GUIDELINES FOR THE CONTENT OF A DRAFT ENVIRONMENT IMPACT STATEMENT

Environment Protection and Biodiversity Conservation Act 1999

Toondah Harbour Development, Queensland

(EPBC 2018/8225)

Walker Group Holdings Pty Limited

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PREAMBLE

Walker Group Holdings Pty Limited proposes to develop a mixed use residential, commercial, retail and tourism precinct including new ferry terminals and a marina at Toondah Harbour, 30 kilometres (km) south of Brisbane. The proposal was referred under the *Environment Protection and Biodiversity Conservation Act 1999* (the EPBC Act) to the Minister for the Environment and Energy on 5 June 2018. The delegate of the Minister for the Environment and Energy determined on 23 July 2018 that approval is required as the action has the potential to have a significant impact on the following matters of national environmental significance (MNES) that are protected under Part 3 of the EPBC Act:

- the ecological character of the Moreton Bay Ramsar site (sections 16 and 17B);
- listed threatened species and communities (sections 18 and 18A); and
- listed migratory species (sections 20 and 20A).

On 23 July 2018, the delegate of the Minister of the Environment and Energy determined that the proposed action be assessed by an Environment Impact Statement (EIS).

Information about the action and its relevant impacts, as outlined below, is to be provided in the EIS. This information must be sufficient to allow the Minister to make an informed decision on whether or not to approve, under Part 9 of the EPBC Act, the taking of the action for the purposes of each controlling provision.

GENERAL ADVICE

1 GENERAL CONTENT

The EIS should be a stand-alone document that primarily focuses on the MNES protected by the controlling provisions listed above. It should contain sufficient information to avoid the need to search out previous or supplementary reports. The EIS should take into consideration the EPBC Act Significant Impact Guidelines that can be downloaded from the following website: http://www.environment.gov.au/epbc/guidelines-policies.html.

The EIS should enable interested stakeholders and the Minister to understand the environmental consequences of the proposed development. Information provided in the EIS should be objective, clear, succinct and be supported by maps, plans, diagrams or other descriptive detail that is easily understood by the general reader. Technical jargon should be avoided wherever possible. Cross-referencing should be used to avoid unnecessary duplication of text.

Detailed technical information, studies or investigations necessary to support the main text should be included as appendices to the EIS. It is recommended that any additional supporting documentation and studies, reports or literature not normally available to the public from which information has been extracted be made available at appropriate locations during the period of public display of the EIS.

After receiving the Minister's approval to publish the report, the proponent is required to make the draft EIS available for a period of public comment. Specific instructions regarding publication requirements will be provided as part of the Minister's direction to publish.

If it is necessary to make use of material that is considered to be of a confidential nature, the proponent should consult with the Department on the preferred presentation of that material, before submitting it to the Minister for approval for publication.

The level of analysis and detail in the EIS should reflect the level of significance of the expected impacts on the environment. Any and all unknown variables or assumptions made in the assessment must be clearly stated and discussed. The extent to which the limitations, if any, of available information may influence the conclusions of the environmental assessment should be discussed.

The proponent should ensure that the EIS assesses compliance of the action with principles of ecological sustainable development as set out in the EPBC Act, and the objects of the Act at Attachment 1. A copy of Schedule 4 of the EPBC Regulations, *Matters to be addressed by draft public environment report and environmental impact statement* is at Attachment 2.

2 FORMAT AND STYLE

The EIS should comprise three elements, namely:

- the executive summary;
- the main text of the document, and
- appendices containing detailed technical information and other information that can be made publicly available.

These guidelines have been set out in a manner that may be adopted as the format for the EIS. This format need not be followed where the required information can be better presented in an alternative way. However, each of the elements must be addressed to meet the requirements of the EPBC Act and EPBC Regulations.

The EIS should be written so that any conclusions reached can be independently assessed. To this end all sources must be appropriately referenced using the Harvard standard. The reference list should include the address of any Internet webpages used as data sources, and the date accessed.

The main text of the EIS should include a list of abbreviations, a glossary of terms and appendices containing:

- a copy of these guidelines;
- a list of persons and agencies consulted during the EIS;
- contact details for the proponent; and
- the names of the persons involved in preparing the EIS and work done by each of these persons.

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

The proponent should consider the format and style of the document appropriate for publication on the Internet. The capacity of the website to store data and display the material may have some bearing on how the document is constructed.

SPECIFIC CONTENT

1 GENERAL INFORMATION

This should provide the background and context of the action including:

(a) the title of the action;

(b) the full name and postal address of the designated proponent;

(c) a clear outline of the objective of the action;

(d) the location of the action;

(e) the background to the development of the action;

(f) how the action relates to any other actions (of which the proponent should reasonably be aware) that have been, or are being, taken or that have been approved in the region affected by the action;

(g) the current status of the action; and

(h) the consequences of not proceeding with the action.

2 DESCRIPTION OF THE ACTION

All construction and operational components of the action and any handover of management of the development should be described in detail. This should include the precise location (including GPS coordinates) of all works to be undertaken (including plans and maps), structures to be built or elements of the action that may have impacts on MNES.

The description of the action must also include details on how the works are to be undertaken (including stages of development and their timing) and design parameters for those aspects of the structures and elements of the action that may have relevant impacts.

The EIS must include the location, boundaries and size (in hectares) of the disturbance footprint and of any adjoining areas which may be indirectly impacted by the proposal.

3 FEASIBLE ALTERNATIVES

Any feasible alternatives to the action to the extent reasonably practicable, including:

(a) if relevant, the alternative of taking no action;

(b) a comparative description of the impacts of each alternative on the MNES protected by controlling provisions of Part 3 of the EPBC Act for the action; and

(c) sufficient detail to make clear why any alternative is preferred to another.

Short, medium and long-term advantages and disadvantages of the options should be discussed.

4 DESCRIPTION OF THE ENVIRONMENT

The EIS must include a description of the environment of the proposal site and the surrounding areas that may be affected by the action, in both the short and long term. This section should include the following information:

(a) a description of the ecological character of the Moreton Bay Ramsar Wetland including the following details:

- Ramsar values (identified in the listing criteria in the Ramsar Information Sheet), critical components, processes and services of the Moreton Bay Ramsar Wetland (identified in the Draft Ecological Character Description (ECD) or final ECD if available).
  This includes:
  - extent and types of wetland habitats at the proposed development site and in areas that may be impacted by the development including, but not limited to, intertidal and subtidal habitats and areas;
  - threatened and migratory species numbers, distribution and site fidelity at the proposed development site and in areas that may be impacted by the development;
  - threatened ecological community locations;
  - locations of feeding and roosting habitats and numbers of listed migratory birds, their site fidelity and their usage of the area in regional context;
  - coastal morphology and hydrology;
  - water quality;
  - soils and marine sediments, including acid sulfate soils (ASS) and potential acid sulfate soils (PASS);
  - fish populations and spawning sites for fish; and
  - marine reptile and mammal populations.
- current status and condition of the Moreton Bay Ramsar Wetland, including the past and projected trends and existing threats, at both the project site scale and the whole of the Ramsar Wetland scale;
- details of the project site including:
  - details of the current water quality;
  - details of the current storm water runoff volumes (including flood scenarios);
  - details of ASS and PASS;
  - types and prevalence of invasive plant and animal species;
  - current use, including boating and dredging; and
  - types and levels of disturbances to shorebirds and shorebird habitat and marine species arising from current use of the site.

- the scope, timing (survey season/s) and methodology for studies or surveys used to provide the above baseline information at the site and in areas that may be impacted by the project; and
- detail of any known or potential sources of contaminated land in the vicinity of the site. Describe the risk of the development activities leading to land becoming contaminated and the potential consequences to the ecological character of the Moreton Bay Ramsar site, listed threatened species and communities and listed migratory species.

(b) A description of the listed threatened and migratory species and ecological communities that are likely to be present in the vicinity of the site, including the following details:

- the scope, timing (survey season/s) and methodology for studies or surveys used to provide information on the listed species/community/habitat at the site (and in areas that may be impacted by the project);
- how studies or surveys are consistent with (or a justification of divergence from) relevant Departmental guidelines or policy statements, or are in accordance with best practice studies or surveys;
- the past and projected trends and existing threats to the condition of habitat for threatened species and ecological communities and listed migratory species; and
- those aspects of the environment considered critical to the continued presence and functioning of MNES identified as likely to be directly or indirectly impacted (including, but not limited to, breeding, roosting, nesting and foraging habitat).

The EIS must include a habitat assessment for each relevant listed threatened species and communities, and migratory species. The habitat assessment must include, but not be limited to, the habitat area (in hectares), quality, location and use specifications of known and potential suitable habitat in relation to the project disturbance area.

The habitat assessment should be informed by, at a minimum, a desktop assessment of relevant Commonwealth and State Government databases and the outcomes of field surveys or studies.

The EIS must consider and discuss the value of suitable habitat present within the project site and how it may be impacted by the project.

The EIS must describe the methodology for identifying priority areas for conservation.

The EIS must provide an analysis of the strengths, limitations and expected effectiveness of methodologies used to identify the MNES and identify any key information gaps, further studies needed and any proposals to address critical information needs.

5 RELEVANT IMPACTS

The EIS must include a description of all of the relevant impacts of the action. Relevant impacts are impacts that the action will have or is likely to have on a matter protected by a controlling provision (as listed in the preamble of this document). Impacts during both the construction and operational phases of the project and the handover of management of the development should be addressed, and the following information provided:

(a) a detailed assessment of the nature and extent of the likely short-term and long-term relevant impacts;

(b) a statement about whether any relevant impacts are likely to be unknown, unpredictable or irreversible;

(c) analysis of the significance of the relevant impacts; and

(d) any technical data and other information used or needed to make a detailed assessment of the relevant impacts.

Where applicable the EIS must use the baseline data from Section 4 to support modelling and conclusions.

The EIS must also provide a detailed assessment of the extent and severity of any likely impact that this proposed action may facilitate on the following (at the local, regional, state, national and international scale):

(a) The ecological character of wetlands of international importance;

The EIS must address the Moreton Bay Ramsar site values identified in the listing criteria, as set out in the Ramsar Information Sheet (RIS) and the critical components, processes and services, as set out in the Draft Ecological Character Description (ECD), including any updated versions of the RIS and ECD as far as possible.

(b) Listed threatened species and ecological communities;

The EIS must include discussion of impacts to listed threatened species including but not limited to:

- Koala (*Phascolarctos cinereus* - combined populations of Queensland, New South Wales and the Australian Capital Territory) – vulnerable;
- Eastern Curlew (*Numenius madagascariensis*) – critically endangered;
- Lesser sand plover (*Charadrius mongolus*) – endangered;
- Water mouse (*Xeromys myoides*) – vulnerable;
- Great Knot (*Calidris tenuirostris*) – critically endangered;
- Curlew Sandpiper (*Calidris ferruginea*) – critically endangered;
- Bar-tailed Godwit (*Limosa lapponica baueri*) – vulnerable;
- Grey-headed Flying-fox (*Pteropus poliocephalus*) – vulnerable;

- Loggerhead Turtle *(Caretta caretta)* – endangered;
- Green Turtle *(Chelonia mydas)* – vulnerable; and
- Hawksbill Turtle *(Eretmochelys imbricata)* – vulnerable.

(c) Listed migratory species.

The EIS must include discussion of impacts to listed migratory species including but not limited to:

- Grey-tailed Tattler (*Tringa brevipes*);
- Ruddy Turnstone (*Arenaria interpres*);
- Great Knot (*Calidris tenuirostris*) (also listed as critically endangered);
- Red-necked Stint (*Calidris ruficollis*);
- Bar-tailed Godwit (*Limosa lapponica baueri*) (also listed as vulnerable);
- Whimbrel (*Numenius phaeopus*);
- Eastern Curlew (*Numenius madagascariensis*) (also listed as critically endangered);
- Terek Sandpiper (*Xenus cinereus*);
- Curlew Sandpiper (*Calidris ferruginea*) (also listed as critically endangered).
- Sharp-tailed sandpiper (*Calidris acuminata*);
- Lesser sand plover (*Charadrius mongolus*) (also listed as endangered);
- Double-banded plover (*Charadrius bicinctus*);
- Loggerhead Turtle (*Caretta caretta*) (also listed as endangered);
- Green Turtle (*Chelonia mydas*) (also listed as vulnerable);
- Hawksbill Turtle (*Eretmochelys imbricata*) (also listed as vulnerable)*;*
- Indo-pacific Humpback Dolphin (*Sousa chinensis*), now considered separate species- Australian humpback dolphin (*Sousa sahulensis*); and
- Dugong (*Dugong dugon*).

In assessing the impacts, consideration must be given to:

(a) EPBC Act *Policy Statement 1.1 Significant Impact Guidelines,* in particular significant impact criteria for listed threatened species and ecological communities; listed migratory species; and Wetlands of International Importance;

(b) the ecological character of the Moreton Bay Ramsar Wetland;

(c) Australia's international responsibilities in relation to conservation of biodiversity, conservation of migratory species and protection of Ramsar wetlands;

(d) consistency with relevant Statutory instruments, including regulations, zoning plans, plans of management and permits (for example the Marine Parks (Moreton Bay) Zoning Plan 2008);

(e) relevant approved Conservation Advices, Recovery Plans and Threat Abatement Plans as well as any agreements or plans that cover impacts on MNES;

(f) non-statutory mechanisms including Federal and State policies, position statements and guidelines;

(g) partnership and collaborative arrangements with Queensland and other Australian government agencies;

(h) partnerships with Traditional Owners in the management of the wetland;

(i) partnership and stewardship programs, including education programs and engagement, with local governments, communities, Indigenous persons, business and industry;

(j) research and monitoring programs; and

(k) compliance and enforcement programs.

The EIS must include, but not be limited to, a discussion on the following impacts:

Hydrology

The EIS must assess the potential impacts on MNES due to any alterations to water quality and hydrological changes associated with the development, and its subsequent use, with specific reference to mudflats, saltpans, riparian habitat, seagrass, mangroves, estuary, intertidal zone, marine and in-stream biological uses and marine waters including hydrodynamics and water quality. The assumptions, calibration, validation and related uncertainty of any model predictions must be provided.

Surface water

The EIS must include a discussion and assessment of the potential impacts on water quality associated with the development and its subsequent use. The discussion must consider the current baseline water quality data, any relevant water quality objectives, and an assessment of the impacts on terrestrial species and the marine environment including:

(a) the chemical and physical properties of any waste water (stormwater, run-off, and pollution) at the point of entering natural surface waters;

(b) the change in flow from all phases of the development, including potential stream diversions, scouring and erosion. It must also include a discussion of the impacts of concentrating drainage flows into water courses in terms of both hydrological and ecological implications on the marine environment (aquatic and fishing resources);

(c) changes to tidal inundation levels and frequencies associated with the development;

(d) anticipated flows of water to and from the development;

(e) water supply and usage, and wastewater disposal; and

(f) impacts on marine water quality due to dredging, construction, increased use, etc.

Each of the above must be considered under both the current range of environmental conditions and under a climate change scenario resulting in sea level 1.5 m above the current highest astronomical tide with a storm surge.

Groundwater

The EIS must include an assessment of the potential impacts to MNES associated with changes (including altered porosity and permeability associated with any land disturbance) to local groundwater resources associated with the development. The impact assessment must define the extent of the area within which groundwater resources are likely to be affected by the development and the significance of the development to groundwater depletion or recharge, and potential to contaminate groundwater resources.

Loss of, or disturbance to, wetland and terrestrial habitats

The EIS must include an assessment of the potential direct and indirect impacts to each protected matter, including the ecological character of the Moreton Bay Ramsar site, listed threatened communities and species, migratory species and their habitats, arising from the construction and operation of the development including clearing, salvaging or removal of vegetation, including intertidal and marine vegetation. This should include the areas and habitats affected by dredging (including disposal of dredge spoil), reclamation, construction and operation of the facilities.

The assessment should also consider impacts on terrestrial species and the marine environment including, but not limited to, disturbance of acid sulfate soils; increase in weed and pest species; erosion and sedimentation; run-off and contamination.

Short-term and long-term effects should be considered with comment on whether the impacts are likely to be known, unpredictable or irreversible.

Dredging and land reclamation

The EIS must include a discussion of impacts associated with proposed dredging and land reclamation operations as part of the development as a whole and also for each stage of dredging and reclamation if they are to be conducted at significantly different times. This should include:

(a) details of the size of dredging operations associated with construction of the harbour and marina and extension to the entrance channel. This would include details of:

i. the volume of material to be removed and re-used,

ii. the area of wetland habitat lost,

iii. the current and new width/depth/length of the shipping channel,

iv. description of dredging methods and equipment including staging of dredging and placement of dredged material,

v. length and timing of dredging activities,

vi. Assessment of sediment according to the National Assessment Guidelines for Dredging (NAGD) 2009 this must include an assessment of the suitability of this material for reclamation,

vii. Assessment of the risk and potential impacts of acid sulfate soils (ASS) and potential acid sulfate soils (PASS),

viii. Consideration of potential impacts of mobilised sediments (e.g. metal or contaminant release);

(a) predictive, fully three dimensional modelling of indirect impacts of dredge generated sediments must include:

i. hydrodynamic modelling,

ii. sediment transport modelling where the range of particle fractions (sand, silt and clay) are all modelled,

iii. modelling must include all types of resuspension possibilities including currents and wave-induced bottom shear stresses as well as wave induced mud fluidisation. If not modelled a justification as to why this phenomena was not relevant for that site,

iv. ecological impact predictions. Lethal and sub lethal thresholds used for the ecological impact predictions must be clearly indicated and substantiated with relevant scientific peer reviewed articles,

v. testing the sensitivity of ecological impact predictions to different pressure thresholds and considering seasonal effects must also be undertaken to understand the likely range of prediction outcomes;

vi. proponent to provide results of modelling in a suitable electronic format (i.e. shapefiles),

vii. the modelling must represent the conditions at the time of year in which the dredging will actually occur. If this is not known then modelling must be undertaken for all seasons (i.e. summer conditions, winter conditions, transitional conditions) depending on prevalent oceanographic conditions,

viii. Modelling must include likely dispersion and resuspension from dredging operations during a range of probable hydrodynamic conditions, weather events and expected dredge equipment scenarios,

ix. Model outputs must use a spatially based scheme that provides for a clear and consistent way of describing and presenting the extent, severity and duration of predicted impacts of dredging and reclamation, and

x. Modelling must be independently peer reviewed. Information relating to the peer review, including the Terms of Reference and the peer reviewer's report must be included as part of the EIS documentation;

(b) A plan of the proposed land to be reclaimed, drawn to an appropriate scale, showing the following information:

i. the boundary of the land to be reclaimed, tied to real property boundaries;
ii. the location of the line of mean high water spring tide and highest astronomical tide in relation to the area of reclamation;
iii. existing levels of the land and proposed final levels of reclamation in relation to the lowest astronomical tide (LAT) or Australian Height Datum (AHD);
iv. location of marine plants and species habitat within the land to be reclaimed;
v. typical cross section across the land to be reclaimed showing the proposed finished levels and method of protecting the seaward boundary of the reclamation from erosion;

(c) A description of the reclamation process and methodology. This would include:

i. A detailed description of construction methods and location issues/risks must be presented,
ii. source and amount of material for bunds and bund wall stability,
iii. three dimensional modelling of the impacts of the land reclamation on the current sediment transport and hydrodynamic patterns within Raby and Redland Bay area,
iv. discussion of how the land reclamation may affect the current erosion and deposition patterns in terms of changes to the low water mark of the Ramsar Wetland,
v. quantity and quality of tail water likely to be generated from dredging activities and the rate of their discharge,
vi. the settling rate of fine sediments from all dredge material types,
vii. the residence time within settling ponds prior to discharge (related to dredge pumping rate, ratio of solids to water in the dredged material, settling rates, available capacity of the disposal and settling areas, potential bulking factor, intensity and duration of rainfall events with consideration given to the worst case scenario for these factors);

(d) details of proposed maintenance dredging (of entrance channel/marina) including previous maintenance dredging programs carried out at Toondah Harbour;

(e) assessment of the potential impacts of increased sedimentation, noise, lighting, disturbance of acid sulfate soils and other contaminants on the

listed terrestrial and marine species, their habitats and the ecological character of the Moreton Bay Ramsar Wetland;

(f) discussion on the impacts associated with increased weeds and pests as a result of dredging and land reclamation.

Noise

The EIS must include an assessment of the impacts of noise and vibration associated with the construction (for example pile driving and dredging), and ongoing operations of the development (e.g. noise from residents, businesses and visitors to the site) on all MNES. This must include an assessment of short-term and long-term impacts, including measured background noise levels that take into account seasonal variations. The magnitude, duration and frequency of any vibration must be discussed.

The locations of sensitive sites should be identified on a map at a suitable scale. Details of the results of baseline monitoring of noise and vibration in the proposed vicinity of the development must be included.

Sufficient data should be gathered to provide a baseline for later studies. The daily variation of background noise levels at nearby sensitive sites should be monitored and reported in the EIS, with particular regard given to detailing variations at different periods of the night. Any current activities near the development that may cause a background level of ground vibration (for example: roads, boating and ferry activities, etc.) should be described.

Lighting

The EIS must include an assessment of the potential impacts of increased lighting associated with construction and operation of the development on MNES (in particular migratory birds and turtles). This assessment must provide details of the lighting used during all stages (including night operations/maintenance, permanent residences and commercial operations and increased vehicle traffic), and the effects of lighting on Commonwealth listed terrestrial species and the broader marine environment.

Waste

The EIS must describe and assess the potential impacts of all wastes to be generated by the proposed development (during construction and operation) and provide details of each waste in terms of:

(a) the potential level of impact on MNES;

(b) the peak design capacity evaluation of the wastewater treatment system and associated infrastructure;

(c) operational handling and fate of all wastes including storage;

(d) on-site treatment methods proposed for the wastes (including grey-waste);

(e) methods of disposal (including the need to transport wastes off-site for disposal) proposed to be used for any trade wastes, liquid wastes and solid wastes;

(f) proposed discharge/disposal criteria for liquid and solid wastes;

(g) how the quality of effluent discharge will meet the *Queensland Government water quality objectives for Moreton Bay*; and

(h) processes of waste minimisation techniques proposed.

Consequential and facilitated impacts

The EIS must provide a detailed assessment of any likely impacts that the development may facilitate on MNES at the local, regional, state, national and international scale. Assessment of consequential and facilitated impacts should include consideration of:

(a) the role of the upgraded harbour facilities in increasing general visitation to Moreton Bay, and the impacts of those visitors and their recreational activities;

(b) potential for increased activity (for example road traffic, boating and pets at the development site and more broadly in Moreton Bay);

(c) any other known development proposals which may be facilitated or impacted (either positively or negatively) by the development;

(d) The potential to disturb contaminated land;

(e) whether the development will result in an intensification of development or proposals in the region, or an increase in housing or workforce or in local and regional community changes; and

(f) any requirements for further proposals of major regional infrastructure to allow the development to go ahead.

Cumulative impacts

Cumulative impacts must be considered in terms of the potential overall consequence or magnitude of impacts on each of the MNES. The assessment of cumulative impacts must include:

(a) review and analysis of residual impacts of the proposed development and of other known proposals where there may be a spatial or temporal overlap;

(b) consideration of the potential for cumulative impacts on the ecological character of the Moreton Bay Ramsar Wetland, resilience of any important populations of listed threatened or migratory species and ecological communities and on overall habitat quality and availability;

(c) consideration of the impact of climate change on MNES; and

(d) discussion of the potential for existing pressures and threats to be exacerbated by the proposed development.

The discussion should include an evaluation of the likely short term and long term cumulative impacts on the general environment and ecosystem function where relevant to MNES. In this regard consideration should be given to the potential magnitude of effects and also the duration and reversibility of effects.

6 PROPOSED AVOIDANCE AND MITIGATION MEASURES

The EIS must provide information on proposed avoidance and mitigation measures to deal with the relevant impacts of the action on MNES. Specific and detailed descriptions of proposed measures must be provided and substantiated, based on best available practices and must include the following elements:

- a description of each proposed avoidance or mitigation measure in relation to the above likely impacts; and
- an assessment of the expected or predicted effectiveness and achievability of each proposed avoidance or mitigation measure including timeframes for achieving effectiveness.

The EIS should include a consolidated list of mitigation measures proposed to be undertaken to prevent, minimise or compensate for the relevant impacts of the action, including:

(a) a description of the environmental outcomes the measures are expected to achieve including details of any baseline data or proposed monitoring to demonstrate progress towards achieving these outcomes;

(b) a description of proposed avoidance and mitigation measures to deal with relevant direct and indirect impacts of the action, including mitigation measures proposed to be undertaken by the proponent and any complementary measures that have been proposed by State or local governments;

(c) measures to identify and avoid areas of high conservation or biodiversity value as far as possible;

(d) details of ongoing management of the construction and operation of the project, including monitoring programs to support an adaptive management approach and determine the effectiveness of the measures proposed, who will be responsible for such measures and the extent of their responsibility; and

(e) adaptive management strategies that will be implemented if mitigation and management measures are insufficient and/or ineffective. This should include adequate monitoring regimes and defined trigger levels that will prompt further management and/or remediation actions. Where the mitigation measure, relates to the ecological character of the Moreton Bay site identify design and operational features to maintain and enhance that character where possible, both at the development site and where the proposed development (both construction and operation) may impact on those values.

All actions and mitigation measures must be consistent with the Australian Ramsar management principles which are set out in Schedule 6 of the EPBC Regulations 2000. These include:

(a) actions to maintain the ecological character of the wetland;

(b) wise and sustainable use of the wetland;

(c) public consultation, and continuing community and technical input;

(d) actions to deal with impacts, including physical loss, modification or encroachment on the wetland, loss of biodiversity, pollution and nutrient input, changes to water regimes, utilisation of resources, introduction of invasive species;

(e) restoration or rehabilitation actions; and

(f) monitoring and reporting.

Ongoing monitoring and reporting is required, during construction and operation, to enable the Department to assess any local or wider impacts of the development on the ecological character of the Moreton Bay Ramsar site.

If responsibility for implementation or management of mitigation measures during the operation of the project is proposed to be transferred to parties other that the proponent, detail the stages at which such transfer would occur and how ongoing mitigation measures will be managed.

The EIS should consider the environmental outcomes that will be achieved by the proposed action. This should include consideration of the Department's outcomes-based conditions policy and guidance documents.

The Outcomes-based conditions policy and guidance is available at: www.environment.gov.au/epbc/publications/outcomes-based-conditions-policy-guidance

The EIS must demonstrate how a net benefit will be achieved for the Moreton Bay Ramsar site and other MNES through the implementation of avoidance, mitigation and offset measures in a timely, transparent and scientifically robust manner. These measures must be additional to what is already required under existing laws or schemes. This may include actions which will maintain the ecological character of the Moreton Bay Ramsar site as a whole, improve existing habitat for MNES, create new habitat for MNES, reduce threats to habitat for MNES and avert the loss of habitat for MNES under threat.

The entities responsible for undertaking the proposed measures must be included as well as a description and a map to clearly define the location and boundaries of any proposed additional conservation areas. This must be accompanied by net benefit attributes and shapefile/s.

The EIS must include detailed costings for the measures that will be implemented to achieve net benefit outcomes. Timeframes and key milestones for implementation of net benefits and a discussion of risks and uncertainties associated with the proposed net benefits must also be included.

The EIS must include mechanisms to ensure that net benefits are maintained for the duration of the impacts. There should also be mechanisms for monitoring and reporting of net benefit milestones and outcomes. The EIS must detail the timing and frequency of any monitoring and reporting activities.

The EIS must include an analysis of the likely effectiveness of the mitigating measures in protecting MNES outcomes at the regional landscape scale, including associated regulatory and policy arrangements to implement commitments.

The EIS must include an analysis of how the mitigation measures are in accordance with any statutory or policy requirements, including but not limited to:

(a) any relevant threat abatement plan for listed threatened species and communities;

(b) any relevant recovery plan for listed threatened species and communities; and

(c) relevant conventions and agreements under which a migratory species is listed, including the Convention on the Conservation of Migratory Species of Wild Animals (the Bonn Convention), the China-Australia Migratory Bird Agreement (CAMBA), Japan-Australia Migratory Bird Agreement (JAMBA), Republic of Korea-Australia Migratory Bird Species (ROKAMBA) and agreements relevant to the conservation of the species.

Environmental Management Plans

The EIS must include a detailed outline of any Environmental Management Plans (EMPs) that sets out the framework for management, mitigation and monitoring of relevant impacts of the action, including any provisions for independent environmental auditing.

The EMPs need to address the project phases (construction, operation and handover) separately and any staging of each phase. Each EMP must state the environmental objectives, performance criteria, monitoring, reporting, corrective action, responsibility and timing for each environmental issue.

The EMPs should also describe contingencies for events such as failure of sewerage systems, heavy or prolonged rainfall, storms, or saltwater intrusion into ground water.

The name of the agency responsible for endorsing or approving each mitigation measure or monitoring program must be provided.

All EMPs must be in accordance with the Department's Environmental Management Plan Guidelines and take account of the Australian Ramsar Management Principles (EPBC Regulations):

(a) clear, measurable, time specific environmental outcomes to be achieved by implementing the plan. The plan defines environmental outcomes as measurable extent and condition targets, or circumstances of, the protected matter (e.g. water quality environmental values, ecological attributes/function).

(b) clear, measurable, time specific performance and completion criteria:

- performance criteria are time-bound short and medium term targets, for management interventions and environmental condition, that are used to monitor, evaluate, review and improve the effectiveness of the plan; and

- completion criteria are time-bound longer term values, specified for measurable parameters, that if attained and maintained ensure the plan's environmental outcome/s have been achieved.

(c) clear, measurable, time specific management measures that will be implemented to avoid and/or mitigate environmental impacts. Each management measure and corrective measure:

- has timeframes for implementation;
- is described sufficient to avoid ambiguity and to inform plan implementation;
- is related to quantitative and auditable performance and completion criteria; and
- is derived from recognised principles, practice, or guidelines, and is justified - technically, scientifically and/or legally – as an effective and appropriate measure to achieve the plan's objective/s.

(d) a clear, measurable, time specific schedule and triggers for auditing the implementation and effectiveness of the plan, and outlines auditable systems for recording plan implementation and the environmental outcomes achieved.

The Department's *Environmental Management Plan Guidelines 2014* are available at: www.environment.gov.au/epbc/publications/environmental-management-plan-guidelines.

7 ADAPTIVE MANAGEMENT: ADDRESSING UNCERTAINTY AND MANAGING RISK

The EIS must identify key adaptive management measures addressing uncertainties and inherent risks. Uncertainties could, for example, include knowledge gaps in scientific understanding and the timing, effectiveness, or capacity to implement, maintain, operate and enforce management measures.

The EIS must describe how the adaptive management strategies will be implemented to ensure MNES are effectively protected over the life of the project. This includes how:

(a) monitoring of MNES will occur, including monitoring of progress in achieving the desired conservation outcomes identified in the EIS, how the monitoring will be analysed throughout the life of the project and how the results of the monitoring will influence the project; and

(b) new information relating to MNES or the EIS is to be assessed and accounted for in management of the area affected by the project.

8 OFFSETS

Environmental offsets are broadly understood to mean actions taken outside a development site that compensate for the significant residual impacts of that development. Offsets are not intended to replace avoidance and mitigation which are expected to be the primary strategies for managing the potential impacts of development proposals. The MNES section must provide details of:

(a) residual significant impacts on MNES that are likely to occur after the proposed activities to avoid and mitigate all impacts are taken into account; and

(b) where residual significant impacts are likely to occur, the reasons why the avoidance or mitigation of these significant impacts is not expected to be achieved.

The EIS must include details of an offset package proposed to be implemented to compensate for the residual significant impact of the project if these are determined likely, as well as an analysis about how the offset(s) meets the requirements in the Department's *Environment Protection and Biodiversity Conservation Act 1999 Environmental Offsets Policy October 2012* (EPBC Act Offset Policy).

The offset package can comprise a combination of direct offsets and other compensatory measures, so long as it meets the requirements of the EPBC Act Offset Policy.

Offsets should compensate for an impact for the full duration of the impact (i.e. should impacts be in perpetuity the offsets should also be in perpetuity).

Offsets must directly contribute to the ongoing viability of the MNES impacted by the project and deliver an overall conservation outcome that improves or maintains the viability of the MNES as compared to what is likely to have occurred under the status quo, that is, if neither the action not the offset had taken place.

The outcomes of the offset strategy need to be specific, measurable and achievable, and should be based on robust baseline data.

Note: offsets do not make an unacceptable impact acceptable and do not reduce the likely impacts of a proposed action. Instead, offsets compensate for any residual significant impact.

The offsets strategy must include:

(a) objectives

(b) quantity of impacts which are being offset

(c) the type of offsets proposed (direct/indirect)

(d) the location (including a geo-referenced map) and suitability of proposed direct offsets

(e) current land tenure or proposed future (e.g. over areas that are presently water) of any proposed offset and the method of securing enduring protection of the offset site and managing the offset for the life of the impact

(f) the nature of and extent to which actions of the Queensland or Redland City Council governments would be required to implement the proposed offsets

(g) how any proposed staging of the overall development will impact the delivery of offsets

(h) specific environmental outcomes to be achieved, and reasoning for these in reference to relevant statutory recovery plans, conservation advices and threat abatement plans

(i) a completed 'offsets guide'. All figures used to determine the suitability of offsets including habitat quality scores at the project site must be derived using a suitably robust and repeatable framework. Details about each framework must also be provided

(j) risk assessment

(k) environmental management activities and mitigation measures or customize, by referring to specific measures as follows, including the timing of actions

(l) a monitoring program, which must include:

- performance indicators (clear and concise criteria against which achievement of outcomes are to the measured), which are capable of accurate and reliable measurement
- outcomes (time bound outcomes as measured by performance indicators), which might include milestones (interim outcomes)
- monitoring requirements (timing and frequency of monitoring to detect changes in the performance indicators, to determine if outcomes are being achieved, and to inform adaptive management), and
- trigger values for corrective actions

(m) detail and time-specific outcomes (Key Performance Indicators) against which the achievement of the proposed offset outcomes will be measured. This incudes interim milestones so the proponent can demonstrate they are on track to achieving the proposed offset outcomes

(n) potential corrective actions to be implemented if trigger values are reached, and how environmental incidents and emergencies will be managed

(o) roles and responsibilities (clearly stating who is responsible for activities)

(p) auditing and review mechanisms, and

(q) an analysis of how the offset package meets the requirements of the EPBC Act Offsets Policy.

9 OTHER APPROVALS AND CONDITIONS

State and local Government approvals

The EIS should set out as far as practicable at this stage of the proposal, the scope and likely schedule of applications and assessment requirements and whether the proposal is in accordance with the various State and local government statutory processes.

If an approval is issued under Part 9 of the EPBC Act, actions will be required by Walker Group Holdings and the Queensland Government to ensure that any

development is compliant with Queensland government statutes and policies, including but not limited to:

- *Marine Parks Act 2004* (MP Act) and the Marine Parks Regulation 2017- e.g. in relation to the boundaries of the protected area estate;
- *Marine Parks (Moreton Bay) Zoning Plan 2008* (Zoning Plan) – e.g. in relation to environmental management requirements and constraints;
- *Aboriginal Cultural Heritage Act 2003 (ACH Act) – e.g. in relation to the management and protection of indigenous cultural heritage*
- *Economic Development Act 2012* (ED Act) – e.g. for development applications within the Toondah Harbour Priority Development Area (PDA);
- *Environmental Offsets Act 2014* (EO Act) – e.g. in relation to compensatory proposals to deal with any potential residual impacts not addressed under the EPBC Act;
- *Environmental Protection Act 1994* (EP Act) – e.g. for dredging and land reclamation environmental authorities and management of matters such as noise and air emissions;
- *Fisheries Act 1994* (Fisheries Act) – e.g. in relation to protection of marine plants and fish passage;
- *Land Act 1994* (Land Act) – e.g. for conversion of land tenures;
- *Maritime Safety Queensland Act 2002* (MSQ Act) – e.g. for marina and ferry terminal and channel design, construction and operation
- *Nature Conservation Act 1992* (NC Act) – e.g. in relation to the protection of listed animal species and habitats
- *Queensland Heritage Act 1992* (QH Act) – e.g. in relation to the management and protection of non-indigenous cultural heritage

Priority Development Area

The EIS must describe how the project conforms to the PDA and its purpose and objectives and the PDA Development Scheme.

Moreton Bay Marine Park

The EIS must consider the Moreton Bay Marine Park zoning plan; this provides the framework for management of the Marine Park and, in effect, the Moreton Bay Ramsar site.

- www.nprsr.qld.gov.au/parks/moreton-bay/zoning/maps-resources.html#moreton_bay_marine_park_zoning.
- www.legislation.qld.gov.au/view/html/inforce/2017-09-01/sl-2008-0343.

The EIS must be consistent with the management principles for the area and specify management outcomes for the protection, presentation and use of the area in accordance with the relevant management plans.

- www.npsr.qld.gov.au/managing/plans-strategies/pdf/moreton-island-national-park-2007.pdf.

Other requirements

The EIS must include information on any other requirements for approval or conditions that apply, or that the proponent reasonably believes are likely to apply, to the proposed action.

10 PROMOTING ECOLOGICALLY SUSTAINABLE DEVELOPMENT

The EIS must describe how the following principles of ecologically sustainable development (ESD) have been applied in the project:

(a) decision making processes should effectively integrate both long-term and short-term economic, environmental, social and equitable considerations.

(b) if there are threats of serious or irreversible environmental damage, lack of full scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation.

(c) the principle of inter-generational equity – that the present generation should ensure that the health, diversity and productivity of the environment is maintained or enhanced for the benefit of future generations.

(d) the conservation of biological diversity and ecological integrity should be a fundamental consideration in decision making.

The EIS must also describe how the proposed development will not be inconsistent with Australia's obligations under each of the international agreements relevant to the conservation of MNES.

11 AUDITING AND REPORTING

The EIS must set out:

(a) a program of baseline reporting on the current status/condition of the site and surrounding region;

(b) a program of monitoring, public reporting and independent or third party auditing to be undertaken;

(c) a process that will incorporate these findings into ongoing management;

(d) who is responsible for overseeing and taking these actions; and

(e) record keeping and review processes under the approval.

12 REVIEW, MODIFICATION OR ABANDONMENT

The EIS must identify and analyse the likely circumstances and procedures that may result in the review, modification or abandonment of the project. This is to include a discussion of how any commitments under the EIS will continue to be met.

13 CONSULTATION

The EIS must include details of any consultation about the action, including:

(a) any consultation that has already taken place;

(b) proposed consultation about relevant impacts of the action;

(c) if there has been consultation about the proposed action, any documented response to, or result of, the consultation; and

(d) identification of affected parties, including a statement mentioning any communities that may be affected and describing their views.

The draft EIS must be made available for public comment for a period of no less than 28 days.

The Minister must be provided with a report on the public submissions received on the draft EIS, together with proposed final drafts of the EIS, incorporating any revisions made in response to public comments.

The EIS must include a process for ongoing consultation with Indigenous people whose rights, claims or interests may be affected by the development. This must include consultation on the development of mitigation measures and management of proposed additional protected areas.

14 ENDORSEMENT CRITERIA

The EIS must set out how the project meets the objectives of the EPBC Act. In determining whether or not to approve the project, the Minister will have regard to the extent to which the project meets the objectives of the EPBC Act including how the project:

(a) protects the environment, especially MNES;

(b) promotes ecologically sustainable development;

(c) promotes the conservation of biodiversity;

(d) promotes a cooperative approach to the protection and management of biodiversity and MNES; and

(e) assists in the co-operative implementation of Australia's international environmental responsibilities.

In determining whether or not to approve the project the Minister must be satisfied that commitments for the protection and management of MNES must be enforceable and achievable over the life of the project. The EIS must demonstrate an effective system

of adaptive management that addresses uncertainty and contingency management as well as procedures for monitoring, auditing and public reporting on implementation.

15 ENVIRONMENTAL RECORD OF PERSON(S) PROPOSING TO TAKE THE ACTION

The EIS must include details of any proceedings under a Commonwealth, State or Territory law for the protection of the environment or the conservation and sustainable use of natural resources against:

(a) the person proposing to take the action; and

(b) for an action for which a person has applied for a permit, the person making the application.

If the person proposing to take the action is a corporation, details of the corporation's environmental policy and planning framework must also be included.

16 ECONOMIC AND SOCIAL MATTERS

The economic and social impacts of the action, both positive and negative, must be analysed. Matters of interest may include:

(a) details of any public consultation activities undertaken, including with Indigenous communities, and their outcomes;

(b) projected economic and social costs and benefits of the project, including the basis for their estimation through cost/benefit analysis or similar studies;

(c) employment opportunities expected to be generated by the project (including construction and operational phases).

Economic and social impacts should be considered at the local, regional and national levels. Details of the relevant cost and benefits of alternative options to the proposed action, as identified in section 3 above, should also be included.

17 INFORMATION SOURCES PROVIDED IN THE EIS

For information provided in a draft EIS, the draft EIS must state:

(a) the source of the information;

(b) how recent the information is;

(c) how the reliability of the information was tested; and

(d) what uncertainties (if any) are in the information.

18 CONCLUSION

An overall conclusion should be provided, including discussion on compliance with principles of ESD and the objects and requirements of the EPBC Act. Reasons justifying undertaking the proposal in the manner proposed should also be outlined.

Measures proposed or required by way of offset for any unavoidable impacts on MNES, and the relative degree of compensation, should be restated here.