Australian Government
Department of the Environment

ntepa Northern Territory Environment Protection Authority

TERMS OF REFERENCE FOR THE PREPARATION OF A COMBINED ENVIRONMENTAL IMPACT STATEMENT/PUBLIC ENVIRONMENT REPORT

LEE POINT MASTER-PLANNED URBAN DEVELOPMENT

DEFENCE HOUSING AUSTRALIA

May 2016

1 Introduction

The Proponent, Defence Housing Australia, is proposing the 132.5 ha urban development approximately 14 km north-north-east of Darwin on the northern edge of Muirhead and Lyons, on the eastern and western sides of Lee Point Road, and abutting Casuarina Coastal Reserve. The development would occur over Lots 4873 and 9370, Town of Nightcliff, and would include urban residential uses at varying densities, rural residential allotments, tourism and commercial uses, land for community development, open spaces and conservation.

An amendment to the NT Planning Scheme (PA2014/0922) to introduce zone Future Development (FD) to Lot 4873, Town of Nightcliff, and to rezone Lot 9370, Town of Nightcliff, from zone Specific Use Darwin No. 26 (SD26) to FD was considered by the Darwin Development Consent Authority in August 2015. The amendment also proposed to amend Part 8 of the NT Planning Scheme to include the Lee Point Area Plan and Planning Principles to facilitate the Lee Point Master-Planned Urban Development.

The Minister for Lands and Planning approved the amendment to the NT Planning Scheme on 27 August 2015. The master-plan and sub-division plans will be developed by the Proponent to inform a development application at a later date, which will require consideration and approval in accordance with the *Planning Act*.

The Proponent submitted a Notice of Intent (NOI) for the Project to the Northern Territory Environment Protection Authority (NT EPA) on 24 August 2015, followed by a revision of the NOI on 8 September 2015, for consideration under the *Environmental Assessment Act* (EA Act). On 18 January 2016, the NT EPA decided that the Project requires assessment under the EA Act at the level of an Environmental Impact Statement (EIS).

The NT EPA decision was based on the risk of significant impact to the environment from the Project. In particular:

- the site provides habitat for and was previously occupied by a population of black-footed tree-rat (*Mesembriomys gouldii*)[1] which is listed as endangered under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) and vulnerable under the *Territory Parks and Wildlife Conservation Act* (TPWC Act). Significant remnant populations of the floodplain monitor (*Varanus panoptes*), which is listed as vulnerable under the TPWC Act, have also been identified within the Casuarina Coastal Reserve. The addition of stormwater drainage and detention basins will create additional breeding habitat for cane toads, which are a threat to these species
- the Project is likely to increase the frequency of visitors and domestic animals to Lee Point and Sandy Creek with associated disturbance to threatened and migratory species listed under the EPBC Act and the TPWC Act. In particular, the area between Tree Point and Lee Point is identified as an internationally important habitat for migratory birds[2] and Sandy Creek meets the requirements for listing as important migratory bird habitat.[3]

[1]Griffiths, A.D., Koenig, J., Carrol, F., and Price, O., 2001. Activity area and day-time tree use of the black-footed tree-rat Mesembryiomys gouldii, *Australian Mammalogy*, 23(2) 181-183.
[2]Bamford M, Watkins D, Bancroft W, Tischler G and J Wahl. 2008. *Migratory Shorebirds of the East Asian - Australasian Flyway; Population Estimates and Internationally Important Sites*. Wetlands International - Oceania. Canberra, Australia
[3]Commonwealth of Australia, 2009. Draft Background Paper to EPBC Act Policy Statement 3.21 – Significant Impact Guidelines for 36 Migratory Shorebird Species, online at: https://www.environment.gov.au/system/files/resources/b2ce75cf-1f30-4cb6-9730-fb03ef63cbe5/files/migratory-shorebirds-background.pdf

- the proximity of the Project to the Casuarina Coastal Reserve has the potential to further spread existing weeds or introduce new weeds to the reserve, increase fire risk and introduce/ increase pest species
- several items and places that have historic and cultural heritage significance have been identified within the footprint of the Project, some of which will be removed while others will be retained. The heritage values of these places are at risk without detailed archival recording and heritage assessment
- there is potential to create new or exacerbate existing erosion and sedimentation problems in the absence of adequate and targeted stormwater and erosion and sediment control planning
- biting insects are likely to significantly impact the amenity of residents and pose a risk to human health.

A decision by a delegate of the Australian Government Minister for the Environment was made on 18 December 2015 that the Lee Point Master-Planned Urban Development is a controlled action under the EPBC Act, requiring assessment at the level of Public Environment Report (PER). The requirements of the EPBC Act in relation to preparation of a PER can be found at Schedule 4 of the *Environment Protection and Biodiversity Conservation Regulations 2000*. The objectives, objects and principles of the EPBC Act, which must also be considered in a PER, can be found at Sections 3 and 3A of the EPBC Act. The controlling provisions of the Project are:

- listed threatened species and communities (sections 18 & 18A)
- listed migratory species (sections 20 & 20A)
- Commonwealth action (section 28).

The provisions of the bilateral assessment agreement between the Northern Territory and Australian Governments do not have effect in relation to an action in a Commonwealth area or an action taken by a Commonwealth agency, both of which apply in this instance. However, it is the intention of the NT EPA and the Australian Government to assess the proposed action collaboratively to align public comment periods and avoid duplication of assessment documentation. Assessment criteria for matters relevant to the EPBC Act have been incorporated in this EIS Terms of Reference/PER Guidelines (Terms of Reference) for the Proponent to address in the EIS. These criteria include matters of national environmental significance (MNES) such as EPBC listed threatened and migratory species found in the Northern Territory and 'the environment' as defined in Section 528 of the EPBC Act.

Terms of Reference have been developed to assist the Proponent in preparing an EIS/PER for the components of the Project, in accordance with clause 8 of the Environmental Assessment Administrative Procedures, and to meet the requirements as provided for in Chapter 4, Part 8, Division 5 of the EPBC Act.

2 Description of the proposed action

2.1 General information

Effective scoping of the Project will assist with the preparation of the EIS/PER as well as clearly defining the footprint and sequence of the development. Establish the context of the Project, including, but not limited to, the following information:

- the title of the Project
- the full name, contact details and postal address of the Proponent
- a clear outline of the objective of the action
- the location of the Project in a regional context
- the background to the development of the Project, including a discussion of any previous environmental impact assessment, surveys or investigations undertaken on the site
- history of the development of the Lee Point/Muirhead area by the Proponent including a summary description of the previous environmental impact assessment(s), commitments made by the Proponent, and Project and environmental outcomes
- how the Project relates to any other proposals or actions (of which the Proponent should be reasonably aware) that have been, or are being, taken and/or that have been approved in the region
- the current status of the Project
- the consequences of not proceeding with the action
- national, state and/or territory standards, codes of practice and guidelines relevant to the Project.

2.2 Project components

The objective of this section is to describe the Project through its lifetime of construction stages and occupancy. This information is required to allow consideration of all aspects of the Project including all stages from planning and construction through to occupancy. The elements of the Project must be described in the text and illustrated with maps, diagrams, architectural plans and artist's impressions (as required).

2.2.1 Planning and development

The EIS/PER should provide a detailed description of the Project, including:

- an overview of the life of the Project, including an anticipated timetable for the planning, design and construction of the Project including stages (if relevant) and identify when public input will be required
- conceptual Master Plan(s) identifying the Project's layout, size and predicted yield of residential lots
- the projected maximum population at occupancy
- locality map(s) delineating the Project footprint in a local and regional context
- indicative timeframes for the establishment of services and essential infrastructure that will be required for the Project, such as transport, power, water and waste services
- the concept and plans for residential and commercial areas including:

- areas identified for the purposes of activity centres/town centres and/or common areas and timeframes for their construction
- access and parking
- proposed land tenure and/or management.

2.2.2 Essential infrastructure

Transport

Identify the location, size, capacity and expected rate of usage of transport infrastructure (roads, cycle paths etc.) that will be constructed to service the Project including maps showing the proposed location of connections with major arterial roads or highways. The EIS/PER should identify:

- the existing roads that will be used by the Project
- how roads and transport related infrastructure will be constructed over the life of the Project (including stages) and the party/parties responsible for the long-term maintenance, repair and upgrade of road and transport infrastructure
- the approximate timing and scale of stages of upgrades to the existing transport network that may be required to service the Project.

Electricity and telecommunications

The EIS/PER should identify any electricity and telecommunications infrastructure that will be constructed to service the Project. The EIS/PER should include:

- descriptions of the design and capacity of the infrastructure
- maps that identify the proposed location of infrastructure corridors and the locations of connections with regional electricity / telecommunications infrastructure
- information on the planned roll-out of electricity and telecommunications infrastructure, including a discussion of how the infrastructure will meet the requirements of a staged development and any impacts to the surrounding network
- information on the party / parties responsible for the long-term operation, maintenance and repairs to electricity and telecommunications infrastructure over the life of the Project.

Potable water

The EIS/PER should identify and discuss the potable water supply and storage infrastructure that will be constructed to service the Project. The discussion should include the details of any staged construction and installation of reticulated infrastructure. The EIS/PER should include:

- a Masterplan that shows the integrated staged plan of the proposed area including the identification of proposed infrastructure and levels of services to be delivered
- maps identifying the location of any connections with regional supply infrastructure
- the volume of potable water required to service each stage of construction and occupancy of the Project

- an outline of the supply capacity of the infrastructure during each stage and over the life of the Project
- a discussion of the future arrangements for long-term maintenance, repairs and replacement of water supply infrastructure in the future
- details of consultation with Power and Water Corporation (PWC) regarding the provision of reticulated water and a sewerage and water services plan.

Stormwater

The EIS/PER should include a description of the design specifications of stormwater catchment and treatment systems that will be constructed to achieve the objectives in section 5.3.1. The stormwater treatment systems should be in accordance with appropriate standards or guidelines for stormwater management in the Northern Territory and be developed in consultation with the Department of Lands, Planning and the Environment.

The EIS/PER should include:

- proposed plans for staging of stormwater works both on and off the Project site
- details of the design life of stormwater infrastructure
- discussion of the arrangements for long-term maintenance, repairs and gifting of infrastructure in the future.

Sewerage

The EIS/PER should identify the infrastructure that will be required for managing and / or disposing of wastewater and effluent from the site. The EIS/PER should include:

- a Masterplan that shows the integrated staged plan of the proposed area including the identification and location(s) of proposed infrastructure and levels of services to be delivered, this is to include all lots including the rural residential lots
- map(s) identifying the proposed site of wastewater treatment systems and discharge points (if relevant)
- map showing the Project in relation to the 700 m odour buffer zone established by the PWC around the Leanyer Sanderson Wastewater Treatment Ponds
- peak design capacity evaluation and associated infrastructure using a projected maximum population estimate
- determination of the potential effluent storage that would be required in an extended rain event (50 and 100 year Average Recurrence Intervals)
- details of consultation with PWC regarding the supply of sewerage, and details of the provision of a sewerage and water services plan
- any consideration of reuse / recycle systems, which will require formal engagement with PWC and the regulator, the Department of Health.

Emergency and community services

The EIS/PER should include information on provisions for, or arrangements to facilitate, emergency services and related infrastructure. Information should include details of firefighting infrastructure, cyclone shelters, and police / ambulance / State Emergency Services response requirements (where relevant).

Other infrastructure

The EIS/PER should provide a description of any other components of the Project that have not been described in other sections including, but not limited to:

- site offices and construction camps
- permanent or temporary fuel storage areas (e.g. diesel, petrol, oil, etc.)
- construction material storage areas (stockpiles)
- permanent or temporary chemical storage areas
- equipment hardstand and maintenance areas
- technical workshops.

The EIS/PER should outline the method of operation and decommissioning of these areas, throughout all stages of construction.

2.2.3 Workforce

The EIS/PER should provide details of the predicted workforce requirements, including:

- the number of people to be employed, skills base required, and likely sources (local, regional, overseas), for all phases of the Project
- the number of people that may be employed to manage or undertake environmental duties on the site, including the specific qualifications and the level of experience with related activities.

2.3 Approvals, conditions and agreements

Provide information on requirements for approval or conditions that apply, or that the Proponent reasonably believes are likely to apply, to the Project, including:

- a description of any approval that has been obtained from a state, territory or Commonwealth agency or authority
- a summary of current agreements between the Proponent and the Northern Territory Government, and / or the Australian Government, and / or other stakeholders, including Traditional Owners and / or land managers
- a statement identifying additional approval(s), certificates, permits etc. required
- details of the approval(s), certificates, permits etc., including any conditions imposed.

Consideration should be given to the following legislation:

- *Aboriginal Land Rights Act 1976*
- *Bushfires Act*
- *Environmental Assessment Act* & Administrative Procedures
- *Environment Protection and Biodiversity Conservation Act 1999* & Regulations
- *Fire and Emergency Act* & Regulations
- *Heritage Act*
- *Native Title Act 1993*
- *Northern Territory Aboriginal Sacred Sites Act*
- *Planning Act* & Northern Territory Planning Scheme
- *Territory Parks and Wildlife Conservation Act*
- *Public and Environmental Health Act* & Regulations

- *Waste Management and Pollution Control Act*
- *Water Act*
- *Work Health and Safety Act.*

2.4 Environmental history

Include details of the environmental record of the Proponent, including, but not limited to:

- any proceedings against the Proponent under a Commonwealth, state or territory law for protection of the environment or the conservation and sustainable use of natural resources and details of systems and processes that have been subsequently upgraded
- a description of similar projects undertaken by the Proponent elsewhere in the Northern Territory or Australia
- any international or national accreditations (e.g. ISO 14001 etc.), environmental awards or other recognition for environmental performance.

2.5 Alternatives

The EIS/PER should describe any feasible alternatives to carrying out the Project. The choice of the preferred option(s) should be clearly explained, including how it complies with the principles and objectives of ecologically sustainable development.

Discussion of alternatives should include, but not be limited to:

- not proceeding with the Project
- site selection, including alternative layouts and alternative locations that improve Project outcomes, such as traffic management
- options to optimise ecological sustainability for the Project, such as alternatives to reduce / offset the Project's environmental footprint and reduce ongoing need for high rates of electricity and water consumption
- consideration of alternative environmental management measures for key risks / impacts
- sufficient detail to make clear why a particular alternative is preferred to another
- adverse and beneficial effects (direct and indirect) of alternatives at national, Territory, regional and local levels
- the comparison of short and long-term advantages and disadvantages of the alternatives.

2.6 Environmental assessment guidelines

The NT EPA has prepared a series of Environmental Assessment Guidelines to assist in the preparation of EIS/PER documents. Environmental Assessment Guidelines are developed and updated periodically, and should be referenced and referred to when addressing the information requirements in an appropriate section of EIS/PER. Environmental Assessment Guidelines relevant to the Project and current at the time of publication of these Terms of Reference include:

- *Guidelines for Assessment of Impacts on Terrestrial Biodiversity*
- *Guidelines for the Preparation of an Economic and Social Impact Assessment*
- *Guidelines on Environmental Offsets and Associated Approval*
- *Guidelines for the Preparation of an Environmental Management Plan*

- *Guidelines for Consultants Reporting on Environmental Issues.*

The Guidelines are available on the NT EPA webpage at: http://www.ntepa.nt.gov.au/environmental-assessments/guidelines.

Likewise, the Australian Government has prepared a number of survey, assessment and general guidelines and policies to assist in collecting suitable information and preparing an adequate EIS/PER. Commonwealth guidelines relevant to the Project and current at the time of publication of these Terms of Reference include, but are not limited to:

- *Significant Impact Guidelines 1.1 – matters of national environmental significance, 2013*
- *Significant Impact guidelines 1.2 – actions on, or impacting upon, Commonwealth land and actions by Commonwealth agencies, 2013*
- *Environmental Offsets Policy, 2012*
- *Engage Early: guidance for proponents on best practice Indigenous engagement for environmental assessments under the EPBC Act, 2016*
- *Industry guidelines for avoiding, assessing and mitigating impacts on EPBC Act listed migratory shorebird species, 2015*
- *Draft referral guidelines for 14 birds listed as migratory species under the EPBC Act, 2015*
- *Survey guidelines for Australia's threatened bats, 2010*
- *Survey guidelines for Australia's threatened birds, 2010*
- *Survey guidelines for Australia's threatened fish, 2011*
- *Survey guidelines for Australia's threatened mammals, 2011*
- *Survey guidelines for Australia's threatened reptiles, 2011*

The Guidelines are available on the Australian Government webpage at: http://www.environment.gov.au/epbc/policy-statements.

2.7 Ecologically Sustainable Development

When considering the matters to be addressed in the EIS/PER, the NT EPA is required under the *Northern Territory Environment Protection Authority Act* (NT EPA Act) to:

(a) promote ecologically sustainable development (ESD)

(b) protect the environment, having regard to the need to enable ESD.

Accordingly, the assessment of the Project, its potential impacts (positive and negative) and the management measures used to enhance positive and reduce negative impacts will be taken in the context of ESD principles, consistent with the *National Strategy for Ecologically Sustainable Development*.[4] Therefore, it is essential that the Proponent demonstrate how it complies with and contributes to the principles and objectives of ESD in the relevant section(s) of the EIS/PER. The principles of ecologically sustainable

[4] Ecologically Sustainable Development Steering Committee, 1992. *National Strategy for Ecologically Sustainable Development* . Department of the Environment and Water Resources, Canberra, Australia. Available at: http://www.environment.gov.au/resource/national-strategy-ecologically-sustainable-development

development, as recognised by the Australian Government, are described in Section 3A of the EPBC Act.

3 Existing environment

Provide a description of the Project area and baseline condition of terrestrial environments, including climate, topography and geology, flora and fauna, hydrology, cultural and heritage values, and biting insects, of a scope and standard sufficient to serve as a benchmark against which the impacts of the project over time may be assessed.

This section must link to the Scope of the action, potential avoidance, mitigation and management measures that are to be implemented throughout the life of the Project, including construction stages and occupancy. This section is to identify and reference any relevant (published and unpublished) studies undertaken in the area that will assist in describing patterns and trends in the environment.

3.1 Climate

Detail should be provided on the weather and climate (e.g. rainfall patterns [magnitude and seasonality], temperature, humidity, wind, climate extremes, and any seasonal conditions (e.g. floods or dust storms), which may influence timing and / or construction methods.

3.2 Topography and geology

Maps should be provided locating the Project and its environs in terms of regional and local contexts. The topography should be detailed with contours at suitable increments, shown with respect to Australian Height Datum (AHD). Significant features of the landscape should be included on the maps. Commentary on the maps should be provided highlighting the significant topographical features.

The EIS/PER should provide a description, including maps of the geology with particular reference to the physical and chemical properties of surface and sub-surface materials, including erosion potential, within the proposed areas of disturbance.

3.3 Biodiversity

The EIS/PER should describe fauna, flora and vegetation communities of the Project area and local region. The EIS/PER should include details of the scope, survey / program timing (survey season/s), locations and methodology, to demonstrate appropriate and sufficient survey designs. At a minimum, surveys should be in accordance with the Northern Territory[5] and Australian Government[6,7] Guidelines. Include details of:

[5] Northern Territory Environment Protection Authority, 2013. *Guidelines for Assessment of Impacts on Terrestrial Biodiversity*, Available at: http://www.ntepa.nt.gov.au/__data/assets/pdf_file/0003/349941/guideline_assessment_terrestrial_biodiversity.pdf.

[6] Department of the Environment, 2011. *Survey Guidelines for Nationally Threatened Species*, Available at: http://www.environment.gov.au/epbc/policy-statements.

[7] DotE (2009) *Draft Background Paper to EPBC Act Policy Statement 3.21 – Significant Impact Guidelines for 36 Migratory Shorebird Species* http://www.environment.gov.au/resource/draft-significant-impact-guidelines-36-migratory-shorebird-species-migratory-species-epbc.

- how all relevant Australian Government best practice survey guidelines (see section 2.6) are applied
- how they are consistent with (or a justification for divergence from) published Australian Government guidelines and policy statements.

The EIS/PER should describe and map, where relevant:

- significant or sensitive vegetation types and/or ecosystems within the Project area, including any areas already cleared or disturbed
- the presence or likely presence of listed threatened and/or migratory species under the EPBC Act and/or the TPWC Act within the Project area and in any areas that may be impacted by the proposed action
- suitable habitat for listed threatened and/or migratory species, including the locations of historic records and consideration of habitat suitable for breeding, foraging, aggregation or roosting
- the presence, or likely occurrence, of introduced and invasive species (both flora and fauna) within and adjacent to the Project area, and regionally, including weed species declared under the *Weeds Management Act*
- the location (including a map) of the development relative to the known mosquito and midges breeding and harbouring sites in the locality.

3.4 Surface water

The EIS/PER should provide a detailed description of the local surface water catchments and waterways in the vicinity of the Project area. Information provided in the EIS/PER should include, but not be limited to:

- natural / artificial, permanent / ephemeral catchment system(s), drainage lines, waterways and wetlands
- hydrology including drainage patterns, run-off rates and likelihood of flooding
- a description of the surface water quality and flows and existing water users potentially impacted by the Project
- a description of the environmental values of the surface waterways on-site and locally. The description should be based on an accepted method for quantifying river health that is able to be compared and repeated in future
- existing and historic surface water quality information should be described in terms of physical, chemical and biological characteristics within and around the Project site, upstream and downstream of the area and in waterways (ephemeral and permanent) crossed by any infrastructure utilised for the Project.

3.5 Groundwater

The EIS/PER should provide a description of the groundwater resources onsite with respect to any areas that may be affected by the Project.

The description of the groundwater resources on site and the regional hydrogeology should provide sufficient information to enable the prediction of potential impacts of the Project on groundwater resources, and any groundwater dependant ecosystems, within and adjacent to the Project area.

3.6 Historic and cultural heritage

The EIS/PER should outline the cultural and heritage significance of any sites located during archaeological investigations on or near the Project area or that could be impacted by the Project activities. The EIS/PER should include the results of searches

on the Northern Territory Government database and identify any sites or places protected or nominated for protection under the following legislation and / or databases:

- *Aboriginal and Torres Strait Island Heritage Protection Act 1984*
- *Aboriginal Land Rights (Northern Territory) Act 1976*
- *Environment Protection and Biodiversity Conservation Act 1999*
- *Heritage Act*
- *Native Title Act 1993*
- *Northern Territory Aboriginal Sacred Sites Act*
- The Register of the National Estate.

Baseline information should be provided regarding historic or cultural heritage in the region, including:

- a description and location of Indigenous and non-Indigenous sites, places or objects of historic or cultural heritage significance
- areas nominated for listing or listed on Commonwealth and Northern Territory Heritage registers and Commonwealth and Northern Territory registers of Indigenous cultural heritage
- provision of evidence of an Aboriginal Areas Protection Authority (AAPA) Authority Certificate or an application under the *Northern Territory Aboriginal Sacred Sites Act*
- the results of detailed archaeological surveys in and around the Project area. The EIS/PER should provide a summary outlining the survey effort and level of confidence that all items of heritage or cultural significance at risk have been identified. Archaeological assessment and surveys for sites of historic or cultural heritage must be undertaken by a suitably qualified person with demonstrated experience in archaeological assessment
- an assessment of archaeological potential including landscape assessment and predictive modelling for Aboriginal archaeological sites, and archival research on historical occupation and land use activities.

The EIS/PER should provide information on the current status of any approvals, permits or clearances in relation to the protection of heritage items or places.

The EIS/PER should outline consultations with Indigenous stakeholders for all areas potentially affected by the Project. Determination and details should be provided of current traditional owner utilisation of Project areas, and spiritual / cultural significance of potentially affected areas.

4 Socio-economic aspects

A brief description of the current and future population, demography and socio-economic aspects of the Project should be provided in the EIS/PER.

Existing aspects to be discussed must include:

- key stakeholders
- community structures and vitality (e.g. demography, health, education and social well-being; access to services, amenities, housing, schools)
- the number and capacity of existing human services to support the construction work force, including:
    - availability of required skills from the local workforce

    - workforce characteristics
- social amenity.

5 Risk assessment

5.1 Approach

The EIS/PER should have specific emphasis on the identification, analysis and mitigation of risks through a whole-of-project risk assessment. Through this process, the EIS/PER will:

- identify and discuss the full range of risks presented by the Project
- identify relevant potential direct and indirect impacts
- quantify and rank risks so that the reasons for proposed management responses are clear
- identify levels of uncertainty about estimates of risk and the effectiveness of risk controls in mitigating risk
- explicitly identify those members of the community expected to accept residual risks and their consequences, providing better understanding of equity issues
- demonstrate that the project represents best practicable technology.

A number of key risks have been identified through a preliminary assessment of the Project. Each of the identified risks should be addressed by the Proponent in the risk assessment and management process. It is expected that further risks will be identified through the comprehensive risk assessment process required for the EIS/PER. These should be addressed and appropriate management initiatives developed to demonstrate that:

- the Proponent is fully aware of risks associated with all predictable aspects of the Project
- the prevention and mitigation of risks are properly addressed in the design specifications
- the risks can and will be managed effectively during the each stage of construction and occupancy of the Project.

Information provided should permit the reader to understand the likelihood and potential consequences of each risk presented by the Project, and any uncertainty around these risks, as well as any uncertainty about the effectiveness of controls. Levels of uncertainty that preclude robust quantification of risk should be clearly acknowledged.

Risk rankings assigned should be fully justified. Where a risk score associated with the likelihood or consequence of an impact is reduced as a result of proposed mitigation measures, clear justification should be provided for the reduction in score. The adequacy and feasibility of mitigation measures must be demonstrable.

Sufficient quantitative analysis should be provided to indicate whether risks are likely to be acceptable or tolerable. A comparison can be made with similar ventures in Australia and internationally. Assumptions used in the analyses should be explained.

Environmental objectives, or overarching goals identifying environmental values to be protected, should be identified for each key risk.

The risk assessment should be based on international best practice. The NT EPA recommends the use of processes for risk management that are formalised in Standards Australia / Standards New Zealand (e.g. AS/NZS ISO 31000:2009; HB 436:2004; HB 203:2006; HB 158:2010).

5.2 Biodiversity

5.2.1 Environmental objectives

- To maintain the conservation status, abundance, diversity, geographic distribution and productivity of flora and fauna at species and ecosystem levels through the avoidance or management of adverse direct and indirect impacts (on the Project area and on adjacent areas that may be impacted).
- Avoid/minimise the loss of areas of habitats of conservation significance and habitats with high biodiversity values (on the Project area and on adjacent areas that may be impacted).
- To prevent the spread of weeds onto the Project area, off the Project area and within the Project area.

5.2.2 Assessment of risk

When assessing the risk of impact to biodiversity, the EIS/PER should refer to relevant research and statutory plans such as: action plans, recovery plans and threat abatement plans. The EIS/PER should include a detailed assessment of the potential impacts (both direct and indirect) to native flora and fauna including, but not limited to, consideration of vegetation clearance, habitat fragmentation and degradation, edge effects, altered hydrology, water quality impacts, erosion and sedimentation impacting on waterways, soil compaction, inappropriate / ineffective rehabilitation, groundwater contamination, impacts on surface and groundwater systems, waste material, risks associated with transport and traffic during each stage of construction and occupancy, weed and pest invasion, dust and noise impacts, human disturbance, and predation by domestic pets.

Species assessed should include, but not be limited to:

- black-footed tree-rat *Mesembriomys gouldii gouldii*
- floodplain monitor *Varanus panoptes*
- eastern curlew *Numenius madagascariensis*
- curlew sandpiper *Calidris ferruginea*
- red goshawk *Erythrotriorchis radiatus*
- partridge pigeon (eastern) *Geophaps smlihii smithii*
- gouldian finch *Erythrura gouldiae*
- bare-rumped sheathtail bat *Saccolaimus saccolaimus nudicluniatus*
- dwarf sawfish *Pristis clavata*
- green sawfish *Pristis zijsron*
- largetooth sawfish *Pristis pristis*
- Asian dowitcher *Limnodromus semipalmatus*
- bar-tailed godwit *Limosa lapponica*
- black-tailed godwit *Limosa limosa*
- common greenshank *Tringa nebularia*
- common sandpiper *Actitis hypoleucos*
- great knot *Calidris tenuirostris*
- greater sand plover *Charadrius leschenaultii*
- grey plover *Pluvialis squatarola*
- grey-tailed tattler *Tringa brevipes*
- lesser sand plover *Charadrius mongolus*
- oriental plover *Charadrius veredus*
- red knot *Calidris canutus*
- red-necked stint *Calidris ruficollis*
- ruddy turnstone *Arenaria interpres*
- sanderling *Calidris alba*

- sharp-tailed sandpiper *Calidris acuminata*
- terek sandpiper *Xenus cinereus*
- whimbrel *Numenius phaeopus*
- great egret *Ardea alba*
- pectoral sandpiper *Calidris melanotos*
- long-toed stint *Calidris subminuta*
- little ringed plover *Charadrius dubius*
- Swinhoe's snipe *Gallinago megala*
- pin-tailed snipe *Gallinago stenura*
- oriental pratincole *Glareola maldivarum*
- wandering tattler *Heteroseelus ineanus*
- broad-billed sandpiper *Limieola faleinellus*
- little curlew *Numenius minutus*
- Pacific golden plover *Pluvialis fulva*
- wood sandpiper *Tringa glareola*
- marsh sandpiper *Tringa stagnatilis*
- Australian snubfin dolphin *Oreaella heinsohni*
- Indo-Pacific humpback dolphin *Sousa ehinensis*
- flatback turtle *Natator depressus*
- green turtle *Chelonia mydas*
- olive ridley turtle *Lepidochelys olivacea.*

The EIS/PER should specifically include the following for threatened and migratory species listed under the EPBC Act and TPWC Act:

- a detailed assessment of the nature and extent of the likely direct, indirect and consequential impacts, and likely short-term and long-term impacts to listed threatened and/or migratory species at the local, regional, Territory, national and international scale
- a statement of whether any relevant impacts are likely to be unknown, unpredictable or irreversible
- an analysis of the significance of the relevant impacts
- any technical data and other information used or needed to make a detailed assessment of the relevant impacts
- discussion of whether the action will be inconsistent with any relevant threat abatement and/or recovery plans.

Reference should be made to the *Significant Impact Guidelines 1.1 – Matters of National Environmental Significance, 2013*, and other relevant guidance documents, including approved conservation advice.

The EIS/PER should include an assessment of the potential for any species identified as Weeds of National Significance and / or declared under the *Weeds Management Act* to be introduced to the Project site or spread as a result of the Project.

The EIS/PER should include an analysis of the potential risks to sensitive vegetation communities at a local and regional scale. Consideration should be given to the potential for ongoing indirect impacts resulting from edge effects.

5.2.3 Mitigation and monitoring

The EIS/PER should present management plans that include proposed safeguards, mitigation measures and monitoring programs to deal with relevant impacts to biodiversity from the Project. All mitigation and monitoring measures should be in accordance with best practice. Proposed management plans should:

- identify clear environmental objectives and outcomes capable of objective measurement and reporting, this should include clear thresholds and contingency measures in the event that construction and operational activities affect biodiversity
- permit timely identification and resolution of problems that arise through the course of a project that may compromise the achievement of the appropriate environmental outcome
- include a description of proposed safeguards and mitigation measures to deal with relevant impacts of the proposed action, including mitigation measures proposed to be taken by other parties
- include an assessment of the expected or predicted effectiveness of the mitigation measures
- list any statutory or policy basis for the mitigation measures, including:
    - approved conservation advice
    - relevant threat abatement plans and recovery plans
- identify the agency responsible for endorsing or approving each mitigation measure or monitoring program.

The plans and procedures should be prepared by a suitably qualified expert that has demonstrated experience in the mitigation and monitoring of adverse impacts to biodiversity and threatened species.

Proposed mitigation measures must be incorporated in relevant sections of the Environmental Management Plan (EMP) (Section 6).

5.3 Water

5.3.1 Environmental objectives

- To ensure that surface water and groundwater resources and quality are protected both now and in the future, such that ecological health and land uses, and the health, welfare and amenity of people are maintained.
- Available water supplies will be sufficient to fulfil the Project needs over the predicted life of the Project, both construction and occupation, without causing environmental or social impacts.
- Ensure minimal sedimentation and turbidity increases as a result of Project activities.

5.3.2 Assessment of risks

The EIS/PER should include an assessment of risks to surface, potable and groundwater resources, the quality and quantity of surface water (including stormwater) and risks associated with the provision of sewerage to the Project at an appropriate spatial scale as a result of construction and occupancy of the Project.

Surface and ground water

The EIS/PER should identify and assess the risks:

- to surface and ground water quality (particularly in Sandy Creek and Buffalo Creek), including risks resulting from:
    - increased soil erosion and sedimentation as a result of Project activities, including vegetation clearing
    - increased and / or degraded stormwater runoff from urbanised areas

  - exposed acid sulfate soils during construction
  - altered hydrology of the area including an increase in freshwater flows
  - increased litter and rubbish
  - potential spills or discharges of contaminants or hydrocarbons from the Project
  - increased nutrients
- to sensitive receptors and to ecological, public / social and economic values identified in Section 4 from changes in water quality potentially caused by Project activities
- associated with physically altering the surface flow regime and the potential that urbanised areas will contribute to flooding or inundation of roads and other infrastructure
- resulting from extreme weather events including first flush and Wet season influences
- of inundation from heavy rainfall throughout the development and any resulting impacts on access and egress routes
- of exacerbating existing erosion gullies, and the formation of new erosion gullies
- associated with erosion and sedimentation both on the project site and on surrounding lands, including downstream habitats such as Buffalo Creek
- from the cumulative impacts of stormwater run-off from developments in the region.

Potable water and sewerage

The EIS/PER should include an assessment of risks:

- to current domestic users of potable water resources and the surrounding water and sewerage networks associated with the provision of reticulated water and sewerage to the Project
- to the long-term sustainability of potable water resources (groundwater, town mains etc.) including any required upgrades associated with the preferred/selected wastewater treatment option(s)
- resulting from the cumulative effect of development in the region requiring greater capacity in wastewater treatment facilities.

The influence of seasonality should be discussed, where relevant. The risk assessment should give consideration to the short, medium and long term timeframes of the Project.

5.3.3 Mitigation

The EIS/PER should contain a Water Management Plan (WMP) that outlines clear and concise measures to mitigate likely impacts of the Project on water resources. All mitigation and monitoring measures in the WMP should be adequately detailed to demonstrate best practice management and that environmental values of receiving waters will be maintained. In particular, provide details of the following for all stages of the Project:

- measures to safeguard surface and groundwater resources and their environmental values
- measures to avoid the exposure of sensitive biological receptors to contaminants or water of a poor quality which may be harmful

- contingency measures that will be implemented in the event that seepage or groundwater contamination occurs above the baseline surface and ground water quality results requested in sections 3.4 and 3.5
- management of surface water flows and wastewater during times of high / extreme rainfall events
- information on upgrades to the existing water and sewerage infrastructure including who will be responsible for upgrades (including funding) and the proposed timing
- measures to treat and manage domestic wastewater and sewage
- measures to ensure the extraction, use and disposal of water is consistent with relevant legislation, including the *Water Act* and the *Waste Management and Pollution Control Act*.

The WMP should be closely related to but separate from an Erosion and Sediment Control Plan (ESCP) for the Project. Measures to be addressed in the WMP include options for minimising water use, and management and treatment of clean and contaminated water. It is essential that appropriate consideration of potential contaminant sources and their management is provided, such that the environment is protected from pollution.

The ESCP should outline prescriptive measures that will be implemented to avoid, mitigate and manage the movement and deposition of sediment as a result of disturbance and run-off from the site. The ESCP should be developed in accordance with the *International Erosion Control Association Best Practice Erosion and Sediment Control Guidelines*[8] and should address factors, including but not limited to:

- timing and duration of works
- vegetation clearance methods
- management of stormwater flows, including external catchment contributions
- measures to minimise disturbance of creek/river banks at any service and waterway crossings
- measures to prevent exacerbating existing erosion gullies both on and adjacent to the site
- measures to rehabilitate existing erosion gullies both on and adjacent to the site
- vehicle access drainage and surface protection, stabilisation, earthworks and revegetation required for rehabilitation.

Management measures and plans should be prepared by a suitably qualified expert that has demonstrated experience in erosion and sediment control planning. Further information relating to erosion and sediment control can be found at: www.austieca.com.au and on the Department of Land Resource Management website at: http://lrm.nt.gov.au/soil/management. The ESCP should outline the proposed control and maintenance measures for both construction and occupancy stages of the Project and include maps and diagrams that indicate where control measures are proposed to be installed.

[8] IECA (2008) Best Practice Erosion and Sediment Control Guidelines http://www.austieca.com.au

5.3.4 Monitoring

The WMP and ESCP should outline details of monitoring programs that would be implemented throughout the life of the Project, including construction and occupancy, to determine the effectiveness of the mitigation measures. The monitoring programs should identify clear thresholds and contingency measures should activities affect water resources. The monitoring program should include, but not be limited to:

- a schedule for monitoring impacts to surface waters including Sandy Creek and Buffalo Creek
- a schedule for monitoring impacts to groundwater resources
- a schedule for site inspections to identify potential failures in the adopted erosion and sediment control measures
- a water monitoring program to determine the effectiveness of adopted erosion and sediment control measures during construction phases.

The monitoring plan should outline the contingency measures that will be implemented over the stages of the Project in the event that monitoring activities detect a significant change in the environmental values, erosion gullies (both on site and on adjacent lands), and water quality / quantity as a result of the Project.

Proposed mitigation and monitoring measures must be incorporated in relevant sections of the EMP (Section 6).

5.4 Historic and cultural heritage

5.4.1 Environmental objective

To identify and protect items or places which have historic and / or cultural heritage values.

5.4.2 Assessment of risks

The EIS/PER should include a discussion of the following risks to historic and cultural heritage items:

- an assessment of the Project's potential impacts and risks on sacred sites, heritage places (both listed and unlisted) and culturally significant sites
- details of the Project's requirements to apply to, or applications already made to, the NT Minister for Lands and Planning to disturb or destroy a prescribed archaeological place and / or object under the *Heritage Act.*

The identification of any impacts to heritage is to take place in consultation with historical organisations, relevant Indigenous groups, the Aboriginal Areas Protection Authority (AAPA) and the Heritage Branch of the Department of Lands, Planning and the Environment.

5.4.3 Mitigation

The Proponent should prepare a Heritage Management Plan that includes:

- procedures to avoid significant sites (both listed and unlisted)
- protection of key sites (both listed and unlisted) during construction work and occupancy
- measures to enable the Proponent, or contractor to the Proponent, to meet its duty of care to protect the cultural and heritage values of any places or items of significance

- procedures that will be implemented should items with heritage significance be discovered on the surface or sub-surface during the course of the Project.

The Heritage Management Plan should be prepared by a suitably qualified expert that has demonstrated experience in the management of heritage items and places. When preparing the Heritage Management Plan it is strongly recommended that the Proponent give consideration to, and refer to the *Australia ICOMOS Burra Charter, 2013* and practice notes[9] to ensure that the investigations and mitigation measures proposed meet best practice standards for the management of cultural heritage in Australia.

Proposed mitigation measures must be incorporated in relevant sections of the EMP (Section 6).

5.5 Biting insects

5.5.1 Environmental objectives

Avoid and / or mitigate impacts upon existing and future residents of the Project from exposure to high numbers of biting insects

5.5.2 Assessment of risks

The EIS/PER should assess the risks:

- to existing residents in the Lee Point area
- to the health of construction workers, future residents and the amenity of the completed development
- associated with potential increases in breeding sites from changes to surface waters and stormwater drainage.

5.5.3 Mitigation

The Proponent should describe the prevention and mitigation of potential risks to the health of construction workers, future residents and the amenity of the completed development and existing sites in a Biting Insect Management Plan. The Biting Insect Management Plan should detail:

- consultations with the Department of Health (Medical Entomology) regarding existing management programs and ongoing biting insect management through construction and occupation phases
- a program for the rectification of known mosquito breeding sites in consultation with the Department of Health (Medical Entomology) and the Parks and Wildlife Commission of the Northern Territory
- how the development meets relevant NT Department of Health guidelines in relation to mosquitoes. Available at: http://www.health.nt.gov.au/Medical_Entomology/Publications/Development_Guidelines/index.aspx
    - *Guidelines for Preventing Mosquito Breeding Associated with Construction Practice near Tidal Areas in the NT*

[9] Australia ICOMOS Incorporated, 2013.*The Burra Charter: The Australia ICOMOS Charter for Places of Cultural Significance, 2013.* International Council on Monuments and Sites. Available at: http://australia.icomos.org/publications/charters/

- *Constructed Wetlands for Water Sensitive Urban Design in the NT - Guidelines to Prevent Mosquito Breeding*
- *Guidelines for Preventing Biting Insect Problems for Urban Residential Developments and Subdivisions in the Top End of the NT*

- how permanent stormwater drains and how drainage end points will be designed to not contribute to mosquito breeding, and who will be responsible for ongoing maintenance
- how any Water Sensitive Urban Design (WSUD) structures would be designed, constructed and maintained to be free from potential mosquito breeding
- how buffers will be applied to provide a break between the residential area and biting insect breeding and harbourage areas
- measures to control biting insect breeding in temporary areas such as wheel ruts, shallow depressions, and ponding in temporary drains and silt traps
- building design measures (e.g. window screen types, screening outdoor living areas, etc) to reduce the impact of biting insects on residents.

5.5.4 Monitoring

The Biting Insect Management Plan should include the results of baseline monitoring as well as any plans for future monitoring of biting insect numbers that will be used to determine the effectiveness of any mitigation and management. Monitoring for biting insects on the site must be undertaken using methods endorsed by the Department of Health's Medical Entomology Branch.

Proposed mitigation and monitoring measures must be incorporated in relevant sections of the EMP (Section 6).

5.6 Socio-economic

5.6.1 Environmental objectives

To analyse, monitor and manage the intended and unintended social and economic consequences, both positive and negative, of the Project.

5.6.2 Assessment of risk

The EIS/PER should include an Economic and Social Impact Assessment (ESIA) that demonstrates the potential benefits and costs of the Project. Reference should be made to information requirements contained within the NT EPA publication: *Guidelines for the Preparation of an Economic and Social Impact Assessment* (Section 2.6). The ESIA should include (but not be limited to) consideration of the following:

- analysis of the capacity of local infrastructure and services including schools, emergency services, medical services, transport facilities and services, businesses, food and grocery shops, restaurants, petrol stations, recreational areas, parking spaces and roads to cater for the expected changes to the local residential population, in terms of demographic patterns and numbers
- an estimate of the value of the Project to the local economy. In particular, the value associated with expenditure during the construction stage and the annual expenditure on regional goods and services as it relates to the residential development and associated infrastructure
- an estimate of the capital expenditure for the whole Project
- estimated workforce and contractor numbers and availability by occupational classification

- overall employment training proposed during commencement, construction and occupancy (if relevant)
- planned Indigenous employment, training and other Project participation
- benefits and contributions to local communities, during and beyond the life of the development, such as opportunities for new skills and facilities, economic development, affordable housing, and opportunities for local and regional business and employment opportunities
- community and economic value of new ancillary infrastructure with wider public benefit, such as roads, bike paths, and public recreation areas
- adverse impacts to local communities during each stage of construction and occupancy of the Project.

5.6.3 Mitigation and monitoring

A Social Impact Management Plan (SIMP) should be prepared that addresses any risks identified through the ESIA. At a minimum, the SIMP should outline:

- the stakeholder engagement strategies that have occurred and will continue throughout the life of the Project
- prioritisation of potential economic and social impacts predicted in the ESIA
- mitigation and management strategies for the identified risks including a register of agreed activities and commitments
- a mechanism for monitoring any identified potential socio-economic and cultural impacts. The mechanism should also have opportunities for review
- mechanisms to resolve new and emerging issues as they transpire and amend the SIMP
- outcome and threshold criteria that will give early warning that management and mitigation measures are failing.

Proposed mitigation and monitoring measures must be incorporated in relevant sections of the EMP (Section 6).

5.7 Other Risks

Other environmental risks should be identified and management strategies proposed, including, but not limited to:

5.7.1 Noise

The Proponent should address the impact of noise resulting from construction stages of the Project on nearby residents. The potential sensitivity of receptors to noise and mitigation measures should be discussed. A Noise Management Plan should outline methods for communicating with, and reducing the impact on, residents within the vicinity of the Project who may be adversely affected by the Project.

5.7.2 Air

The EIS/PER should identify risks to air and potential nuisance and health impacts to potential sensitive receptors. In particular, the EIS/PER should discuss the risks from dust and other particulate matter and the proposed mitigation of those risks.

The sources and projected quantities of greenhouse gases emitted by the Project should be described, including from land clearing.

5.7.3 Odour

The proponent should address the potential impact from odour related to the proximity to the Leanyer Sanderson Wastewater Treatment Ponds and the sewage ponds at the Lee Point resort. Modelling of the effectiveness of the 700 m odour buffer from the Leanyer Sanders Wastewater Treatment Ponds should be provided in addition to modelling of the odour impacts from the Lee Point resort sewage ponds. Modelling should be supported with on site sampling and be undertaken by a suitably qualified and experienced professional in accordance with AS/NZS 4323.3:2001 Stationary source emissions, Part 3: Determination of odour concentration by dynamic olfactometry or other demonstrated industry best practice methodology. Further information is available from the Clean Air Society for Australia and NZ http://www.casanz.org.au.

5.7.4 Acid Sulfate Soils

The proponent should conduct an analysis of the potential disturbance of potential acid sulfate soils (PASS) for all aspects of the project including the construction of recreational and ancillary infrastructure such as bike paths and walking trails. Where there is the possibility of disturbance of acid sulfate soils within the development area, an acid sulfate soil management plan (ASSMP) is required. The ASSMP must be developed by a suitably qualified and experienced professional in accordance with the Queensland or Western Australian Acid Sulfate Soil management plan guidelines.

5.7.5 Waste Management

Disposal of waste should be conducted in such a way as to avoid potential public health nuisances and environmental pollution. The EIS/PER should discuss the management and disposal of waste for construction and occupancy phases, including:

- predicted waste streams, both industrial and domestic, including solid wastes at the Project site
- any hazardous wastes requiring management during the Project
- methods for the storage, handling, containment and emergency management of chemicals and other hazardous substances (including fuel)
- waste management strategies for storage, transport and disposal of waste taking into account the waste hierarchy.
- litter management for Sandy Creek, Buffalo Creek and the coastal reserve.

5.7.6 Policing, fire and emergencies

The proponent should demonstrate the Project meets the *Fire and Emergency Act* and *Regulations*, specifically Part 2, Section 3 pertaining to Firebreaks, and that fire appliance connection to street water mains, hydrant location and coverage meets the recommendations of PWC.

The proposed dwellings, and any commercial premises, may require assessment by the NT Fire and Rescue Service (NTFRS) who should be contacted to inquire of any such requirements. The NTPFES can also be consulted in relation to adequate crime prevention measures (i.e. street lighting and CCTV).

5.7.7 Transport

The impact to the existing roads that will be used by the Project should be assessed including the capacity of the existing transport system to accommodate additional traffic generated during each stage of construction and occupancy. This should include an analysis of predicted peak periods and discuss the capacity of existing roads to meet the predicted changes to traffic volume in the region.

5.7.8 Visual Amenity

The extent and significance of the changed landscape on visual amenity during all stages of the Project should be discussed in a relevant section of the EIS/PER. Aspects of the project that would be visible from key vantage points, publicly accessible areas and areas of significance, should be discussed.

5.8 Cumulative Impacts

Cumulative impacts can arise from compounding activities of a single development or multiple developments, as well as the aggregation and interaction of development impacts with other past, current and future activities that may not be related to the Project.

An assessment of cumulative environmental impacts should be undertaken that considers the potential impact of the Project in the context of existing developments, and reasonably foreseeable future developments, to ensure that any potential environmental impacts are not considered in isolation. The extent of cumulative impacts to be considered depends on the nature of the environmental issue and on ecosystem resilience. The risk assessment in the EIS/PER should discuss the relevant cumulative impacts of this and other Proposals at an appropriate scale. In preparing the cumulative impact section, there should be consideration that:

- landscape change originates not only from single projects and management actions, but also from complex and dynamic interactions of multiple past, present and future management actions
- biophysical, social and economic change accumulates through additive or interactive (or synergistic) processes. The aggregate impact of multiple actions on the environment can be complex and may result in impacts that are more significant because of interactive processes
- any given action does not operate in isolation. The most significant changes are often not the result of the direct effects of an individual action, but from the combination of multiple minor effects over the accumulation of time.

The risk assessment should include, but not be limited to, an assessment of cumulative impacts to regional potable water resources from developments that are being constructed, are proposed or flagged for future development in the region with respect to the availability and sustainability of potable water resources.

6 Environmental offsets

The Australian Government Environmental Offsets Policy[10] requires residual significant impacts (after avoidance and mitigation measures have been implemented) to be offset, with a focus on direct offsets. The *Offsets Assessment Guide,* which accompanies this policy, has been developed to give effect to the policy's requirements, utilising a balance sheet approach to quantify impacts and offsets. It applies where the impacted protected matter is a threatened species or ecological community.

The EIS/PER should provide information on:

[10] Department of the Environment, 2012. Environmental Offsets Policy. Available at: http://www.environment.gov.au/epbc/publications/epbc-act-environmental-offsets-policy

- any identified impacts or detriments that cannot be avoided or mitigated at reasonable costs and whether these impacts could be considered as 'significant' under the EPBC Act
- risks of failure of management actions (such as rehabilitation, weed control, etc.) and uncertainties of management efficacy
- proposed offsets for residual significant impacts to protected matters and an explanation as to how these proposed offsets are consistent with the requirements of the Environmental Offsets Policy and *Offsets Assessment Guide*, where relevant
- how the proposed offsets meet the Environmental Offsets Policy requirement of a minimum of 90% 'direct offsets' (direct offsets are actions which provide a measurable conservation gain for the impacted protected matter).

7 Environmental Management

Specific safeguards and controls proposed to be employed to minimise or remedy environmental impacts identified in previous sections are to be included in an Environmental Management Plan (EMP). It should be demonstrated in each instance that impacts have been addressed sequentially through implementation of avoidance and mitigation measures. Where a residual significant impact will occur, the EMP (or a separate plan) should provide for the management of proposed offsets.

The EMP should be strategic, describing a framework for continuing management, mitigation and monitoring programs for the significant environmental impacts, including to MNES under the EPBC Act, of the Project.

The scope, content and structure of the EMP will be a function of the outcomes of the environmental risk assessment and determined by the significance of the environmental impacts. The EMP should not be prepared in isolation but should be consistent and integrated with the principles of an environmental management system. The EMP should include specialised management plans where it is necessary to provide a high level of operational detail (e.g. Weed Management Plan, WMP, ESCP, etc.). As much detail as is practicable should be provided to enable adequate assessment of the proposed environmental management practices and procedures.

The EMP needs to address the Project phases (planning, construction, operation and decommissioning/closure) separately. It must state the environmental objectives, performance criteria, monitoring, reporting, corrective action, necessary resourcing, responsibility and timing for each environmental issue.

Further information on the development of an EMP is available in the NT EPA's *Guidelines for the Preparation of an Environmental Management Plan*, accessible on the NT EPA webpage at: http://www.ntepa.nt.gov.au/environmental-assessments/guidelines.

8 Conclusion

An overall conclusion as to the acceptability of impacts of the proposed action on MNES, including:

- a discussion on the consideration with the requirements of the EPBC Act, including the objects of the EPBC Act, the principles of ecologically sustainable development and the precautionary principle
- reasons justifying undertaking the proposed action in the manner proposed, including the acceptability of the avoidance and mitigation measures

- measures proposed or required by way of offset for any residual significant impacts on matters protected under the EPBC Act, and the relative degree of compensation, should be restated here.

9 General advice on the Environmental Impact Statement

9.1 General content

The EIS/PER should be a stand-alone document. It should contain sufficient information to avoid the need to search out previous or additional, unattached reports.

The EIS/PER should enable interested stakeholders, the NT EPA and the Australian Government to understand the environmental consequences of the proposed action. Information provided in the EIS/PER should be objective, clear, succinct, and easily understood by the general reader. Maps (using an appropriate scale, resolution and clarity), plans, diagrams and other descriptive detail should be included. Technical jargon should be avoided wherever possible. Cross-referencing should be used to avoid unnecessary duplication of text.

The level of analysis and detail in the EIS/PER should reflect the level of significance of the expected and potential impacts on the environment, as determined through adequate technical studies. Consideration of appropriate spatial, temporal and analytical scales should be used to clearly communicate the potential impacts to the environment.

Information materials summarising and highlighting risks of the proposed action should be provided in a culturally appropriate format and language, accompanied by graphics and illustrations that assist with interpretation, where relevant.

9.2 Structure, format and style

The EIS/PER should comprise of three elements:

1. Executive summary

The executive summary must include a brief outline of the Project and each chapter of the EIS/PER, allowing the reader to obtain a clear understanding of the proposed action, its environmental implications and management objectives. It must be written as a stand-alone document able to be reproduced on request by interested parties who may not wish to read the EIS/PER as a whole.

2. Main text of the document

The main text of the EIS/PER should include a list of abbreviations, a glossary to define technical terms, acronyms, abbreviations, and colloquialisms. The document should consist of a series of chapters detailing the level of significance and management of the expected and potential impacts on the environment from the proposed action.

3. Appendices

The appendices must include detailed technical information, studies or investigations necessary to support the main text. These will be made publicly available and should include:

- a table listing how these Terms of Reference have been addressed in the EIS/PER, cross-referenced to chapters, page numbers and/or appendices
- the name of, work done by, and the qualifications and experience of the persons involved in preparing the EIS/PER
- a table listing commitments made by the Proponent

- detailed technical information, studies or investigations necessary to support the main text.

The EIS/PER should be produced on A4 size paper capable of being photocopied, with any maps, diagrams or plans on A4 or A3 size paper, and in colour, if possible.

9.3 Referencing and information sources

All sources must be appropriately referenced using the Harvard Standard. The reference list should include the address of any internet pages used as data sources. All referenced supporting documentation and data, or documents cited in the EIS/PER must be available upon request. For information given in the EIS/PER, the EIS/PER must state:

- the source of the information
- how recent the information is (relevant surveys should ideally be completed within the past five years)
- how the reliability of the information was tested
- what uncertainties (if any) are in the information.

All known and unknown variables or assumptions made in the EIS/PER must be clearly stated and discussed. Confidence levels must be specific, as well as the sources from which they were obtained. The extent to which a limitation, if any, of available information may influence the conclusions of the environmental assessment should be discussed.

Reliability of the data and an explanation of the sampling criteria and approach should be provided where data are used to support statements, studies and claims in the EIS/PER. Sufficient discussion should accompany the data to demonstrate that the data and results of quality control and quality assurance testing are suitable and fit for purpose. The NT EPA's *Guideline for Consultants Reporting on Environmental Issues* outlines the minimum information required for the presentation of data from studies, investigation, monitoring and remediation of land and water to enable efficient review.

The EIS/PER must include information on any consultation about the Project, including:

- any consultation that has already taken place
- a list of persons and agencies consulted during the EIS/PER
- if there has been consultation about the Project, any documented response to, or result of, the consultation
- proposed consultation about relevant impacts of the Project
- identification of affected parties, including a statement mentioning any communities that may be affected and describing their views.

The EIS/PER has an important role in informing the public about this Project. It is essential that the Proponent demonstrates how any public concerns were identified and will influence the design and delivery of the Project. Public involvement and the role of government organisations should be clearly identified. The outcomes of any surveys, public meetings and liaison with interested groups should be discussed including any changes made to the Project as a result of consultation. Details of any ongoing liaison should also be discussed.

If it is necessary to make use of material that is considered to be of a confidential nature, the Proponent should consult with the NT EPA on the preferred presentation of that material, before submitting it to the NT EPA for consideration. Information of a confidential nature should not be disclosed in the EIS/PER if disclosure of the information might:

- prejudice inter-governmental relations between an Australian body politic and a body politic overseas or between two (2) or more bodies politic in Australia or in the Territory
- be an interference with a person's privacy
- disclose information about an Aboriginal sacred site or Aboriginal tradition
- disclose information obtained by a public sector organisation from a business, commercial or financial undertaking that is:
    - a trade secret
    - other information of a business, commercial or financial nature and the disclosure is likely to expose the undertaking unreasonably to disadvantage.

It is an offence under the *Northern Territory Environment Protection Authority Act* to give information to the NT EPA that the person knows is misleading or contains misleading information.

9.4 Administration

The Proponent should lodge three bound hard copies and electronic versions (Adobe PDF and Microsoft Word format) of the EIS/PER with the NT EPA. The Proponent should lodge two bound hard copies and electronic versions of the EIS/PER with the Australian Government Department of the Environment. The electronic copies should be provided both as a single file of the entire document and separate files of the document components.

The Proponent should consider the file size, the number of files, format and style of the document appropriate for publication on the NT EPA website and Proponent's website. The capacity of the website to store data and display the material may have some bearing on how the documents are constructed.

Once the requirements of Section 98(1)(c) of the EPBC Act are met, the Proponent is to advertise that the draft EIS/PER is available for review and comment in the Saturday edition of *The NT News*, and also in a national newspaper that circulates in the Northern Territory, at the commencement of the public exhibition period.

The following information should be published in the advertisement:

- a descriptive title for the action
- a brief summary of the Project, its location, and the environmental assessment process
- the provision of the EPBC Act (Section 98(1)(c)) that requires the material to be published
- the EPBC number (EPBC 2015/7591) allocated to the action by the Australian Government
- the name of the Proponent, Defence Housing Australia
- the controlling provisions of the action under the EPBC Act
- clear notice that the draft EIS/PER is available for public comment and for how long
- the locations the draft EIS/PER will be available for viewing
- the method and contact details for interested groups or persons wishing to make comment, including an address (postal and electronic) to which interested persons may send or deliver their written comments

- that persons with special needs (i.e. for whom English is a second language or who have a vision impairment) may contact a designated person for assistance in accessing the material.

The NT EPA requires the complete draft EIS/PER document and a draft of the advertisement at least one week prior to advertising the draft EIS/PER, to arrange web upload of the document and review and comment on advertising text.

9.5 Public exhibition

The public exhibition period for the draft EIS/PER will be six (6) weeks. The exhibition period should not occur in late December or January in any year to ensure optimal opportunity for public and Government viewing of the EIS/PER document. The NT EPA will direct the Proponent to extend the EIS/PER exhibition period if the EIS/PER exhibition overlaps any Christmas or January periods.

Sufficient copies of the draft EIS/PER should be provided to and be made available for public exhibition at:

- NT EPA, Suite 201, The Avenue, 12 Salonika Street, Parap
- Development Consent Authority / Department of Lands, Planning and the Environment, Ground Floor, Arnhemica House, 16 Parap Road, Parap
- Northern Territory Library, Parliament House, Darwin
- Environment Centre Northern Territory, Unit 3, 98 Woods St, Darwin.

It is the Proponent's responsibility to ensure that the hard copies are supplied to the aforementioned locations in a timely manner.