Australian Government

Department of Defence

SHOALWATER BAY TRAINING AREA

REMEDIATION PROJECT

Shoalwater Bay Training Area (Queensland)

STATEMENT OF EVIDENCE
TO THE
PARLIAMENTARY STANDING COMMITTEE
ON PUBLIC WORKS

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Shoalwater Bay Training Area Remediation Project

1. The purpose of this Statement of Evidence is to provide information to the Australian public to comment on, and the Parliamentary Standing Committee on Public Works to enquire into, proposed works under Shoalwater Bay Training Area Remediation Project (the Project).

Purpose of the Works

Aim of the Project

2. The aim of the Project is to remediate selected elements of the facilities and engineering infrastructure within the Shoalwater Bay Training Area to ensure its environmental sustainability is commensurate with introducing new capabilities to the Australian Defence Force.

3. The Project proposes to deliver critical works to support Australian Defence Force outcomes when undertaking joint and multinational collective training activities and amphibious training. It will focus on upgrading and sustaining the training area to transition to newly acquired capabilities, address key environmental concerns and increase the longevity of the training area.

Location of the Project

4. The Project proposes to deliver the works at numerous sites across the Shoalwater Bay Training Area. This training area, which covers over 274,000 hectares of land and 180,000 hectares of sea, is located approximately 80km north of Rockhampton in Central Queensland. It is a semi-isolated location with Yeppoon, having a population of around 18 000 people, approximately 40 kilometres to its South East boundary.

5. A map showing the location of the training area is at Attachment 1.

Need for the Project

6. The Shoalwater Bay Training Area is one of Australia's key training areas for domestic and international Defence training, and is the Australian Defence Force's only national location capable of supporting significant amphibious operations. It can

be accessed by air, sea and land, and is of sufficient size to accommodate large-scale training manoeuvres supported by air and naval gunfire.

7. Given the current and expected future use of the training area, there is a need to remediate the existing infrastructure to:

a. enable continued environmental sustainability for Australian Defence Force exercises.

b. meet the Department of Defence's obligations to manage the area for both military operations and environmental conservation.

c. increase Defence's Amphibious training capability.

d. enhance the quality and longevity of existing infrastructure for air, sea and land manoeuvres into the future.

Proposed Facilities Solution

Scope of Project Works

8. Defence has undertaken comprehensive master planning, site investigations, stakeholder consultation, whole-of-life cost analysis, and design development to establish the capital facilities and infrastructure works required under the Project to address each need.

9. The proposed scope elements are outlined in the following paragraphs.

10. **Urban Operations Training Facility Upgrade (Scope Element 1).** The current facility has reached the end of its serviceable life and is in a poor condition. It consists of repurposed shipping containers that are beginning to corrode and soon be unsafe to use. Works are required to demolish this facility and construct an enduring modern layout that meets today's urban operations training facility requirements and enable Brigade-sized training activities.

11. The replacement facility to be constructed will consist of mock full-scale buildings and structures consisting of diverse shapes, forms and purposes across separate "zones" of varying natures that are typical of Defence's training

requirements. This will provide realism and enable a variety of training scenarios. An indicative plan of the proposed works is at Attachment 2.

12. **Williamson Camp Development (Scope Element 2).** There are currently no permanent camp facilities to support personnel at the Williamson Airfield. During training, ad-hoc camps are established throughout the surrounding area to accommodate up to 1,000 personnel. The purpose of the proposed works at Williamson Camp is to enable it to provide austere accommodation for these personnel. Constructing a permanent camp will limit the ongoing environmental impact caused by the large training activities centred around the Williamson Airfield area. An indicative plan of the proposed works is at Attachment 3.

13. **Williamson Airfield Upgrade (Scope Element 3).** The purpose of the proposed works at Williamson Airfield is to enable it to support increased heavy-lift aircraft operations. This includes accommodating requirements for an increased rate of C-17 Globemaster and C-27J Spartan aircraft operations. To achieve this purpose, the existing airfield needs to be upgraded.

14. Accommodating the increased heavy-lift aircraft operations will be largely met by upgrading the aircraft pavement areas. The runway, taxiways and aprons will be refurbished and strengthened, and wider turning areas provided at the end of the runway. The apron area will be increased to allow the loading and unloading of up to three C-17 Globemaster aircraft simultaneously. Basic facilities will also be provided to enable ground operations required by the aircraft. An indicative plan of the proposed works is at Attachment 4.

15. **Field Hospital Site Upgrade (Scope Element 4).** This element will refurbish and harden an existing site (hard standing) for the setup of a deployable field hospital, including providing an adjacent aero-medical evacuation landing zone. This scope element will support these two functions and minimise environmental damage caused during training activities. The landing zone is required to be adjacent to the field hospital site to facilitate emergency casualty treatment at the hospital. An indicative plan of the proposed works is at Attachment 5.

16. **Dingo Drive Remediation (Scope Element 5).** Works are required to refurbish, realign, remediate and upgrade the existing road infrastructure along Dingo Drive. This will include approximately 10 kilometres of road widening and

establishing passing bays on an existing unsealed road. It will also support the intermittent two-way movement of military vehicles embarking and disembarking from amphibious craft at Freshwater Beach, and support newly acquired in-service transport vehicles and future armoured fighting vehicles. The remediation will reduce the environmental impact of these activities on the surrounding area.

17. **Freshwater Beach Landing Site Remediation (Scope Element 6).** This element will remediate and upgrade the landing site to support amphibious operations training. Works include hardening and upgrading the existing egress point from the beach site, increasing the size of the vehicle hard-standing and repairing the vehicle access ramps from the beach. An indicative plan of the proposed works is at Attachment 6.

18. **Remediation of Selected Creek Crossings (Scope Element 7).** Due to poor conditions of the creek crossings, Defence's vehicles currently bypass existing crossings to find more suitable crossing points. This increases the level of sediment being deposited into the training area's creeks. As a consequence, the sediment has the potential to enter the adjacent Great Barrier Reef Marine Park. A prioritised set of creek crossings will be upgraded to limit the damage to the local ecosystems as a result of the sediment runoff, and accommodate likely usage and storm-water flow. Works include strengthening and widening the nominated crossings to enable them to carry recently acquired in-service transport vehicles and the future armoured fighting vehicles.

19. Defence has developed four options to address the needs:

a. **Option 1 – Take no Action –** this option considered the impact of no investment. The state of the current infrastructure limits the employment of newly acquired capability and is resulting in an increasing impact on the Environment. Due to ongoing environmental and capability impacts, a degrading training area would continue to impact Defence and the local environment. Taking no action has been discounted.

b. **Option 2 - Full Scope -** user needs were developed through an iterative design process to create an optimal solution to meet all functional requirements, and a full option for each scope element was further developed. In addition to the previously described scope elements,

upgrading the Samuel Hill Airfield, was included in this full scope, and the cost of full options for each scope element was not within the project's budget. Therefore this option was discounted.

c. **Option 3 - Priority Scope Elements -** this option prioritises the scope elements developed in Option 2 above, and reduced the number of scope elements to an in-budget solution to deliver maximum effect for the higher priority elements only. The removal of scope items in this option would impact amphibious operations in the East of the training area. Due to its impact on Defence's capability, this option was also discounted.

d. **Option 4 - Rationalised Remediation -** this option rationalised and reduced the design solution across all scope elements to develop an in-budget option that will address most elements to varying degrees. This was achieved through a scope rationalisation process that considered scope priorities, the overall intent of the Project, practical constraints for reducing scope, stakeholder input and constructability advice. Samuel Hill Airfield scope item was removed as a project element due to non-affordability and being the lowest capability priority. However, sub elements not able to be funded from within the budget have been identified and will be prioritised as "below the line items" that could be delivered should any savings be found later in the Project.

20. Defence considers that Option 4 represents the best value for money solution to the Commonwealth to address the need from a whole-of-life perspective. This is based on the benefits of addressing most scope elements to varying degrees and effectively managing the impacts of reduced design solutions. Option 4 also allows flexibility to progressively re-invest savings into the 'below the line items' and realise the Full Scope Option (Option 2) as far as the project's budget will allow.

Planning and Design Concepts

21. The general philosophy for the design of the proposed works is based on:

a. meeting the functional requirements for the facilities or infrastructure being provided;

b. reducing the environmental impact of training activities within the training area;

c. providing cost-effective, functional, low maintenance, energy efficient design options compatible with proposed functions and existing aesthetics;

d. wherever possible, adopting conventional construction techniques and materials commonly used by the construction industry and consistent with those already used;

e. applying appropriate durability measures to reduce ongoing maintenance and achieve the proposed design life; and

f. providing flexible services and infrastructure to accommodate an appropriate level of growth and the continual evolution Defence's training continuum.

Relevant Legislation, Codes and Standards

22. The following legislation, standards, codes and guidelines are applicable:

a. *Environmental Protection and Biodiversity Conservation Act 1999 (Cth);*

b. *Fair Work (Building Industry) Act 2012 (Cth);*

c. *Work Health and Safety Act 2011 (Cth);*

d. *Disability Discrimination Act 1992 (Cth);*

e. *Fair Work Act 2009 (Cth);*

f. National Construction Code – Building Code of Australia;

g. Manual for Infrastructure Engineering Electrical;

h. Smart Infrastructure Manual;

i. Defence Estate Quality Management System; and

j. Defence Manual of Fire Protection Engineering.

23. Subject to Parliamentary approval, an accredited Building Certifier will certify compliance of the design and compliance of the completed works.

Land and Zoning

24. The proposed works are consistent with uses prescribed in relevant Defence zoning instruments and the Defence Estate Principles of Development. All elements of the Project are located within the boundaries of Commonwealth-owned and Defence-controlled land.

Airfield Pavements

25. The pavement design for the proposed airfield works has taken into account the existing condition of the Williamson Airfield, the underlying geotechnical conditions and all relevant Australian Standards, including CASA Manual of Standards Part 139, and ICAO Annex 14 Volume 1 – Aerodrome Design and Operations. The type and loaded-weight of the aircraft using the airfield have also been considered and various scenarios were analysed to develop an optimum solution.

Road Pavements

26. The pavement design for the proposed road works along Dingo Drive, and for other scope elements where applicable, considered the existing condition of the roads. This included the underlying geotechnical condition and all relevant Australian Standards including Austroads Guide to Pavement Technology Part 6: Unsealed Pavements. The estimated vehicle traffic numbers to use the road was calculated and used to develop the pavement designs.

Road Drainage Structures

27. The design for all road drainage structures took into consideration the existing condition of the crossings, the underlying geotechnical condition of the site, expected rainfall and runoff capture within the catchment area of the waterways and all relevant Australian Standards, including The Australian Rainfall and Runoff Guidelines.

Structural Elements

28. The structural design of the proposed new buildings takes into account local geotechnical conditions and are in accordance with all relevant Australian Standards and Codes. These standards include Wind Loading Standards that address cyclonic conditions which may affect the facilities through their design life. Detailed geotechnical investigations at each location were undertaken to inform the building foundation designs.

Mechanical Services

29. The Project will deliver limited mechanical services, and those required have been designed according to the function and needs of the new buildings. These needs include mechanical extraction of fumes within the live fire areas of the Urban Operation Training Facility and air conditioning for the airfield hut and the Urban Operation Training Facility control building. The proposed services will meet specific user needs, relevant ventilation, thermal comfort and air quality requirements and the mandatory requirements of the Building Code of Australia, relevant Work Place Health and Safety requirements and specifically AS/NZS 1668.2 (The use of ventilation and air-conditioning in buildings – Mechanical ventilation in buildings).

Hydraulic Services

30. Hydraulic infrastructure at the Williamson Camp, including natural gas and hot water reticulation, will be connected to all ablutions and messing facilities. The camp will incorporate grey water usage, including suitable sewage infrastructure. Water will be supplied from a permanent water supply node to the whole precinct.

31. Water and sewerage will be reticulated to and from selected buildings at the Urban Operations Training Facility. These will comply with Commonwealth, State and Territory legislation, the Building Code of Australia, relevant Work Place Health

and Safety requirements, AS/NZS 3666 (Air-Handling and Water Systems of Buildings Set) series and the AS/NZS 3500 (Plumbing and Drainage Set) series.

32. The main ablution facilities to be constructed at the Urban Operations Training Facility and at the Williamson Camp will consist of proprietary zero discharge composting toilets.

Electrical Services

33. Lighting, power and lightning protection will be installed in accordance with Australian Standards and Defence engineering requirements. Electrical infrastructure and switchboards will have spare capacity to allow for future growth.

34. Electrical infrastructure will be provided to all areas of the Williamson Camp and at the Urban Operations Training Facility, and will be connected to generator power. The distance of these two sites from existing power networks combined with the sporadic nature of their use made this the best Value for Money option. External and internal lighting to permanent facilities will be provided. Solar power with batteries will be provided for facilities requiring low voltage, ongoing power requirements such as the airfield hut and the Urban Operations Training Facility control building. Reticulated power, including surge protection, will also be provided.

Fire Protection

35. Fire Protection has been addressed through compliance with the Manual of Fire Protection Engineering, and the Building Code of Australia. The Project has assessed asset classification and criticality in order to implement fire protection systems in all facilities.

Security Measures

36. Design will ensure all new facilities conform to the existing security system employed at the site. Facilities will be protected by physical security systems in accordance with the Defence Security Principles Framework (formerly the Defence Security Manual).

Acoustics

37. The new facilities will comply with the National Construction Code and Australian Standards for noise and acoustics.

Work Health and Safety

38. The Project will comply with the *Work Health and Safety (WHS) Act 2011 (Cth)*, Work Health and Safety (Commonwealth Employment – National Standards) Regulations, and relevant Defence policies. In accordance with Section 35 (4) of the *Building and Construction Industry Improvement Act 2005 (Cth)*, contractors will be required to hold full work health and safety accreditation from the Office of the Federal Safety Commissioner under the Australian Government Building and Construction Work Health and Safety Accreditation Scheme. Safety aspects of the Project were addressed during the design development process and documented in a Safety in Design Report. The Managing Contractor will be required to develop a Workplace Health Safety Plan prior to commencing any construction activities during the delivery phase of the Project.

Materials and Furnishings

39. Material selection is based on suitability for purpose, durability, low maintenance and compliance with relevant codes and standards. The ability for the local market to supply materials has also been a considered throughout the design to maximise local supply opportunities where value for money is evident.

Landscaping

40. Minimal landscaping is required only around the Urban Operations Training Facility, and will complement and enhance the character of the site. The landscape design will focus on a functional, low maintenance, water sensitive 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 Plan.

Childcare Provisions

41. No childcare facilities are being provided under the Project.

Provisions for People with Disabilities

42. Access for people with disabilities will be provided in consultation with the Defence Centre for Diversity Expertise and in accordance with the Building Code of Australia, Australia Standard 1428 *Design for access and mobility* and Defence policy "Disable Access and Other Facilities for Disabled Persons'. These standards lay out the design and construction requirements to comply with the *Disability and Discrimination Act 1992 (Cth).*

Environmental Sustainability

43. Defence is committed to ecologically sustainable development, and to reducing greenhouse gas emissions. The Project has adopted these measures as a key objective in the design and development of the proposed works, including:

a. **Prioritising scope elements with a positive environmental effect:** When developing options, undertaking value management and prioritising scope elements, priority was placed on elements that would result in a positive environmental outcome.

b. **Energy targets:** Where relevant, energy targets will comply with measures as required under the National Australian Built Environment Rating System, Defence's Smart Infrastructure Manual: Design and Construction and Defence's Building Energy Performance Manual.

c. **Measures to reduce energy and water use:** Measures to reduce energy and water use will comply with Defence's Building Energy Performance Manual and Engineers Australia Australian Runoff Quality – A guide to Water Sensitive Design.

d. **Demolition and disposal of existing structures:** Material which cannot be re-used in the construction will be removed from site in accordance with relevant regulations.

Potential Impacts

44. Defence has conducted rigorous assessments to identify potential environmental and local community impacts as a result of the Project, and to propose suitable mitigation measures. These include:

a. **Visual Impacts:** Due to the remote nature of the site, combined with the location of the majority of the scope elements being internal to the training area, the assessments conducted did not identify any visual impacts arising from the Project.

b. **Noise Impacts:** Due to the remote nature of the site, combined with the location of the majority of the scope elements being internal to the training area, the assessments conducted did not identify any noise impacts arising from the Project.

c. **Heritage Impacts:** The assessments conducted concluded that heritage risk associated with the Project are minor and manageable through the development of site-specific Construction Environmental Management Plans.

d. **Traffic, Transportation and Road Impacts:** The assessments conducted did not identify any significant traffic, transportation or road impacts arising from the Project. Existing arrangements for use of roads external to the training area will remain extant. The proposed works will not result in any net increases in permanent military or civilian personnel. However, there will be an increase in contractor personnel accessing and working at each site during the construction phase. During construction, there will be an increase in the number of large vehicles delivering materials to site and undertaking construction activities. The mandated development of Traffic Management Plans by the Contractor, together with ongoing and regular coordination of all construction activities with local Defence authorities at each establishment, will mitigate the effects of this on the Shoalwater bay Training Area's internal road networks.

e. **Existing Local Facilities:** Due to the remote nature of the site, the assessments conducted did not identify any impacts on existing local facilities.

45. Defence has determined that the Project will not have a significant impact on existing environmental and heritage values, and is not required to be referred to the Minister of Environment and Energy under the *Environmental Protection and Biodiversity Conservation Act 1999 (Cth).*

Consultation with Key Stakeholders

46. Defence has developed a community consultation and communications strategy that recognises the importance of providing local residents and other interested stakeholders an opportunity to provide input into, or raise concerns relating to, the Project.

47. Defence engaged with a variety of internal and external stakeholders during project development to date. Further consultation will be conducted to support the Parliamentary Standing Committee on Public Works' inquiry into the proposed works. This will include:

a. Local Business Groups,

b. Federal Member,

c. State Member,

d. Relevant Federal, State and Local Departments/Councils;

e. The Darumbal people; and

f. Community Groups.

Cost Effectiveness and Public Value

Project Costs

48. The estimated total capital out-turned cost of the Project is between $105 to 140 million (excluding Goods and Services Tax). This includes management and design fees, construction costs, information and communications technology, furniture, fittings, equipment, contingencies and a provision for escalation.

49. An increase in operating costs is expected as a result of the proposed works. This is due to the addition of new facilities and infrastructure which will increase the associated facilities maintenance, cleaning and utilities expenses.

50. Option 4 allows flexibility to progressively re-invest savings into sub elements and realise the Full Scope Option (Option 2) as far as the project's budget will allow. The priority for this re-investment is:

a. Camp facilities at Williamson Camp,

b. Further develop the Urban Operations Training Facility, and

c. Greater pavement strengthening at Williamson Airfield.

Project Delivery System

51. Subject to Parliamentary approval, a Managing Contract form of contract is planned to be used to deliver the works. The Managing Contractor will be appointed to complete design development, procure trade sub-contractors, and manage the construction activities.

52. The Managing Contractor form of delivery provides the Commonwealth with buildability input into the design while promoting opportunities for local small to medium enterprises by sub-contracting design and construction packages. Additionally the complexities associated with staging and phasing the works around the training activities made an early contractor involvement model beneficial.

53. A Project Manager and Contract Administrator will be appointed to manage the delivery phase of the works.

Construction Program

54. Subject to Parliamentary approval, design activities are expected to be completed by late 2019, and construction is anticipated to commence by early 2020 and be completed by mid-2022.

Public Value

55. Defence has comprehensively assessed public value, opportunities and benefit to the community as a result of the proposed works:

a. **Meeting capability needs:** The proposed works will accommodate the increased size and capacities of newly acquired capabilities and enable amphibious operations in the training area. This will enable major training activities to continue at this critical training area and directly contribute to Defence's ability to maintain its capability.

b. **Employment opportunities:** The Project will employ a diverse range of skilled consultants, contractors and construction workers. This may include opportunities for up-skilling and job training and employability on future projects.

c. **Economic impacts:** Defence anticipates the Project will have a positive economic impact through the procurement of local trades and service providers. Defence also anticipates up to 80% of the works by value to be able to be awarded to local sub-contractors.

d. **Local industry and Indigenous business involvement opportunities:** The Managing Contractor has been engaging with the local business community throughout the design process to ensure that the works are compatible with the capability and capacity of the local subcontracting market.

The Managing Contractor will develop a Local Industry Capability Plan and an Indigenous Capability Plan that will establish the practical means by which the Project will engage with these groups through procurement and construction.

e. **Existing infrastructure services:** Due to the nature of the proposed works, there is minimal existing infrastructure, hence minimal potential for reuse.

Revenue

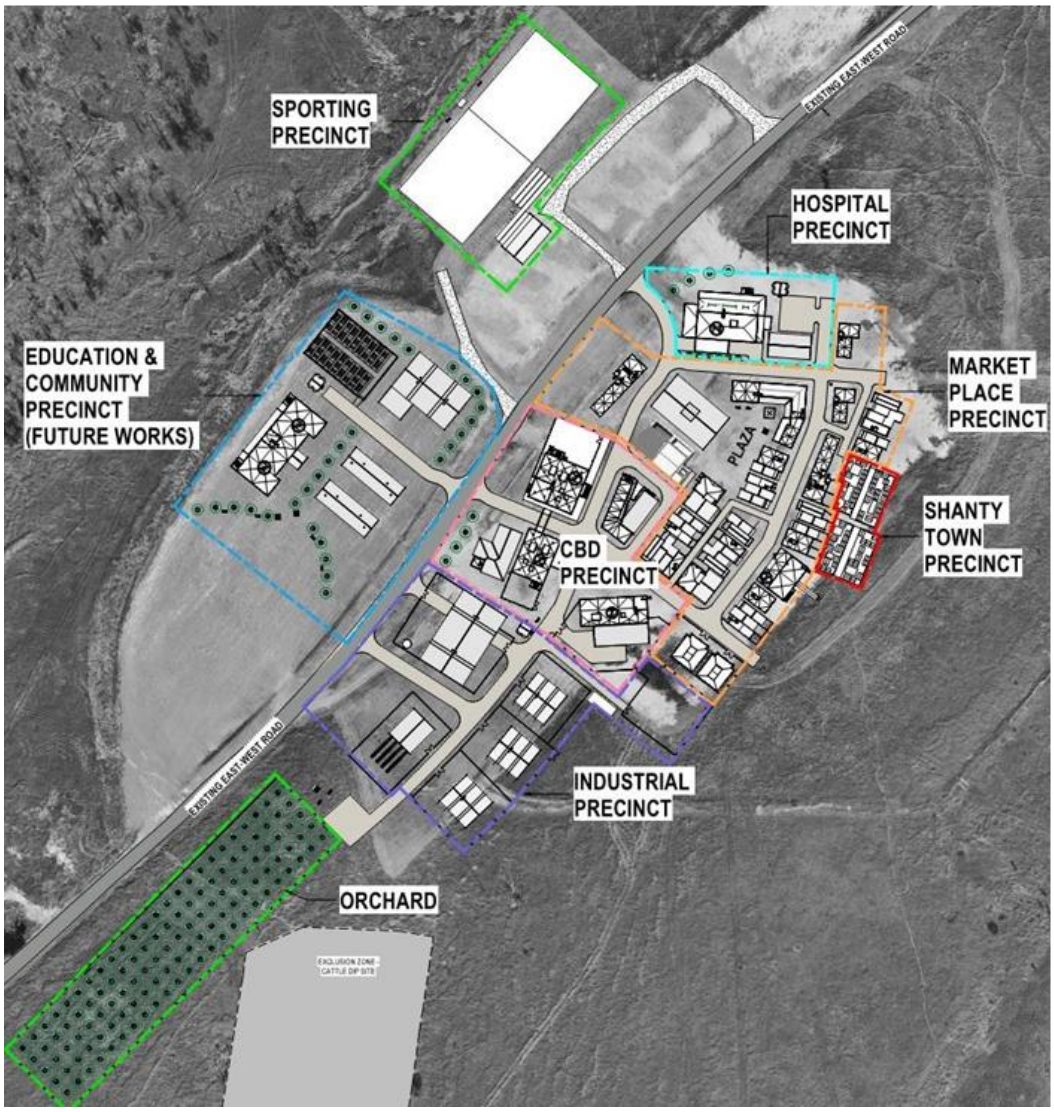
56. No revenue is expected to be derived from the Project.

Attachments

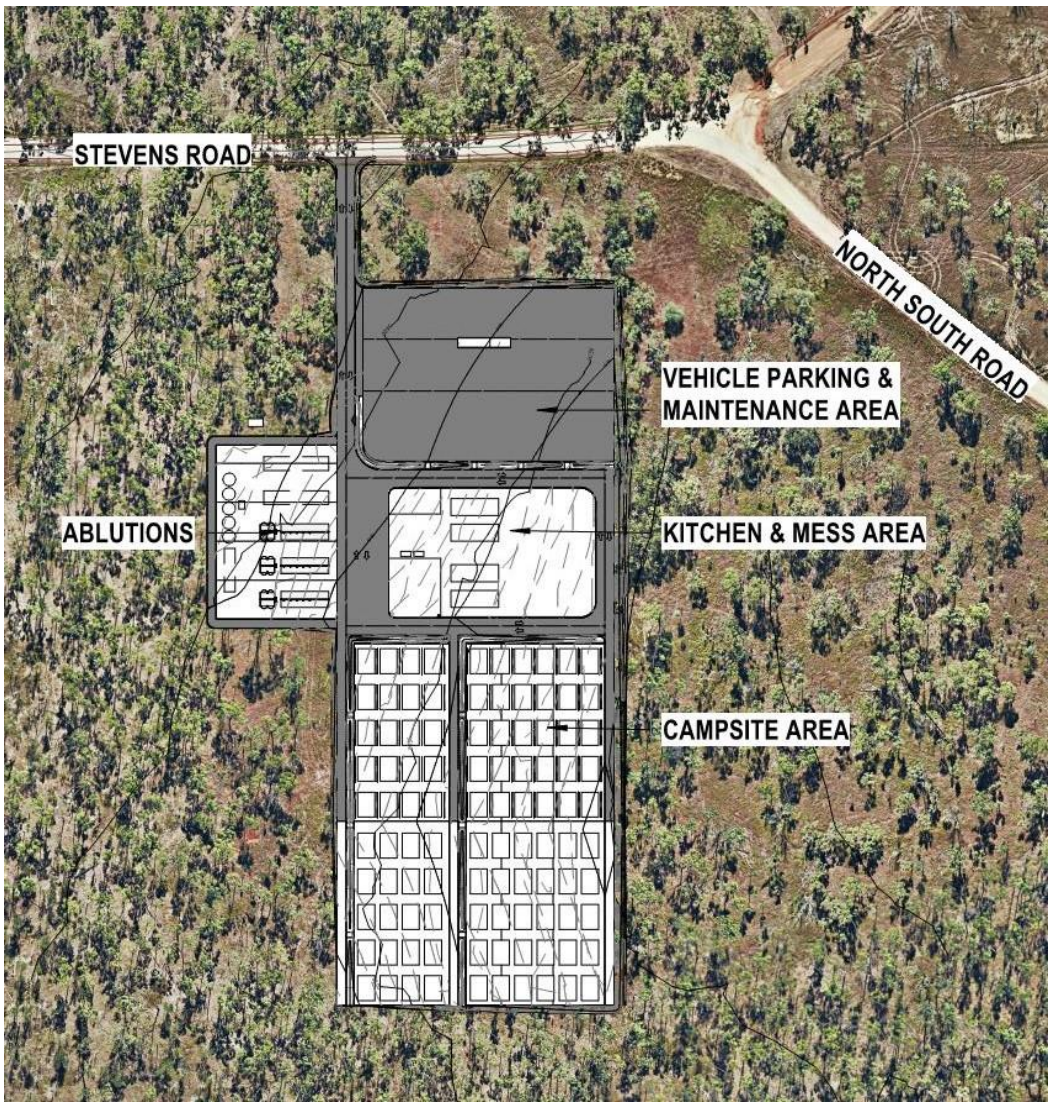
1. Location of the Shoalwater Bay Training Area
2. Indicative Plan for the Urban Operations Training Facility Upgrade
3. Indicative Plan for the Williamson Camp Development
4. Indicative Plan for the Williamson Airfield Upgrade
5. Indicative Plan for the Field Hospital Site Upgrade
6. Indicative Plan for the Freshwater Beach Landing Site Remediation

Attachment 1 – Location of the Shoalwater Bay Training Area

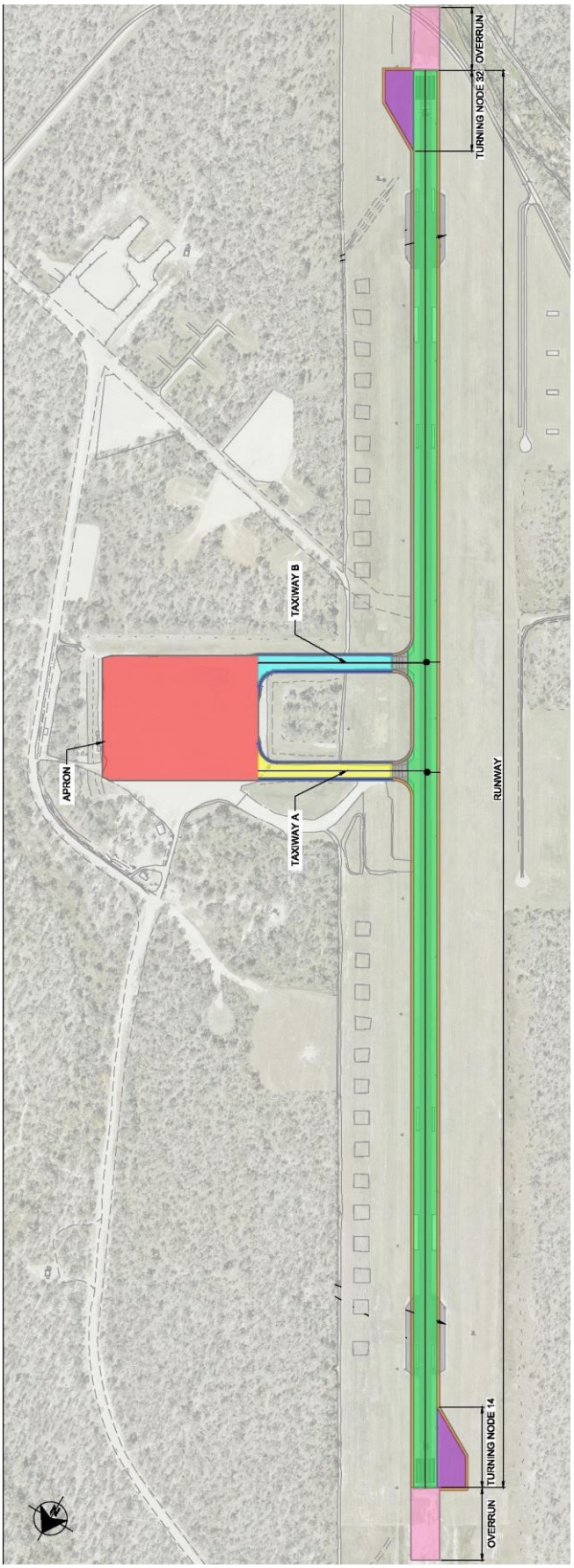
Attachment 2 – Indicative Plan for the Urban Operations Training Facility Upgrade



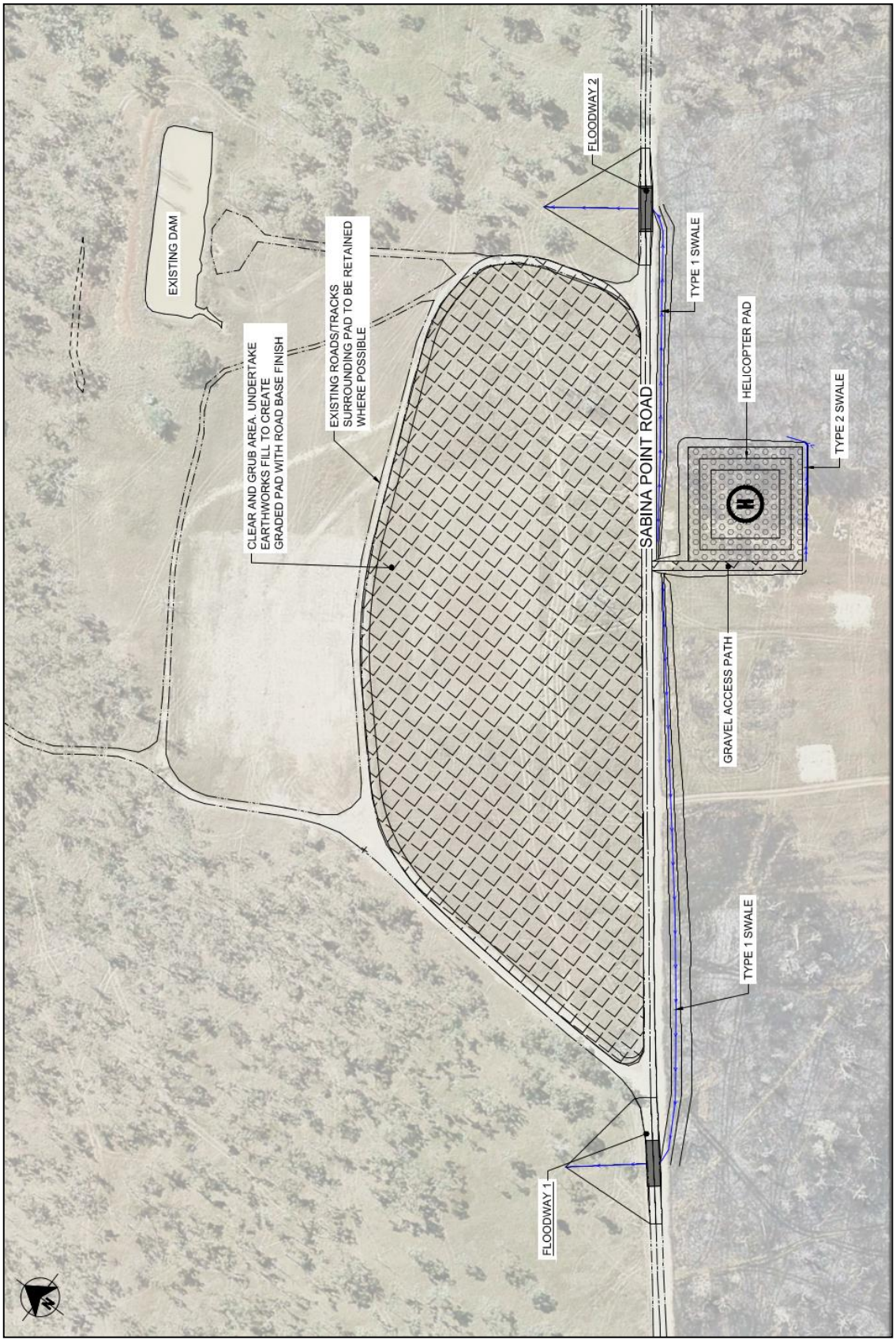
Attachment 3 - Indicative Plan for the Williamson Camp Development



Attachment 4 – Indicative Plan for the Williamson Airfield Upgrade



Attachment 5 – Indicative Plan for the Field Hospital Site Upgrade



Attachment 6 – Indicative Plan for the Freshwater Beach Landing Site Remediation

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