Australian Government

Department of Defence

MULTI USER BARGE RAMP FACILITY

East Arm, Darwin, Northern Territory

STATEMENT OF EVIDENCE TO THE PARLIAMENTARY STANDING COMMITTEE ON PUBLIC WORKS

Canberra, Australian Capital Territory

February 2015

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Multi-User Barge Ramp Facility, East Arm, Darwin, Northern Territory

Identification of the Need

Enhanced Amphibious Capability

1. Joint Project 2048 Phase 4A/B is acquiring two Landing Helicopter Dock (LHD) ships that are to be home-ported at Garden Island, Sydney. The first ship, HMAS *Canberra* was commissioned into service in the Royal Australian Navy (RAN) in November 2014 and the second will be commissioned in late 2015. These vessels will have a projected service life of 40 years and will provide the Australian Defence Force (ADF) with one of the most capable and sophisticated air-land-sea amphibious deployment systems in the world.

2. The LHDs are 231m long vessels. Each LHD will have a ship's company of approximately 400 and has the ability to embark up to 1000 personnel, 12 helicopters, and 90 armoured vehicles, including the M1A1 Abrams main battle tank. Four LCM1E variant mechanised landing craft are also embarked in each LHD in order to provide an organic waterborne ship to shore and landing capability.

3. The LHDs will substantially enhance Defence's capacity to deploy and sustain land forces from the sea, with further amphibious support provided by the Landing Ship Dock (LSD) HMAS *Choules*. In terms of humanitarian assistance and disaster relief operations, the LHDs will be the best means available to Defence to provide maritime assistance in our region without burdening damaged and fragile land infrastructure. They will also provide a significant capacity for maritime manoeuvre of land forces in our littoral environment.

4. Darwin is strategically vital for supporting ADF maritime operations across Australia's northern approaches, particularly in mounting operations that involve the RAN's amphibious capability. The *ADF Posture Review* of 3 May 2012 and

the *Defence White Paper 2013* affirms the strategic importance of Darwin, and in particular the Port of Darwin, to Defence

5. To meet operational requirements, Darwin must have facilities capable of providing timely logistic support to the RAN's LHDs and the LSD. The location plan at Attachment 1 shows the location of key Darwin port infrastructure with respect to the Darwin Central Business District (CBD) and other key developments. The existing physical and logistics infrastructure, including loading facilities and the availability of large vehicle marshalling areas, currently present significant limitations in providing effective and efficient support to Defence's developing amphibious capability.

Background

6. To ensure access to critical support infrastructure in Darwin, a Deed of Licence between Defence and the Darwin Port Corporation was executed in February 2001. The Deed of Licence conferred upon Defence the right to access the City wharves, including Stokes Hill Wharf, Iron Ore Wharf, and the Fort Hill Wharf Roll On / Roll Off facility (and adjacent land area), to fuel and de-fuel vessels, and load and unload cargo including military vehicles, personnel, equipment and supplies. This Deed of Licence also included the requirement to refurbish the Roll On / Roll Off facility at the Fort Hill Wharf to allow for the loading and unloading of the then RAN's Landing Platform Amphibious (LPA) ships HMAS *Kanimbla* and HMAS *Manoora* and the Landing Ship Heavy (LSH) HMAS *Tobruk*.[1]

7. In 2001, Defence contributed $3.0 million towards the refurbishment of the Roll On / Roll Off facility at the Fort Hill Wharf, and committed to pay an annual maintenance fee of $0.060 million (indexed). In October 2006, and despite the refurbishment and ongoing maintenance, the Darwin Port Corporation advised Defence that the load capacity of the Roll On / Roll Off facility had been reduced from 45 to 25 tonnes. In November 2008, and following further deterioration, the Darwin Port Corporation then advised Defence that the Roll On / Roll Off

[1] The LPAs have now been decommissioned from service and HMAS *Tobruk* will be decommissioned from service in July 2015.

facility had been decommissioned given its state of disrepair. With the loss of this capability, the Darwin Port Corporation refunded $2.0 million to Defence.

8. In the *Defence White Paper 2009*, Government decided to enhance some specific infrastructure to support the mounting and sustainment of operations, including the decision to provide a new boat ramp in Darwin to facilitate the loading and unloading of the LHDs (paragraph 15.21). A New Policy Proposal was subsequently agreed by Government to address this need, with Defence being provided initial approval to fund the provision of a suitable barge ramp and marshalling area in Darwin.[2]

9. In late 2010, Defence commenced discussions with the Darwin Port Corporation for the development of a Multi User Barge Ramp Facility (MUBRF), which would be managed under a Deed of Licence with the Darwin Port Corporation.

10. Subsequently, the Deed of Licence with the Darwin Port Corporation was amended in July 2011 to reflect these changes and delete the requirement for access to Stokes Hill Wharf (which was structurally unsuitable for use by larger vessels and also no longer part of the secure port area) and the now demolished Iron Ore Wharf.

Supporting Future Amphibious Operations in Darwin

11. In response to expected berthing and amphibious loading capability shortfalls for the LHDs in key Australian ports, Defence commissioned a study to identify facility options for supporting amphibious deployment and sustainment operations. In addition to Darwin, the study also considered berthing options for embarking and supporting such deployments and operations from Townsville, Brisbane and Adelaide.[3]

[2] In the *Defence White Paper 2013*, Government reaffirmed this decision stating that plans will be implemented to enhance the amphibious mounting base capacity in Darwin through the development of a hardened barge ramp to allow the embarkation and loading of large amphibious vessels via watercraft.

[3] In addition to implementing plans for enhancing the amphibious mounting base capacity in Darwin to allow the embarkation and loading of large amphibious vessels via watercraft, the *Defence White Paper 2013* also stated that such operations will be supported in Townsville through the development of the Townsville Port Berth 10A Roll On / Roll Off facility and that commercial arrangements of existing

12. Mounting a major amphibious, humanitarian assistance or disaster relief operation will require the loading of a large number of personnel, vehicles and materiel on-board the LHD and in a contingent situation, this could be required at short notice. The process of meeting the loading requirement for such operations can be conducted by two very different methods:

    a. The LHD berths alongside and loading operations take place via the two dedicated access doors on the starboard side of the ship, supplemented by craning stores and lighter equipment to the upper deck.

    b. The LHD remains at anchor or secured to a buoy offshore and is serviced by landing craft (principally the LCM1E) shuttling from shore and embarking stores and vehicles through the stern dock of the ship.

13. While alongside loading provides the most efficient method of embarking vehicles, equipment and ordnance, this method may be constrained by commercial shipping demands such as are experienced in Darwin at the East Arm Wharf and may not be available in Darwin as and when required by Defence.

14. With the decommissioning of the Roll On / Roll Off facility at the Fort Hill Wharf and the build-up of residential and retail development in the immediate vicinity of the Darwin City Wharf Precinct and HMAS *Coonawarra* (and noting that the transportation of heavy military equipment and explosive ordnance by road through the Darwin CBD is becoming increasingly less viable), Defence identified that the East Arm Wharf complex, located approximately 16 kilometres from Robertson Barracks, is the only practical alternative through which future amphibious loads could be conducted. However there are limitations to the loading of LHDs alongside the East Arm Wharf given the large tidal range and the height of the wharf that in combination limit the 'window for loading' (even at the most favourable tidal state) and do not allow for the effective operation of the LHD's two side doors and ramps.

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infrastructure will also be used to allow large amphibious ships to embark Australian Army units based in Brisbane and Adelaide should this be necessary.

15. As such, Defence currently conducts amphibious loads through the use of an existing barge ramp that is owned by the Paspaley Group and currently leased to Bhagwan Marine Darwin. While this existing ramp provides a barely acceptable interim solution for Defence, it is also limited to higher tidal windows and is unable to support Defence's full functional user requirements as follows:

    a. a marshalling area is required adjacent to a ramp in order to facilitate the expedient call forward of vehicles and equipment from a staging area;

    b. the approach channel to a ramp should provide 24 hours per day, 365 days per year access (or what can be best achieved) for LCM1E landing craft;

    c. the minimum width of a ramp should be 20 metres, which is required to allow two LCM1E landing craft with a beam of 6.4 metres to use the ramp simultaneously, with clearances of two metres on the outside of each vessel and two metres between vessels (i.e. six meters in total); and

    d. efficient, effective and safe manoeuvring in both the approach channel and at the foot of a ramp is required in order to facilitate LCM1E landing craft operations under all conditions.

East Arm Proposal

16. Given Northern Territory (NT) Government's concerns with transporting heavy military equipment and explosive ordnance by road through the Darwin CBD, Defence and the NT Government initially agreed that a site within the Darwin Port Corporation's East Arm Wharf complex would be the most practical location to conduct the anticipated increase in heavy amphibious loading in the future, due to its close proximity to Robertson Barracks, its good road and rail connections and its distance away from the Darwin CBD.

17. In early 2012, discussions with the Darwin Port Corporation concerning the siting and development of a MUBRF at East Arm Wharf were suspended given the failure to find both an affordable and timely solution that would meet Defence's functional requirements.

18. In July 2012, Defence considered an alternate proposal from the Land Development Corporation (LDC)[4] for the development of a MUBRF, which involved the parallel development of a new LDC multi-user logistics and marine loading facility on LDC land adjacent to the East Arm Wharf complex. Similar in concept to the earlier proposal from the Darwin Port Corporation, the LDC envisaged that the proposed MUBRF would be operated under a Deed of Licence that provided Defence with priority access to the proposed MUBRF.

19. In July 2013, Defence and the LDC entered into a Design Agreement to further develop this proposal. In accordance with this agreement, the LDC agreed to conduct the required site investigations, to develop a concept and detailed design, and to obtain the approvals required by the NT Government for construction of the proposed MUBRF. Defence agreed to provide up to $2.0 million (the money previously returned to Defence from the Darwin Port Corporation) to the LDC for design-related activities. Both parties also agreed, subject to obtaining the required internal, regulatory, Government and Parliamentary approvals, that they would negotiate and enter into a Deed of Licence agreement that would address the construction of the proposed facility, Defence's requirement for long-term priority access to the proposed MUBRF and set Defence's contributions to capital funding and ongoing maintenance.

20. In late 2014, Government gave final approval for Defence to contribute funding (cost capped) to the LDC for the construction and if required sustainment costs, of a MUBRF at East Arm in Darwin.

Description of Proposal

21. The proposed MUBRF will be owned by the LDC and will be situated on LDC property at East Arm. The location plan at Attachment 1 shows the site for the proposed facility with respect to other facilities at East Arm. The development and delivery of the MUBRF will be managed by the LDC, with specialist advice and project management support being provided by the NT Government's

[4] The LDC is a NT Government owned corporation established under section 4 of the Land Development Corporation Act 2003 (NT).

Department of Infrastructure. The proposed MUBRF will leverage the LDC's considerable investment in property development, road access and other infrastructure at East Arm.

22. The proposed MUBRF will provide Defence's amphibious landing craft with close to 24 hours-a-day capability to load and unload the RAN's LHDs and other amphibious ships irrespective of tidal conditions and ranges in Darwin.[5] This facility will also be available for other Defence watercraft uses, notably the movement of explosive ordnance to and from Defence vessels at anchor.

23. Defence and the LDC have reached an in-principle agreement that addresses the provision of the proposed MUBRF site, Defence's access rights, the construction of the MUBRF, the capital cost sharing arrangements and the responsibility for ongoing operations and maintenance of the proposed MUBRF. Subject to Parliamentary approval of this proposal, this in-principle agreement will form the basis of the proposed Deed of Licence between both parties. The term of the Deed will be for a period of 20 years, with two five year extension options. Defence will also have access to the proposed MUBRF for 60 days per year, which has been assessed as sufficient to meet anticipated ADF use. For the remaining days, the LDC intends to make the facility available to commercial users and derive revenue that would support the ongoing maintenance of the MUBRF, negating the requirement for Defence to contribute to the ongoing annual maintenance. Defence will also be granted first opportunity to take up any unused commercial days over and above the 60 days.

Options Considered to Fulfil the Identified Need

24. Defence's early investigations included considering the viability of enhancing an existing commercial wharf to allow reasonable / continuous side door loading of the LHD. Two potential engineering solutions / options considered at East Arm included a floating Roll On / Roll Off pontoon, connected to a fixed wharf deck by a steel ramp, and a cut-out section in an existing wharf, fitted with a platform that could move vertically and connect to the wharf by a loading ramp. As the

[5] The proposed channel depth will preclude access for approximately five hours per month at the lowest tides, which Defence considers acceptable (see paragraph 52 for further detail).

live loads to be supported by these mechanisms exceeded 65 tonnes, without considering the considerable weight of the structures themselves, these options were considered extremely expensive, with estimated costs for a moving ramp being in excess of $50 million. In addition, the anticipated maintenance costs for such facilities were also considered extremely expensive. The physical size of the ramp mechanisms would also significantly reduce the space and capacity of the wharf to service primary commercial shipping demands and therefore impact on the port revenue stream. Given the expected high construction capital costs, operational constraints and scheduling difficulties with this option, the proposed MUBRF option was subsequently considered to be the most cost-effective and operationally effective solution.

Environment and Heritage Assessment

Overview of Assessment Process

25. The NT Government's Department of Lands, Planning and Environment commenced development of an Environmental Impact Statement for their East Arm Wharf Expansion project in 2010. The wharf expansion project included the Marine Supply Base (completed in June 2014), the Tug Pens project (still in development along with a number of smaller associated works) and the proposed MUBRF (Attachment 1 refers).

Details of the Assessment and Approval Process

26. In June 2009, a Notice of Intent for the East Arm Wharf Expansion project was prepared by consulting company AECOM on behalf of the NT Government's Department of Lands, Planning and Environment. The three proposed East Arm Wharf Expansion development activities triggered the *Environment Protection and Biodiversity Conservation Act 1999* as the development was considered likely to have a significant impact on the environment, with impacts on migratory species and ecological communities. In August 2010, URS Corporation prepared an Environmental Impact Statement for the East Arm Wharf Expansion project using guidelines issued by the NT Government's

Environmental Protection Authority (then Natural Resources, Environment, the Arts and Sport).

27. The Environmental Impact Statement for the East Arm Wharf Expansion project was subsequently completed and submitted to the NT Government's Environmental Protection Authority and the Commonwealth Department of the Environment (then Department of Sustainability, Environment, Water, Population and Communities) in May 2011. The scope of the development was amended in November 2011, deleting a proposed rail loop and a development area, both considered as longer term projects that could be addressed in future submissions.

28. The East Arm Wharf Expansion project subsequently received approval under the NT's *Environmental Assessment Act 1982* in December 2011 and conditional approval by Commonwealth Department of Environment under the *Environmental Protection and Biodiversity Conservation Act 1999 (EPBC Act)* in March 2012.[6] This latter approval included 49 conditions which applied to all three proposed development activities. Many of the conditions were administrative, including requirements to advise the date of commencement, to report annually, the Environmental Impact Statement variation process, exclusion zones and establishing technical advisory groups. Some conditions also related to plans, reports and studies to be prepared and submitted to the Department of the Environment for approval and included a Port Environmental Protection Plan, Water Quality Management Plan, sediment sampling, dredge spoil and dredge spoil management and migratory bird surveys. Others related to the establishment and management of 'offset areas' for threatened species of wildlife, including dolphins and wild birds.

29. During the conceptual design phase of the proposed MUBRF it became apparent that re-positioning the proposed MUBRF approximately 200 metres to the west would deliver considerable environmental and cost benefits, primarily by significantly reducing the volume and cost of the dredging required for the

[6] This approval was referenced EPBC 2010/5304.

proposed MUBRF. In addition, locating the proposed MUBRF adjacent to the LDC's Common User Area would provide Defence with some operational efficiencies, including a better turning arrangement for large articulated and specialist vehicles, and access to lay down storage areas associated with the expansion of the LDC Common User Area.

30. As the new location required a re-submission of the original Environmental Impact Statement, a Revision Document was prepared and submitted to the NT's Environmental Protection Authority and to the Commonwealth's Department of the Environment. The Environmental Protection Authority approved the revised location in November 2013 and the Department of the Environment granted approval in January 2014 (with the latter approval having similar conditions to the approval as previously issued in March 2012).

Meeting the Conditions of Approval

31. To meet the approval conditions, detailed management plans have been prepared and subsequently approved by the Department of the Environment to address a range of activities associated with the East Arm Wharf Expansion project. The approved plans include:

    a. the Migratory Bird Management Plan (approved in June 2013);

    b. the Port Environmental Protection Plan (also approved in June 2013); and

    c. the Sediment Sampling and Analysis Plans for the MUBRF (and the Tug Pens) (approved in March 2014).

32. A Coastal Offset Plan and a Dredging and Dredge Spoil Placement Management Plan are also required for the MUBRF project and approval of these plans is required prior to the proposed MUBRF works commencing. The current status of these plans are as follows:

    a. A Coastal Offset Plan based on Shoal Bay in Darwin Harbour was submitted to the Department of the Environment for approval in May 2014. In August 2014, the Department requested a number of issues be clarified.

A response addressing these issues was submitted in February 2015 and is now under consideration by the Department of the Environment.

b. A draft Dredging and Dredge Spoil Placement Management Plan has been prepared by the URS Corporation, with technical advice being provided by dredging specialists. To assist in developing this plan, the LDC engaged the Australian Institute of Marine Science (AIMS) to undertake modelling work to predict the extent and effects of disturbance in the harbour waters around the planned dredging works. The Plan is currently under review by a specialist Technical Advisory Group whose comments will be incorporated into the Plan. Once the Dredging and Dredge Spoil Placement Management Plan is complete it will be submitted to the NT Environmental Protection Authority and the Department of the Environment for approval.

33. The NT Department of Lands Planning and Environment and the LDC retain overall responsibility for meeting all the conditions of approval for the proposed MUBRF and for reporting to both the Territory and Commonwealth environmental authorities during the life of the project. Specific approval conditions to be managed during the construction phase, including those relating to dredging, water quality, noise monitoring, traffic management and dust control, will be addressed in Tender documents and subsequent Construction Contract(s). The successful construction contractor will also be required to prepare and obtain approval of a detailed Construction Environment Management Plan (CEMP), with supporting plans for site safety, landside construction traffic and seaborne traffic during the construction phase.

Indigenous Heritage

34. Aboriginal Areas Protection Authority clearance certificates for the construction of the NT Government's new port project and the development of the new port facilities was issued in 1994 and remains valid for 25 years.

35. The certificate imposes some restricted work conditions for development activities within the vicinity of East Arm. These conditions relate to restrictions

on and around the Yirra Sacred Site (Catalina Island – Registered Site Number 5073/66) and include there being no excavation of sediment on the sea bed close to the Island. While the proposed MUBRF works do not impact this site the construction contractor will be made aware of the restrictions around the Sacred Site.

Non-Indigenous Heritage

36. As part of the development phase investigations, a number of non-indigenous items, some of which may be of heritage interest, have been located in the Harbour and in the intertidal zone that generally relate to civilian and military (WW11) use of the nearby area. A total of 52 sites have been identified and initial survey works have been undertaken. Approximately half of the sites were inspected in detail and a number of small items removed for inspection by a marine archaeologist. In addition to items such as old storage drums, boat parts and electrical cables, unexploded ordnance (in the form of small calibre ammunition only) and a scattering of items thought to be small aircraft parts from Catalina aircraft (which were operated nearby in WW11) were also found.[7] With the assistance of the NT Heritage Branch and the marine archaeologist, items of potential interest were removed from the proposed site to a more suitable location to allow for the proper inspection and classification as to their nature, origin and future treatment. The results of the initial survey work (and in accordance with all required environmental approvals and site management plans) will guide the recovery and handling of any further finds of items of potential heritage interest during the construction period,.

Key Legislation

37. The following key legislation is relevant to this project:

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

[7] Subject to Parliamentary approval of the proposed MUBRF, the unexploded small calibre ammunition discovered in the initial survey will be removed and properly disposed of.

b. *Building and Construction Industry Improvement Amendment (Transition to Fair Work) Act 2012 (Cth);*

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

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

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

f. *Fair Work (Building Industry) Act 2012 (Cth).*

38. The MUBRF design also complies with all relevant Australian Standards, Codes and Guidelines including National Construction Code, 2012 (inclusive of the Building Code of Australia).

Consultation with Key Stakeholders

39. The NT Department of Lands Planning and the Environment managed the environmental assessment process and was required to consult with the Community as part of the Development Approval process. The Draft Environmental Impact Statement was prepared in 2011 to identify the environmental and related impacts that could potentially occur as a result of the proposed Darwin Harbour East Arm Wharf Expansion project (which includes the Marine Supply Base, the Tug Pens and the proposed MUBRF). The Draft Environmental Impact Statement was released for public review on 17 June 2011 and was open for comment (including four public meetings) until 5 August 2011.

40. In response to the comments received on the Draft Environmental Impact Statement, amendments were made to the proposal in a supplementary report and committed to the following: [8]

[8] Further information and updated approval conditions are publicly available at: http://www.eastarmwharf-eis.nt.gov.au/about-the-project.

a. a substantially revised Marine Supply Base access channel design, reducing the potential impacts to South Shell Island, benthic habitat, and the greater Darwin Harbour;

b. an Environmental Monitoring Program for Darwin Harbour (subsequently prepared by Coffey Environments in 2010);

c. Migratory Bird Management, Pond Management and Coastal Offset Plans to be approved and implemented; and

d. the development of a Dredging and Dredge Spoil Placement Management Plan and onshore disposal of all dredged spoil, resulting in substantially reduced impacts to the marine environment.

41. As the primary stakeholder for the proposed MUBRF, Defence has worked with the LDC to develop a consultation and communications strategy that recognises the importance of providing local residents, statutory authorities and other interested stakeholders an opportunity to provide input into, or raise concerns relating to the proposed MUBRF. The consultation and communication strategy includes:

a. written submissions to the following local Federal and Territory members:

(1) Mrs Natasha Griggs - MP Member for Solomon;

(2) Senator the Hon Nigel Scullion;

(3) Senator Nova Peris OAM; and

(4) Mr David Tollner MLA - Member for Fong Lim.

b. written submissions to the relevant NT authorities, including:

(1) the Department of Lands, Planning and Environment; and

(2) the Darwin Port Corporation.

c. Defence convening a public information session for the proposed MUBRF prior to the conduct of the Parliamentary Standing Committee on Public Works Hearing.

Purpose of the Works

Project Objectives

42. The purpose of this proposal is to provide Defence with a cost effective and long term priority access to a suitable MUBRF in Darwin to facilitate the loading and unloading of large amphibious ships (primarily the LHDs and the LSD) by watercraft (primarily the LCM1E) .

Details and Reasons for Site Selection

43. The site for the proposed MUBRF, with the exception of the approach channel and navigation aids[9], is entirely situated on the LDC's Darwin property at East Arm. The location plan at Attachment 1 shows the site of the proposed MUBRF with respect to other key East Arm facilities and infrastructure. The site complies with the Darwin Port Corporation's East Arm Wharf Facilities Master Plan 2030, being collocated with the Marine Supply Base precinct and 'open storage area', which is now called the Common User Area Precinct.

44. This site collocates the proposed MUBRF with the LDC's Common User Area thereby enabling Defence to use the existing land access and staging area in the Common User Area. The proposed site also optimises landing craft access to the shore, whilst minimising the construction costs associated with providing such access through dredging.

Detailed Description of the Proposed Scope of Works

45. The design of the proposed MUBRF has been managed by the LDC, with key Defence stakeholders providing considerable input into the development of the design. The Facility Layout Plan at Attachment 2 shows the key elements of the proposed MUBRF design. A perspective drawing of the initial design for the

[9] The approach channel and associated navigational aids are to be positioned in waters under the control of the Darwin Port Corporation.

proposed MUBRF is at Attachment 3. The key aspects of the MUBRF design requirements (in addition to the aforementioned functional user requirements) were addressed in Defence's Functional Design Brief and included:

a. accommodating amphibious landing craft (primarily the LHD's embarked LCM1E landing craft);

b. allowing for the safe passage of two landing craft travelling in opposite directions;

c. providing staging and marshalling areas suitable for a wide range of Defence vehicles; and

d. incorporating appropriate maritime navigation aids suitable for 24 / 7 operations.

Civil Works

46. LDC are currently developing a 48,000m^2 staging area hardstand within the 90,000m^2 Common User Area located at the head of the proposed MUBRF access road. This area will be used to unload armoured vehicles and engineering plant from articulated transporters that have very wide turning circles.

47. The proposed MUBRF marshalling area located between the end of the access road and the top of the proposed ramp proper serves to unload and prepare vehicles prior and post vessel embarkation / disembarkation. The proposed MUBRF access road will be surfaced with high strength interlocking pavers and has been designed to accommodate the entire range of Defence wheeled vehicles. Tracked Defence vehicles, and in particular main battle tanks, will be offloaded in the Common User Area and 'walked' along the access road to the proposed MUBRF marshalling area.

48. A heavy duty hardstand area, at the head of the proposed ramp, is also proposed to be provided. This area will be constructed of heavy duty concrete and be able to withstand the loading and unloading of tracked engineering plant, such as bulldozers which have cleated tracks.

49. Minimal services will be provided to the MUBRF but will include potable water for drinking purposes. Lighting of the proposed marshalling area and the top of the proposed ramp has been designed to shield landing craft coxswain from glare during night operations.

50. Defence will provide their own security and other facilities including portable toilet facilities when operating the proposed MUBRF. Additional conduits are also proposed to be included in the services trench easement to allow for any future upgrades.

Marine Works

51. The proposed ramp will be a concrete structure, with a minimum gradient of '1 Vertical in 8 Horizontal' and will be wide enough to allow two landing craft to safely use the ramp simultaneously.

52. Considerable investigations of tidal movements and the submarine conditions at the proposed site have been carried out during the project design phase, with the objective of maximising the availability of the proposed MUBRF and reducing the requirements for any costly site preparations, particularly dredging. These investigations identified that the Defence requirement for 24 hour, 365 days a year access at all tides could not be achieved without dredging into rock. To avoid this considerable expense, the depth of the channel has been raised slightly. This has subsequently restricted access to fully loaded landing craft for up to five hours per month. However given the additional costs, Defence has accepted this minor operational limitation.

53. Hydrodynamic modelling has also indicated that cross currents may slightly exceed the requested 'one knot at peak ebbs to the south of the breakwater head' but would meet the requirements where vessels are required to manoeuvre. Defence has also accepted this minor operational limitation.

54. The design has also allowed for a future sea level rise of 0.3 metres over the next 50 years in accordance with the NT Government's Planning Provisions, which accept the Australian prediction of sea level rise.

Public Transport, Local Road and Traffic Concerns

55. The proposed MUBRF site is remote from the Darwin CBD and is not served by public transport, however there will be no permanent Defence personnel at the site. Defence personnel operating the proposed MUBRF will access the site using Defence vehicles. Defence equipment arriving or departing through the facility will be also be transported by Defence vehicles.

56. During the construction phase a considerable amount of material will be imported for use in the proposed ramp structure. While the site is well served by major roads, and the works are relatively modest compared to the neighbouring logistics activities, the construction contractor will be required to produce a Site Traffic Management Plan to address the management of local traffic conditions.

Zoning and Local Approvals

57. The proposed MUBRF works are contained within the boundaries of the East Arm Wharf Expansion project at Section 6127, East Arm Peninsular, within the Darwin Harbour. There will be no change to existing land use conditions at the proposed MUBRF site and Federal and NT Government environmental planning and NT development approvals will be adhered to as required. The proposed MUBRF works do not require the acquisition of additional land or involve land disposal aspects.

Planning and Design Concepts

58. Defence operational requirements have been central to the design of the proposed MUBRF. Given the nature of the proposed MUBRF, considerable investigations have been necessary in order to minimise the risk of unexpected latent conditions (and minimise the risk of additional construction costs) and to maximise the availability of the facility for Defence operations.

59. Conventional construction techniques and materials will be used for the proposed MUBRF, and in particular those proposed for the dredging operations, earthworks, ramp construction and pavements, are all typically used in the local

construction industry. Similar pavement designs for Defence vehicles, as were successfully used at Robertson Barracks, have also been used.

Structural Design

60. The structural design of the proposed hardstands, access road and the ramp structure have taken into account local geotechnical conditions and are in accordance with all relevant Australian Standards and Codes. Appropriately qualified and experienced geotechnical and structural engineers have also been engaged in the design of the proposed MUBRF.

Hydraulic Services

61. Potable water will be supplied to the proposed MUBRF from an adjacent water main that services the LDC's Common User Area. This service will comply with Commonwealth, State and Territory legislation, the Building Code of Australia, relevant Work Place Health and Safety requirements, AS/NZS 3666 series and the AS/NZS 3500 series.

62. All areas of the proposed MUBRF have been designed to adequately drain to prevent the collection of stormwater after rainfall events.

Electrical Services

63. The scope of the proposed electrical services is limited to lighting and some power reticulation, and will be provided in accordance with all relevant Australian Standards, all applicable Legislation, Regulations, Codes of Practice and Guidance Publications relevant in the NT and stated Defence requirements.

Fire Protection

64. Fire protection during Defence operations at the proposed MUBRF will be provided by portable fire-fighting appliances.

Security

65. There is no public access to the proposed MUBRF. Access to the proposed MUBRF will be through the LDC's Common User Area, which is largely fenced

and secured by large gates at the road entrance. In addition, the proposed MUBRF will be secured by Defence personnel during operational periods. No additions to the existing fencing and gates are proposed at this time.

Environmental Sustainability of the Project

66. Although the Commonwealth is committed to Ecologically Sustainable Development (ESD), there is limited opportunity in this proposal to include ESD measures. A key objective in the design and delivery of the proposed MUBRF has and will continue to be the minimisation of any impacts during construction and operation on the local terrestrial and aquatic environments. This objective has or will be achieved by ensuring that the conditions of the environmental approval(s) are met, by including design measures such as gross pollutant traps and by minimising dredging requirements.

Energy Targets

67. There are no applicable energy targets for this proposal.

Work Health and Safety Measures

68. The facilities to be provided under this project will comply with Department of Defence's Work Health and Safety policy, the *Work Health and Safety Act (WHS) 2011 (Cth)*, Work Health and Safety (Commonwealth Employment - National Standards) Regulations and the Defence Work Health and Safety manual.

69. In accordance with Section 35(4) of the *Building and Construction Industry Improvement Act 2005 (Cth)*, contractors will also 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.

70. Safety aspects of this proposal have been addressed during the design process and have been documented in a Safety in Design Report completed by the Design Consultant. No special or unusual public safety risks have been

identified in this process. The successful construction contractor will also be required to submit a Safety Plan for the construction phase and prior to the start of any construction activities.

Cost Effectiveness and Public Value

Outline of Project Costs

71. The total estimated cost for the delivery of the MUBRF is $18.0 million (excluding GST). This delivery cost includes management fees, construction costs, environmental management measures, contingencies and an allowance for escalation.

72. Defence and the LDC have reached an in-principle agreement that addresses the provision of the proposed site, Defence's access rights, the construction of the MUBRF, the capital cost sharing arrangements and the responsibility for the ongoing operation and maintenance of the proposed MUBRF. As part of this agreement, Defence will contribute $16.1 million to the estimated construction costs, with the LDC agreeing to fund the remainder of the estimated delivery costs and all ongoing operation and maintenance costs.[10]

Details of Project Delivery System

73. Subject to Parliamentary approval of the project, Defence and the LDC will execute a Deed of Licence for the construction and operation of the proposed MUBRF. On execution of the Deed of Licence, the LDC will proceed with the delivery phase of the project. LDC proposes to use a lump sum contract and to engage a Head Contractor using a single stage tender process managed by the NT Department of Infrastructure. The Department of Infrastructure will comply with the NT Government's procurement and contracting policies and procedures.

Construction Program

74. Subject to Parliamentary approval of the project, construction of the MUBRF is expected to commence by mid-2015 and be completed by mid-2016.

[10] In addition to the $1.9 million for the remaining construction costs, the LDC are also providing existing land, road access and supporting infrastructure estimated to cost $28.5 million.

Public Value

75. The proposed MUBRF will meet an important Defence capability need, whilst also providing the NT Government with a new logistics asset to enhance Darwin's expanding commercial logistics infrastructure.

76. The project will employ a diverse range of skilled consultants, contractors and construction workers that could also include opportunities for up-skilling and job training to improve individual skills and employability of Indigenous Territorians on future projects.

77. The monitoring of the air, water quality, marine mammals and migratory birds, which will be conducted in accordance with the environmental approval for the East Arm Wharf Expansion Project. This monitoring will be of considerable community value, as it will add to the body of knowledge on how the Darwin Harbour ecosystem operates and will shape and inform future Darwin Harbour Management Plans.

Revenue

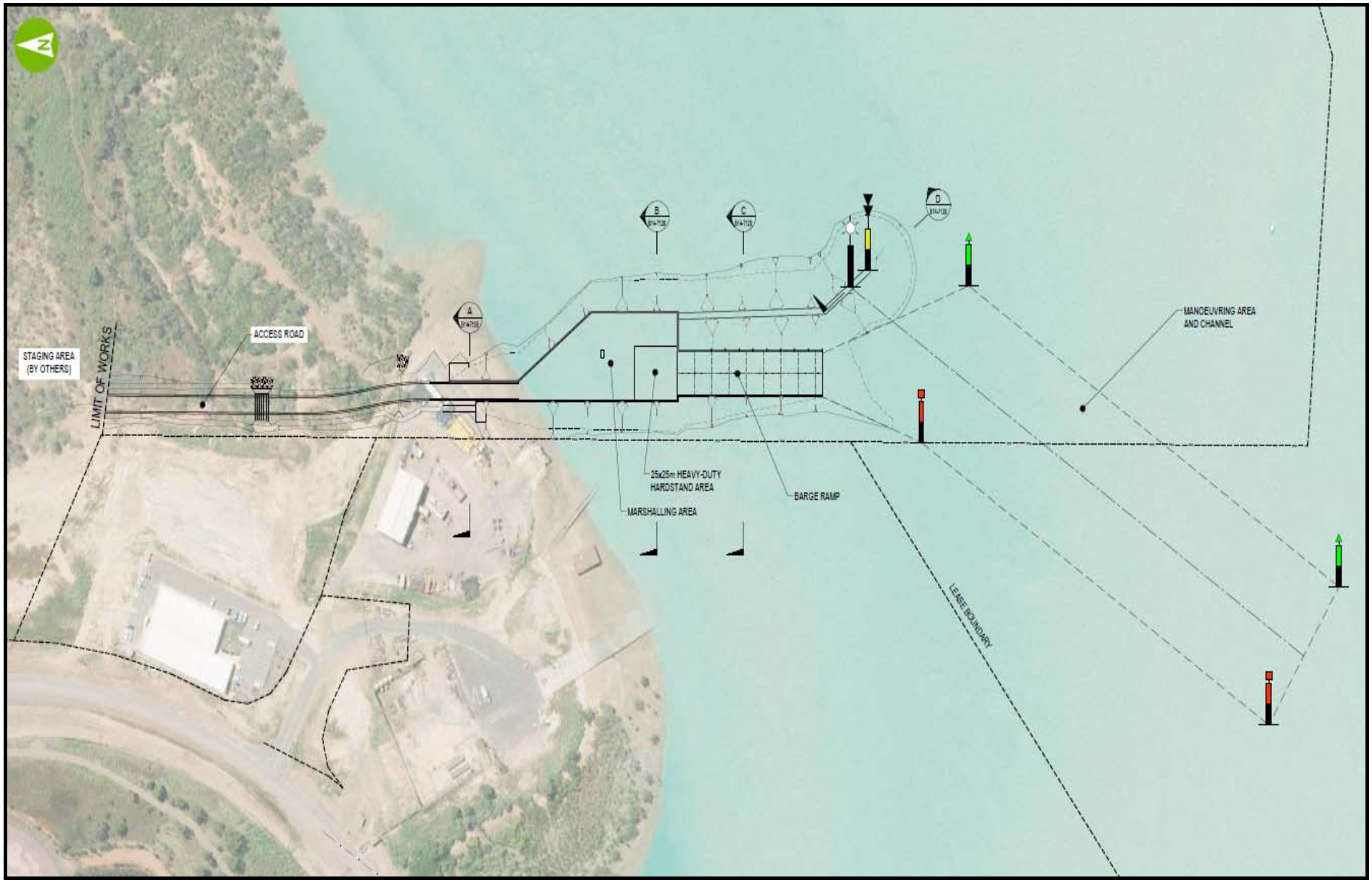
78. While Defence will not derive any revenue from this proposal, LDC intends to make the MUBRF available to commercial users when not reserved for Defence use in order to derive revenue that would support the ongoing maintenance of the MUBRF, and thereby negate the requirement for Defence to make any contribution to such maintenance costs.

Attachments

1. East Arm Wharf and Proposed MUBRF – Location Plan
2. Proposed MUBRF – Layout Plan
3. Proposed MUBRF – Initial Design - Perspective Drawing

EAST ARM WHARF AND PROPOSED MULTI USER BARGE RAMP FACILITY – LOCATION PLAN

Attachment 1



PROPOSED MULTI USER BARGE RAMP FACILITY – LAYOUT PLAN

Attachment 2

PROPOSED MULTI USER BARGE RAMP FACILITY – INITIAL DESIGN – PERSPECTIVE DRAWING

Attachment 3