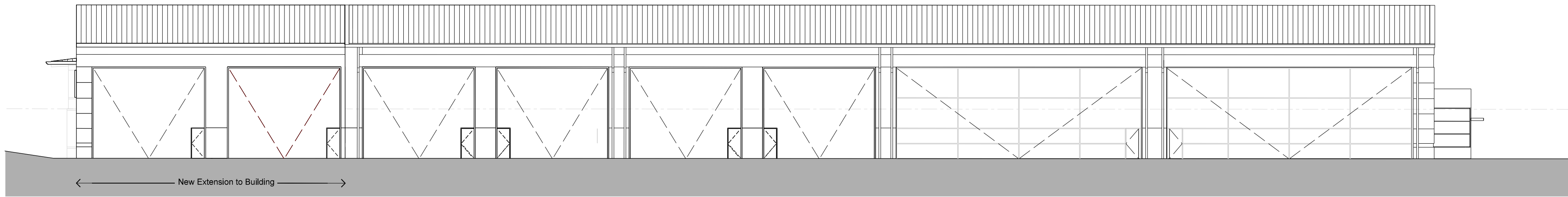
NORTH ELEVATION



WESTELEVATION

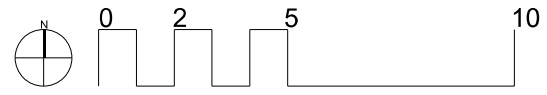


SOUTH ELEVATION



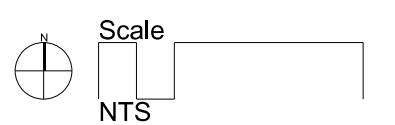
WEST ELEVATION

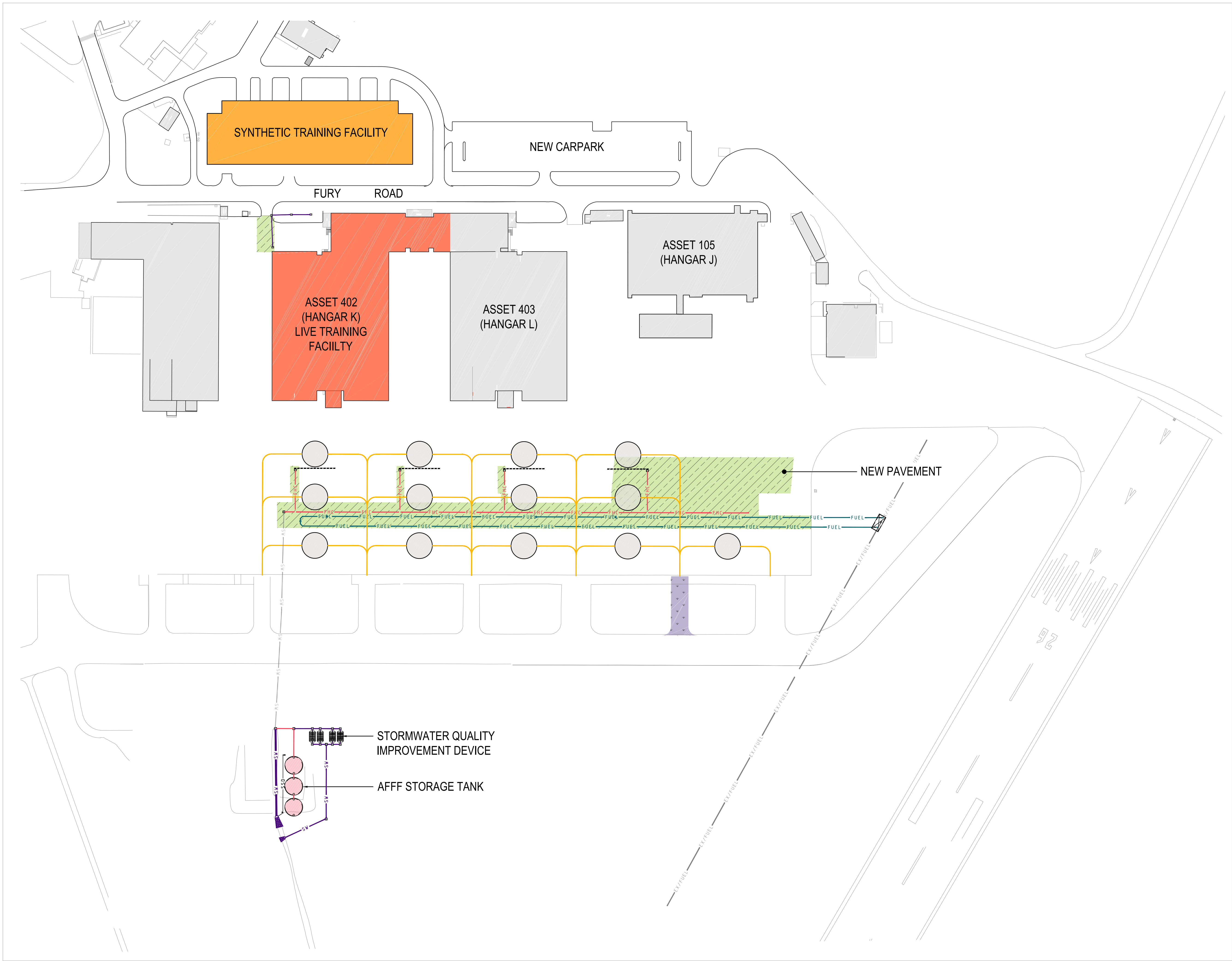
LIVE TRAINING FACILITY - ELEVATIONS





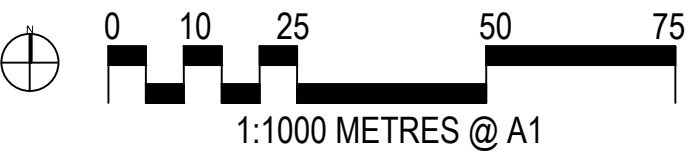
LIVE TRAINING FACILITY - PERSPECTIVE





- APRON WORKS LEGEND
- PROPOSED FUEL LINE
 - PROPOSED APRON FUEL CAPTURE SYSTEM
 - PROPOSED STORMWATER PIPE
 - EXISTING STORMWATER PIPE
 - PROPOSED GRATED DRAIN
 - LINEMARKING
 - FLIGHTLINE APRON PAVEMENT (CONCRETE) (AIRSIDE PAVEMENT)
 - REINFORCED TURF - AIR TAXILANE
 - EC 135 - PARKING STAND

LIVE TRAINING FACILITY - APRON WORKS



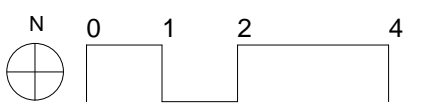
Attachment 12: Live Training Facility - Apron Works

BUILDING WORKS LEGEND

- SOLE OCCUPANCY UNIT
- COMMON ROOM
- AMENITIES/ SERVICES
- CIRCULATION



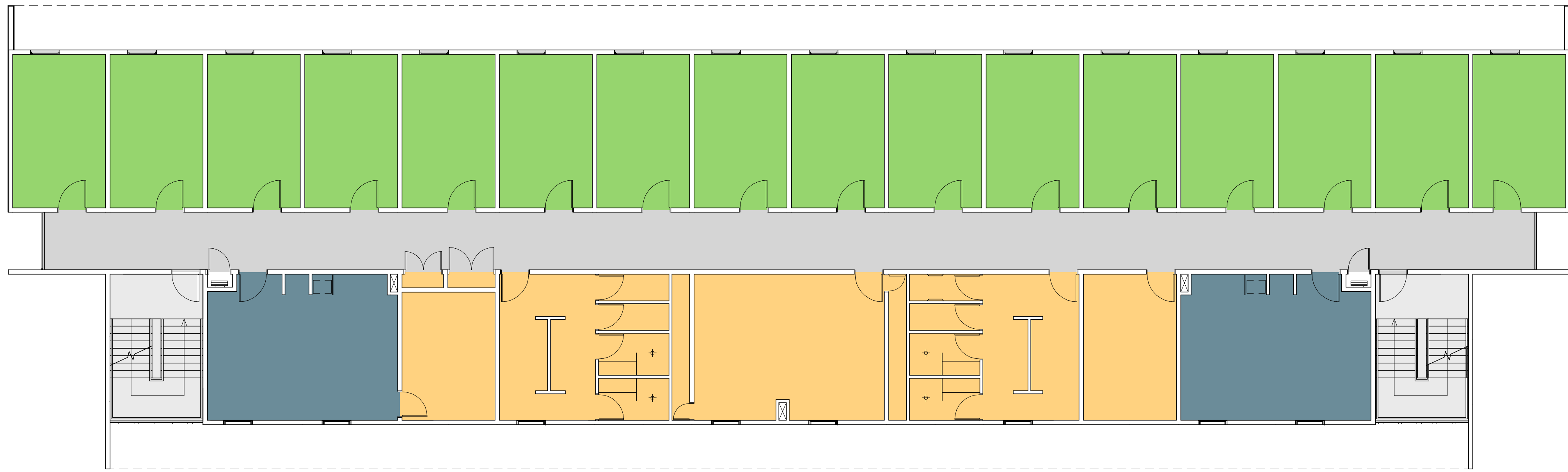
LIVING IN ACCOMMODATION - BUILDING 1 GROUND FLOOR (BUILDING 2 SIMILIAR)



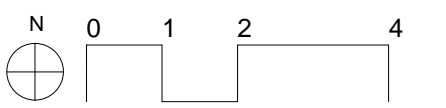
Attachment 13 Living In Accommodation - Ground Floor

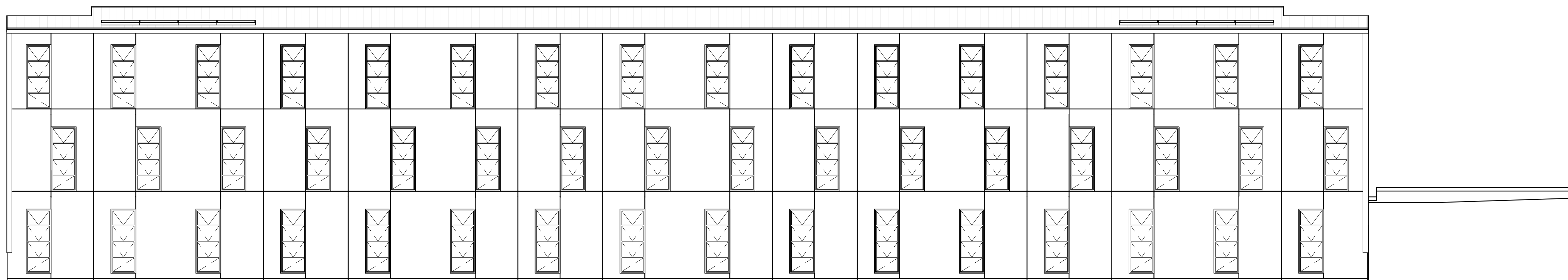
BUILDING WORKS LEGEND

- SOLE OCCUPANCY UNIT
- COMMON ROOM
- AMENITIES/ SERVICES
- CIRCULATION

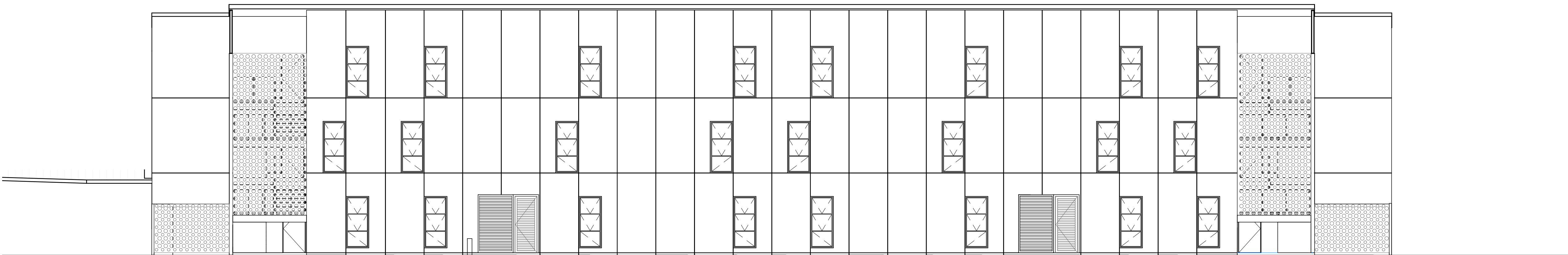


LIVING IN ACCOMMODATION - BUILDING 1 LEVEL 1+2 (BUILDING 2 SIMILIAR)

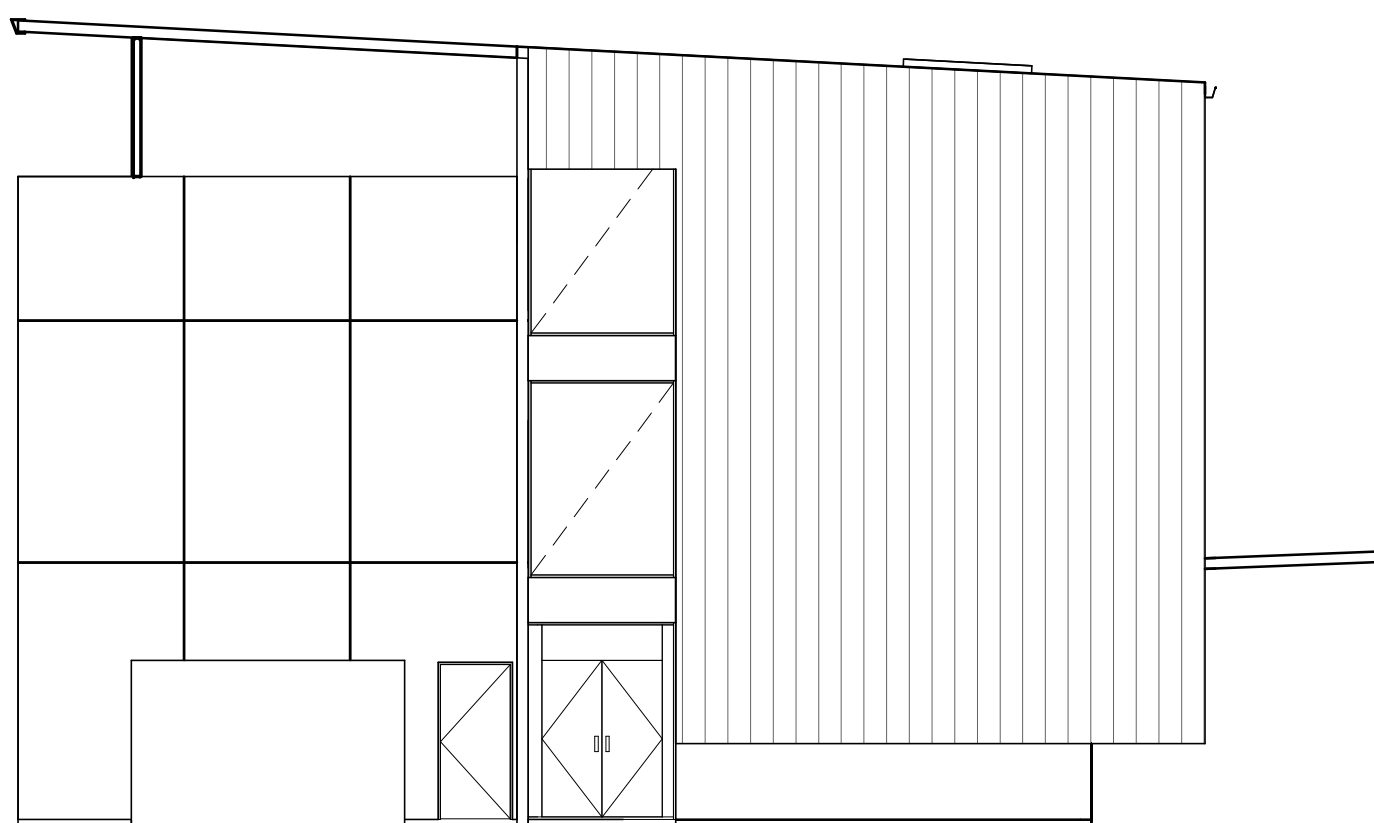




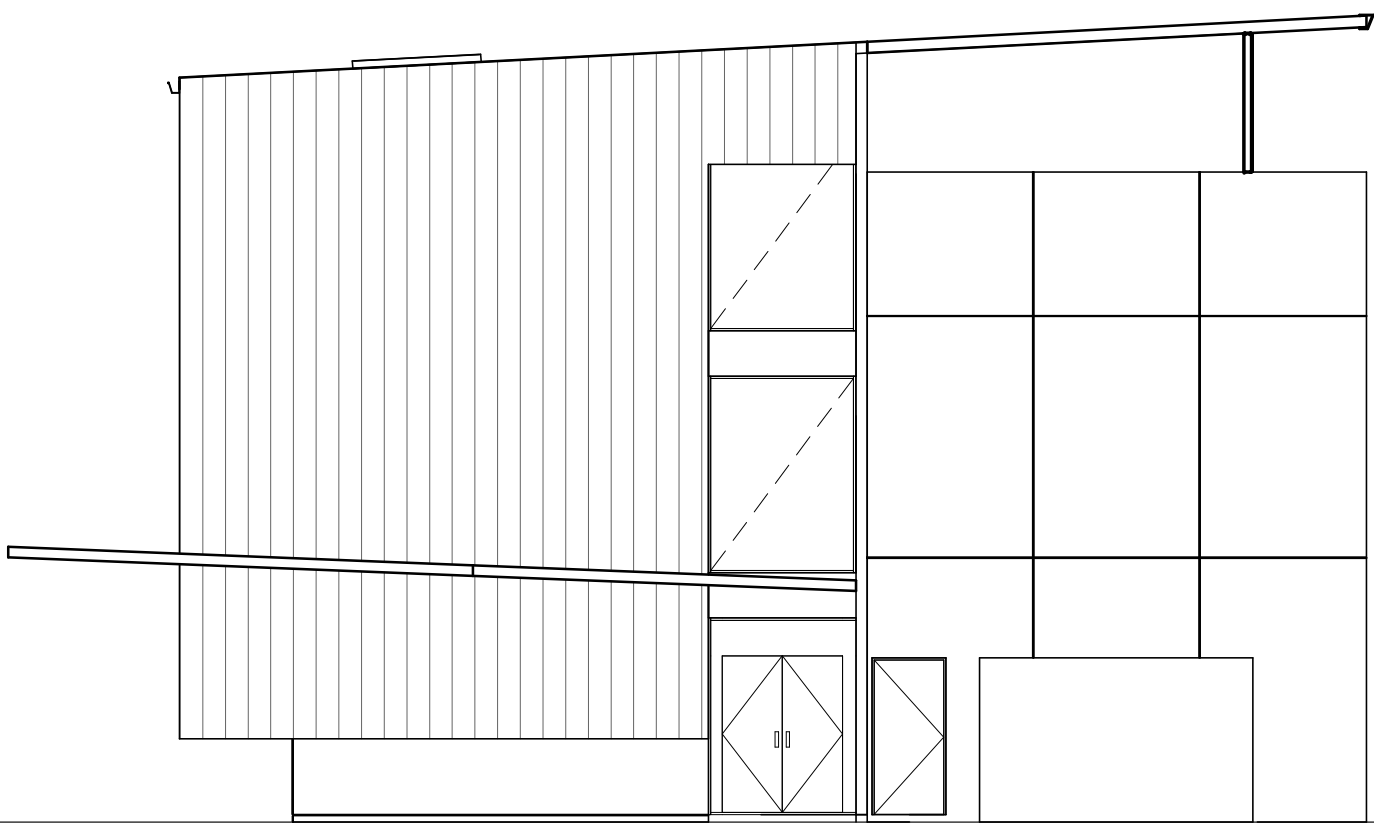
NORTH ELEVATION



SOUTH ELEVATION

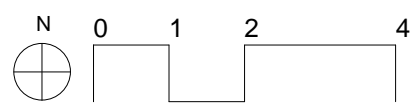


EAST ELEVATION



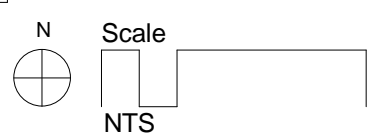
WEST ELEVATION

LIVING IN ACCOMMODATION - ELEVATIONS





LIVING IN ACCOMMODATION - PERSPECTIVES

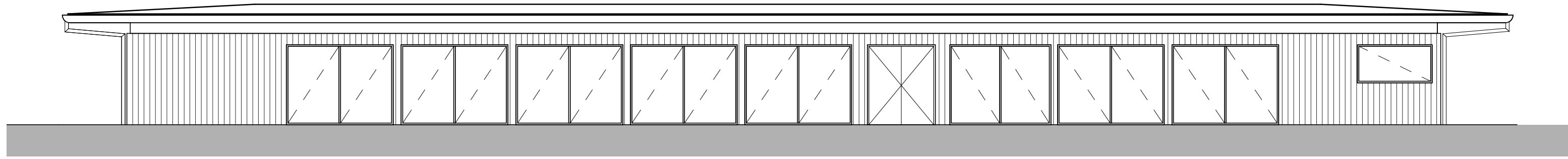


BUILDING WORKS LEGEND

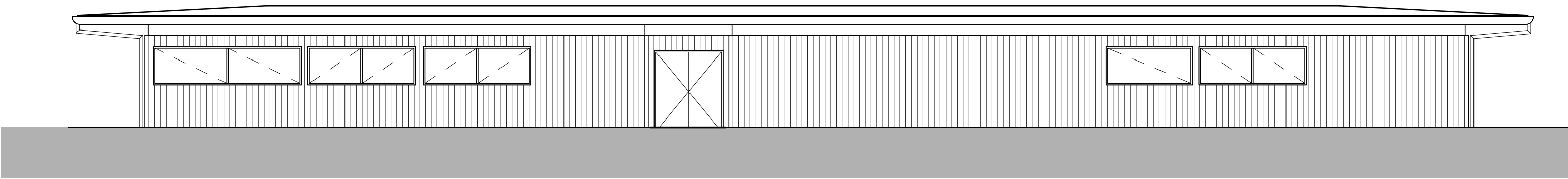
- AMENITIES/SERVICES
- CREW ROOM
- ENTRY/CIRCULATION
- OPERATIONS



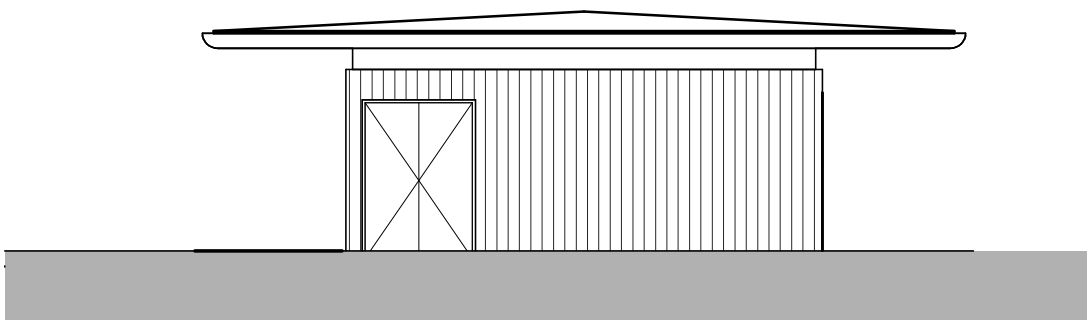
JERVIS BAY AIRFILED BRIEFING FACILITY - GROUND FLOOR



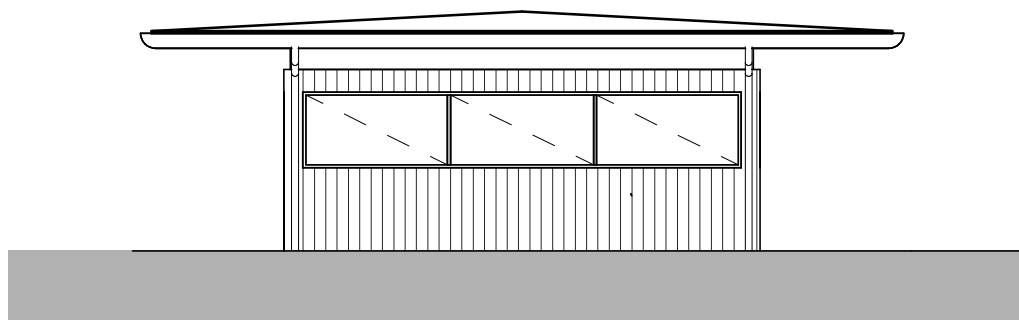
NORTH ELEVATION



SOUTH ELEVATION



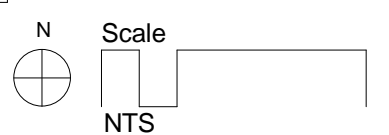
EAST ELEVATION

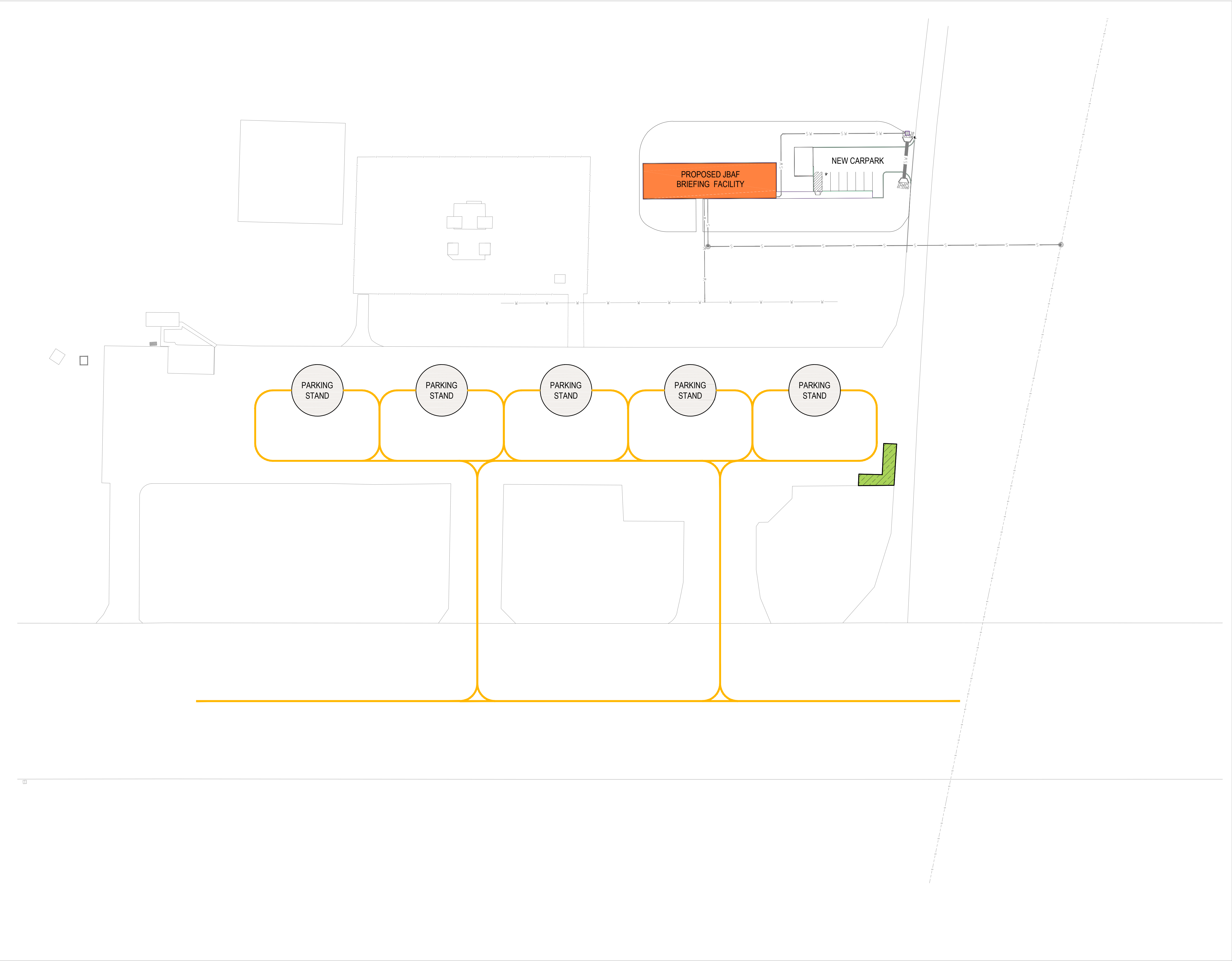


WEST ELEVATION



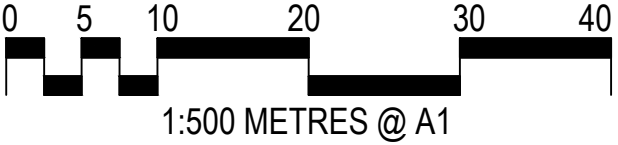
JERVIS BAY AIRFIELD BRIEFING FACILITY - PERSPECTIVES





APRON WORKS LEGEND	
	SEWER PIPE
	WATER PIPE
	NON-POTABLE COLD WATER
	EXISTING WATER
	STORMWATER DRAINAGE PIPE
	EXISTING STORMWATER
	LINEMARKING
	EC 135 PARKING STAND
	FLIGHTLINE APRON PAVEMENT

JERVIS BAY AIRFIELD BRIEFING FACILITY - APRON WORKS





ADF Helicopter Aircrew Training System

"Project AIR [now JP] 9000 seeks to provide the ADF with the most appropriate force mix of helicopters ... to meet operational requirements in a range of roles. Phase 7 [will] provide a rotary wing training capability for Navy and Army ... encompass[ing] elements of live, synthetic and classroom aviation instruction, to overcome the broadening gap between the current rotary wing training systems and the advanced operational helicopters in the current and planned future ADF inventories."(DCP 2009)

The future of rotary wing training begins now!



JP 9000 Phase 7 and its associated facilities project J0028, will provide a total training solution for the Australian Defence Force's helicopter aircrew through the introduction of a Joint Helicopter School at HMAS ALBATROSS, Nowra NSW.

Incorporating live, synthetic and more traditional classroom elements, the Joint Helicopter School will lay the foundations for Navy and Army helicopter Pilots, Aviation Warfare Officers and Aircrewmen to meet the challenges of operating modern combat helicopters in the complex battlespace of tomorrow.



Bringing together experienced partners in Boeing Defence Australia, Airbus Helicopters and Thales simulation, along with a host of knowledgeable sub-contractors, JP 9000 Phase 7 will deliver the ADF helicopter training system for future generations of Australia's defenders.



Joint Project 9000 Phase 7 – Helicopter Aircrew Training System

The Training capability at a glance –

HMAS Albatross

HMAS ALBATROSS will host the Joint Helicopter School comprising a modern, purpose-built simulation and ground training school, and renovated helicopter storage and maintenance facilities. The Base will also receive accommodation for up to 96 military aircrew trainees, comprising pilots, aviation warfare officers and aircrewmen/sensor operators.

Jervis Bay Airfield

A modest yet well equipped briefing facility will be constructed at the Navy's outlying airfield at Jervis Bay to support Navy aviation operations to the airfield, and in Jervis Bay and the adjoining sea training areas.

The Live Training Environment (*The Helicopters*)

Fifteen (15) Airbus Helicopters Inc. EC135T2+ helicopters. With well over 1,000 EC135 helicopters operating around the world, this tried and proven light twin-engined helicopter provides a safe, modern and reliable training platform as a stepping stone for Navy and Army aircrew to the current and future highly capable combat helicopter fleets.

The Synthetic Training Environment (*Simulation*)

The Joint Helicopter School will boast a suite of modern, immersive simulation and synthetic training environments which includes:

- 3 x Full-motion Flight Simulators (FFS) – The FFS provides a high fidelity, inherently safe training environment for all helicopter flight regimes, including emergency situations too dangerous to practice on a real helicopter. A safe, effective and economical training solution that complements the live environment.
- 2 x Virtual Reality Trainers (VRT) – A tactile and virtual training environment providing aircrewman procedural training in many aspects of helicopter operations including winching and helicopter direction.
- 1 x Aircraft Replica Trainer (ART) – Providing more realistic rescue winch training than the VRTs whilst maintaining a safe controlled environment, the ART utilises the same rescue winch fitted to the training helicopter and allows students, under strict supervision, to practice the procedures for raising and lowering people and equipment on the rescue winch.
- 1 x Marshalling Virtual Reality Trainer (MVRT) – Facilities training in the ground direction (marshalling) of aircraft, reducing the need for real helicopter operations to impart these procedural competencies.
- 2 x Desktop Trainer (DTT) Classrooms – The DTT provides an interactive simulation of the mission systems, such as communications, radar and sonar found in modern land and maritime warfare helicopters.
- 2 x Tactical Part Task Trainers (TPTT) – The TPTT provides a higher fidelity tactical simulation environment than the DTT facilitating training previously taught in the operational combat helicopters. Reducing the training burden on the operational force allows Navy and Army to better focus these highly capable combat helicopters on defending Australia.
- Helicopter Underwater Escape Trainer (HUET), EC135 training module – Utilised in the Navy's existing 'dunker' trainer the module provides trainees with in-water experience of escaping a ditched helicopter in a safe and highly controlled environment.
- Multi-purpose Aviation Training Vessel (MATV) – The MATV will be purpose built training ship, which will allow trainees to experience at sea flight deck operations. Previously conducted on active service warships, provision of the MATV will release these operational vessels for the higher priority role of defending Australia.



A modern, capable training system for the future helicopter force.