



Hamilton West Pty Ltd
Dent Island
Operational Environmental Management Plan

Version 1, 10 August 2017

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1. Introduction

1.1 Background

This Operations Environmental Management Plan (EMP) has been prepared on behalf of Hamilton West Pty Ltd (Hamilton West) by GHD Pty Ltd (GHD) for Dent Island. It addresses potential environmental issues requiring management and monitoring which have been identified during the impact assessment process. The EMP is based on the requirements set forth in Section 6.4 of the Coordinator Generals Evaluation Report on the Environmental Impact Statement (EIS) for the Dent Island Golf Course Resort, the Marine Parks Permit G06/14462.1 and G14/3314.1, and lease with Great Barrier Reef Marine Park Authority (GBRMPA).

A site location plan is provided in Appendix A.

1.2 Purpose of this Report

The purpose of the EMP is to identify appropriate mitigation measures for each potential environmental issue and to identify corrective actions to be undertaken if an undesirable impact or unforeseen level of impact occurs.

1.3 Aims

The aim of this EMP is:

- To demonstrate the operational plans for the management of Dent Island and all infrastructure there-on.
- To ensure that environmental requirements are complied with by producing an integrated framework for comprehensive monitoring and control of operational impacts. Specific commitments on strategies and design criteria to be employed are provided.
- To provide Local, State and Commonwealth authorities and Hamilton West with a framework to confirm compliance with their policies and requirements.
- To provide the community with evidence of management of Dent Island and all infrastructure there-on in an environmentally sustainable manner.

The EMP will be refined in its implementation and enhanced periodically to demonstrate continual improvement in the environmental management of Dent Island. All refinements and improvements will be undertaken in consultation with relevant regulatory authorities as required.

1.4 Scope of EMP

This EMP covers all activities conducted on Dent Island and all infrastructure there-on. It describes management and mitigation measures for any potential environmental impacts associated with those activities and infrastructure. The EMP has been prepared to guide the management of the site in a manner that:

- Satisfies the conditions of the environmental authority and relevant permits issued for the site.
- Achieves compliance with relevant legislation and standards.
- Provides a sound basis for identifying and addressing needs and potential environmental issues that may arise from routine operations.

- Assists employees and contractors to understand and fulfil their environmental responsibilities under Marine Parks permits G06/14462.1 and G14/3314.1 and State and Commonwealth legislation and Leases.
- Provides for periodic review and establishes and encourages continual environmental improvement.

In this regard, the EMP details:

- Specific environmental outcomes to be achieved during operation of the site.
- Maintenance and operating practices and procedures as they relate to managing potential environmental issues.
- Contingency plans and emergency procedures to deal with foreseeable risks and hazards.
- Monitoring requirements under the development approval, GBRMPA Lease and Marine Parks permits to ensure compliance as well as any other monitoring works undertaken to assist in meeting environmental obligations.
- Procedure for dealing with environmental complaints.
- Environmental reporting requirements and maintenance of records.
- Staff communication lines and accountabilities.
- Staff training and awareness of environmental issues.
- Review procedures.

In accordance with Marine Parks permits G06/14462.1 and G14/3314.1 and Lease 715741756 Clause 6.2, any works required to be undertaken that are outside the scope of the routine maintenance activities approved under this EMP, must be submitted to GBRMPA Environmental Assessment and Protection (assessments@gbrmpa.gov.au) and GBRMPA Field Management via a Schedule of Works including detailed drawings for approval by the Managing Agency prior to implementation.

2. Dent Island

2.1 Location and Property Details

Dent Island is located within the Great Barrier Reef World Heritage Area approximately 18 km southeast of Shute Harbour and 1 km directly west of Hamilton Island.

The southern section of Dent Island is owned by the GBRMPA on behalf of the Commonwealth and is a Commonwealth Islands Zone under the *Great Barrier Reef Marine Park Zoning Plan 2003*. The southern section of the island is leased from GBRMPA by Hamilton West. In the Commonwealth Islands Zone, all facilities (5 holes of the Golf Course and associated paths, amenity blocks, residences and Dent Island Lightstation buildings (excluding the lighthouse), tourism activities (operation of the Golf Course and guided heritage tours), and a program for the take of unmanaged goats are all permitted under Commonwealth Marine Park permit G14/33314.1.

The northern section of the island is owned by the State of Queensland and leased by Hamilton West. Property boundaries are provided on the Property Details figure in Appendix A.

Dent Island is used primarily to operate an 18 hole Golf Course, with supporting infrastructure and includes a Lightstation that is Commonwealth heritage listed under the *Environment Protection and Biodiversity Conservation Act 1999*.

Preliminary approval has been granted by the Whitsunday Regional Council for development of 38 Villas, 172 two and three bedroom apartments/townhouses and a 109 room hotel within Lot 5 SP245729 on the State of Queensland owned portion of the island. It is currently unknown as to when construction of the residential development may commence.

Dent Island is subject to multiple approvals administered by various authorities. Table 1 has been prepared to:

- Identify and describe each lot;
- Identify the main operations and infrastructure within each lot;
- Identify relevant approvals pertaining to each lot; and
- Identify the administering authority responsible for each approval.

Commonwealth and State permits detailed in Table 1 set out specific elements to be included in the EMP.

Table 1 Hamilton West Tenures and Operations

Lot on Plan	Permit	Title/lease reference	Administering Authority	Operations and Infrastructure Description
State Land				
5 SP245729	Decision Notice Approval 20050104 Coordinator General's Report - Appendix 1 Conditions	40065034	DNRM/EHP	Golf Course (13 holes), Maintenance Depot, Upper Dam and Lower Dam.
6 SP220416	Marine Parks Permit G06/14462.1	40052931	GBRMPA & QPWS	Barge Ramp.
7 SP220416	Marine Parks Permit G06/14462.1	40059018	GBRMPA & QPWS	Passenger Jetty.
A/AP19528	Marine Parks Permit G06/14462.1	40058717	GBRMPA & QPWS	Services pipeline to connect water supply, raw sewage and treated effluent from Hamilton Island to Dent Island.
B/AP19528	Marine Parks Permit G06/14462.1	40058717	GBRMPA & QPWS	Services pipeline to connect water supply, raw sewage and treated effluent from Hamilton Island to Dent Island.
Commonwealth Land				
2 HR2019	Marine Park Permit G14/33314 and Lease	18791025	GBRMPA (owner)	Dent Island Lightstation (excluding Lighthouse)
4 HR2019	Marine Park Permit G14/33314.1 and Lease	18791031	GBRMPA (owner)	Golf Course (5 holes) and toilet.

2.2 Infrastructure

2.2.1 Barge Ramp

The Barge Ramp consists of a concrete ramp, two mooring pylons and a paved landing area. The facility is located within the Habitat Protection Zone (HP-19-5165) and adjacent intertidal area. The Barge Ramp facility is permitted under a joint Marine Parks permit G06/14462.1 and is used primarily for loading and unloading stores, waste and equipment to support operation of the Golf Course.

2.2.2 Passenger Jetty

The Passenger Jetty is used to ferry passengers between Dent Island and Hamilton Island. It is located within the Habitat Protection Zone (HP-19-5165) and adjacent intertidal area. The jetty facility is permitted under a joint Marine Parks permit G06/14462.1 and consists of a floating pontoon, steel gangway and paved receiving area. The Passenger Jetty is primarily used to load and unload patrons and staff of the Golf Course.

2.2.3 Golf Course

Dent Island has been developed primarily for the operation of an 18 hole Golf Course. The Golf Course consists of the 18 hole course, clubhouse, buggy paths and non-reticulated two toilet blocks. The Golf Course is located across both State (13 holes) and Commonwealth leased land (5 holes).

2.2.4 Maintenance Depot

The Maintenance Depot is located on State leased land and consists of a large semi-enclosed workshop, offices, one 8,000 split Convault aboveground storage tank (AST) containing one 3,000 L unleaded petrol tank and one 5,000 L diesel tank, pump station, and two 500 kL water tanks.

The workshop is used predominantly for vehicle maintenance and chemical storage. The offices accommodate the greenskeeping and workshop staff.

Irrigation water is drawn from two freshwater dams (on State leased land) on the island through the pump house and stored in one of the two water tanks prior to distribution through the Golf Course irrigation network.

Refuelling of vehicles is conducted directly adjacent to the AST on the paved area to the south of the workshop building. Both fuel tanks are fully contained within a concrete encasement to prevent possible leaks impacting soil and groundwater.

2.2.5 Freshwater Dams and Pump Station

There are two freshwater dams on Dent Island defined as the upper and lower dams located on State leased land. Water is sourced from both dams to irrigate the golf course as required. Two pump stations are located adjacent to each dam to transfer water to the holding tanks in the Maintenance Depot area.

2.2.6 Dent Island Lightstation

Located within the Commonwealth Islands Zone, the GBRMPA owned Dent Island Lightstation structures include two houses, engine room, winch house, derrick crane, landing platform, boat platform and access ladder, workshop, store and radio room, septic pits and absorption trench, concrete water tank, tramline, trolley and cables, metal water tank and stand, paths, stairs and bridges, graves, Lightstation grounds, access road, spa bath and roof, and fowl house. The

Lightstation is Commonwealth heritage listed and is maintained in accordance with the Dent Island Lightstation Heritage Management Plan (refer Appendix D) and Lease General Maintenance Plan by caretakers who occupy the two houses. The facilities within the Commonwealth Islands Zone are permitted under Commonwealth Marine Park permit G14/33314.1.

It is noted that the lighthouse is owned by the Australian Maritime Safety Authority (AMSA) and is located on a separate lot and plan to the remainder of the Lightstation and the land is leased (1/HR2019) from GBRMPA by AMSA.

2.2.7 Services Pipeline

The Services Pipeline is a submerged conduit that runs between Hamilton and Dent Island and houses a potable water line, fibre optic, sewage line and spare line. The spare line may be used to transfer treated effluent from Hamilton Island to Dent Island for irrigation purposes if required.

An underwater service pipeline assembly, also permitted under joint Marine Parks permit G06/14462.1, is installed together with an electrical power cable and inner fibre optic telecommunications cable between Dent Island (Habitat Protection Zone (HP-19-5165) and adjacent intertidal area) and Hamilton Island to transport potable water, raw water, treated effluent, raw sewage, and a spare pipe.

3. Legal and Other Requirements

3.1 General

Table 2 below provides a summary of environmental issues and legislation and guidelines relevant to Dent Island.

Table 2 Summary of Environmental Legislation

Environmental Issue	Legislation/Regulation/Policy/Guideline/Standard
Sediment and Erosion	Commonwealth <i>Great Barrier Reef Marine Park Act 1975</i> <i>Great Barrier Reef Marine Park Regulations 1983</i> <i>Environment Protection and Biodiversity Conservation Act 1999</i>
	State <i>Marine Parks Act 2004</i> <i>Marine Parks Regulation 2006</i> <i>Environmental Protection Act 1994</i> <i>Environmental Protection (Water) Policy 2009</i>
	Guidelines Best Practice Erosion and Sediment Control, International Erosion and Control Association (IECA), 2008
Site Contamination	Commonwealth <i>Great Barrier Reef Marine Park Act 1975</i> <i>Great Barrier Reef Marine Park Regulations 1983</i> <i>Environment Protection and Biodiversity Conservation Act 1999</i> <i>Work Health and Safety Act 2011</i>
	State <i>Environmental Protection Act 1994</i> <i>Environmental Protection (Water) Policy 2009</i> <i>Work Health and Safety Act 2011</i>
	Guidelines National Environment Protection Council, National Environment Protection (Assessment of Site Contamination) Amendment Measure 1999 [as amended by National Environment Protection (Assessment of Site Contamination) Amendment Measure 2013 (No. 1)] (NEPM 2013), Dent Island Asbestos Management Plan and Register.
Water Quality	Commonwealth <i>Great Barrier Reef Marine Park Act 1975</i> <i>Great Barrier Reef Marine Park Regulations 1983</i> <i>Environment Protection and Biodiversity Conservation Act 1999</i>

Environmental Issue	Legislation/Regulation/Policy/Guideline/Standard
	<p>State</p> <p><i>Marine Parks Act 2004</i></p> <p><i>Marine Parks Regulation 2006</i></p> <p><i>Environmental Protection Act 1994</i></p> <p><i>Environmental Protection Regulation 2008</i></p> <p><i>Environmental Protection (Water) Policy 2009</i></p> <p>Guidelines</p> <p>Queensland Water Quality Guidelines 2009, Department of Environment and Heritage Protection 2013</p> <p>Water Quality Guidelines for the Great Barrier Reef Marine Park, Great Barrier Reef Marine Park Authority, 2010</p> <p>Australian and New Zealand Guidelines for Fresh and Marine Water Quality, ANZECC / ARMCANZ, 2000</p>
Coastal Environment	<p>Commonwealth</p> <p><i>Great Barrier Reef Marine Park Act 1975</i></p> <p><i>Great Barrier Reef Marine Park Regulations 1983</i></p> <p><i>Environment Protection and Biodiversity Conservation Act 1999</i></p> <p>State</p> <p><i>Marine Parks Act 2004</i></p> <p><i>Marine Parks Regulation 2006</i></p> <p><i>Coastal Protection and Management Act 1995</i></p> <p><i>Coastal Protection and Management Regulation 2003</i></p>
Fauna	<p>Commonwealth</p> <p><i>Environment Protection and Biodiversity Conservation Act 1999</i></p> <p><i>Great Barrier Reef Marine Park Act 1975</i></p> <p><i>Great Barrier Reef Marine Park Regulations 1983</i></p> <p><i>Marine Parks Act 2004</i></p> <p><i>Marine Parks Regulation 2006</i></p> <p><i>Biosecurity Act 2015</i></p> <p>State</p> <p><i>Nature Conservation Act 1992</i></p> <p><i>Nature Conservation (Wildlife) Regulation 2006</i></p> <p><i>Land Protection (Pest and Stock Route Management) Act 2002</i></p> <p><i>Fisheries Act 1994</i></p> <p><i>Sustainable Planning Act 2009</i></p> <p><i>Biosecurity Act 2014</i></p>

Environmental Issue	Legislation/Regulation/Policy/Guideline/Standard
Flora	<p>Commonwealth</p> <p><i>Environment Protection and Biodiversity Conservation Act 1999</i></p> <p><i>Great Barrier Reef Marine Park Act 1975</i></p> <p><i>Great Barrier Reef Marine Park Regulations 1983</i></p> <p><i>Marine Parks Act 2004</i></p> <p><i>Marine Parks Regulation 2006</i></p> <p><i>Biosecurity Act 2015</i></p> <p>State</p> <p><i>Vegetation Management Act 1999</i></p> <p><i>Nature Conservation Act 1992</i></p> <p><i>Nature Conservation (Wildlife) Regulation 2006</i></p> <p><i>Fisheries Act 1994</i></p> <p><i>Sustainable Planning Act 2009</i></p> <p><i>Biosecurity Act 2014</i></p>
Dangerous Goods / Hazardous Chemicals	<p>State</p> <p><i>Environmental Protection Act 1994</i></p> <p><i>Environmental Protection Regulation 2008</i></p> <p>Standard</p> <p>AS 1940-2004, The Storage and Handling of Flammable and Combustible Liquids</p>
Waste	<p>State</p> <p><i>Waste Reduction and Recycling Act 2011</i></p> <p><i>Waste Reduction and Recycling Regulation 2011</i></p> <p><i>Environmental Protection Act 1994</i></p> <p><i>Environmental Protection Regulation 2008</i></p>
Heritage	<p>Commonwealth</p> <p><i>Environment Protection and Biodiversity Conservation Act 1999</i></p> <p><i>Great Barrier Reef Marine Park Act 1975</i></p> <p><i>Great Barrier Reef Marine Park Regulations 1983</i></p> <p>Dent Island Lightstation Heritage Management Plan</p> <p>State</p> <p><i>Queensland Heritage Act 1992</i></p> <p><i>Queensland Heritage Regulation 2003</i></p> <p><i>Aboriginal Cultural Heritage Act 2003</i></p>
Noise	<p>Commonwealth</p> <p><i>Environment Protection and Biodiversity Conservation Act 1999</i></p> <p><i>Great Barrier Reef Marine Park Act 1975</i></p>

Environmental Issue	Legislation/Regulation/Policy/Guideline/Standard
	<p>State</p> <p><i>Environmental Protection Act 1994</i></p> <p><i>Environmental Protection (Noise) Policy 2008</i></p> <p><i>Environmental Protection Regulation 2008</i></p>
Dust and Air Contaminants	<p>Commonwealth</p> <p><i>Environment Protection and Biodiversity Conservation Act 1999</i></p> <p><i>Great Barrier Reef Marine Park Act 1975</i></p> <p>State</p> <p><i>Environmental Protection Act 1994</i></p> <p><i>Environmental Protection (Air) Policy 2008</i></p> <p><i>Environmental Protection Regulation 2008</i></p>

3.2 General Environmental Duty

3.2.1 Environmental Protection Act 1994

Hamilton West employees and contractors have a general environmental duty (i.e. duty of care to the environment). To prevent environmental harm, the General Environmental Duty (GED) established under Section 319 of the *Environmental Protection Act 1994* must be observed and activities must be undertaken with due diligence.

The GED states:

“A person must not carry out any activity that causes, or is likely to cause environmental harm unless the person takes all reasonable and practical measures to prevent or minimise the harm.”

To act with due diligence, the parties must show that the environmental risk associated with the activity has been assessed and minimised where possible.

3.2.2 GBRMPA Marine Park Permit G14/33314.1

Condition 3

The Permittee must inform all participants in the activities permitted herein (including, but not limited to, the employees, officers, sub-contractors, and agents of the Permittee) of any relevant restrictions or requirements applying under any zoning plans, plans of management, Marine Park regulations, this permit, the Deed, the Environmental Management Plan, the lease and the Dent Island Lightstation Heritage Management Plan as approved by the Managing Agency from time to time.

Condition 14

The Permittee must take all reasonable steps to ensure that operations and works carried out under this permit are carried out in a manner to prevent and minimise harm to the environment.

3.2.3 GBRMPA Marine Parks Permit G06/14462.1

Condition 3

The Permittee must inform all participants in the activities permitted herein (including, but not limited to, the employees, officers, sub-contractors, and agents of the Permittee) of any relevant restrictions or requirements applying under the *Great Barrier Reef Marine Park Act 1975* (Cth), the *Great Barrier Reef Marine Park Zoning Plan 2004* (Cth), the *Whitsundays Plan of Management* (as amended), the *Great Barrier Reef Marine Park Regulations 1983* (Cth), this Permit, the Deed, and the Environmental Management Plan, and ensure that all activities are undertaken in accordance with these restrictions or requirements.

3.3 General Biosecurity Obligation

Under the *Queensland Biosecurity Act 2014*, individuals and organisations have a general biosecurity obligation (GBO) (refer Clause 23) which means Hamilton West must take all reasonable steps to ensure a pest, disease or contaminant is not spread.

The GBO means that Hamilton West will:

- Take all reasonable and practical steps to prevent or minimise each biosecurity risk;
- Minimise the likelihood of the risk causing a biosecurity event and limit the consequences of such an event; and
- Prevent or minimise the adverse effects the risk could have and refrain from doing anything that might exacerbate the adverse effects.

Hamilton West will stay informed about the weeds and pest animals that may be on Dent Island and manage them appropriately.

GBRMPA Lease Clause 10.1j states that the Lessee shall control all declared pests, both plants and animals, on the Demised Premises, in accordance with Official Requirements.

Sub-EMP 6.13 Biosecurity Management Plan outlines Hamilton West general obligations, control measures, monitoring, reporting and corrective actions in relation to biosecurity.

4. Environmental Management Framework

4.1 Roles and Responsibilities

Roles and Responsibilities defined in Appendix C identify the parties responsible for the environmental management of Dent Island.

4.1.1 General

All parties involved in the operation of Dent Island are required to undertake their work and tasks in accordance with relevant Acts, Policies and Regulations. In particular, the parties are cognisant of their obligations under:

- The *Environmental Protection Act 1994* which states that, individuals and organisations must take "... all reasonable and practicable measures to prevent or minimise environmental harm".
- The *Environment Protection and Biodiversity Conversation Act 1999* Section 391 with regard to the "Precautionary Principle" and 341S with respect to heritage protection.
- The *Great Barrier Reef Marine Park Act 1975* providing the long term protection of the Great Barrier Reef.
- The *Marine Parks Act 2004* (Qld) providing protection for Queensland tidal lands and tidal waters.

Inductions shall be given to all staff so that they are made aware of relevant environmental matters and the correct compliance procedures. A copy of the EMP will be kept on-site by the nominated Dent Island Manager/s and be easily obtainable by anyone on site.

4.1.2 Chief Executive Officer (CEO)

The roles and general responsibilities of the CEO will be to:

- Closely consult and maintain continuous contact with the nominated Dent Island Manager/s who will represent the CEO in reviewing the performance of staff and contractors against the EMP, issuing instructions for remedial actions, and implementation of the EMP generally.

4.1.3 Nominated Dent Island Manager/s (DIM)

The roles and general responsibilities of the nominated Dent Island Manager/s (DIM/s) will be to:

- Ensure induction of all staff is undertaken outlining the provisions of the EMP and other environmental protection measures and responsibilities.
- Issue instructions (for correction of non-compliance) to the staff and contractors as soon as practicable after inspections.
- Completion of required checklists, and ensure the instructions have been complied with within specified timeframes.
- Upon request, arrange to conduct onsite inspections with relevant regulatory authorities in regard to EMP implementation.
- Carry out annual audits of the EMP implementation.

- Report on EMP implementation and performance to CEO and relevant regulatory authorities as required under permit and lease.
- Seek approval from the CEO and relevant regulatory authorities of any changes to the EMP and its implementation, reporting or monitoring, and any breach of licence, permit or lease conditions and proposed corrective action prior to the changes taking effect.
- Notify the CEO regarding EMP performance and monitoring, environmental incidents, non-compliance and actions taken, and seek advice and attendance at onsite inspections when required.

The nominated DIM/s may at their discretion appoint a Site Representative or agent to act on their behalf in implementing and monitoring the EMP. The nominated Dent Island Manager's will advise the CEO of the appointed person prior to this person commencing work on Dent Island.

4.1.4 Staff and Contractors

The roles and general responsibilities of the staff and contractor/s will be to:

- Generally conform to relevant regulatory authority guidelines, requirements and environmental best management practices.
- Immediately notify the nominated DIM/s of any non-compliance or environmental incident that has the potential to cause environmental harm or environmental nuisance (e.g. erosion, spills, etc.) and provide written details within 24 hours of occurrence.
- Under the direction of the DIM/s, promptly investigate any complaints received and implement control measures.
- Maintain an onsite Complaints Register.
- Correct any non-compliance as soon as possible.
- Notify guests of relevant environmental requirements under the EMP, as well as its aims, environmental outcomes and the complaint procedure.

4.2 Training and Awareness

Hamilton West will ensure that all staff and contractors receive instruction in relation to the implementation of this EMP. Hamilton West must inform all participants (including, but not limited to, the employees, staff, officers, sub-contractors, and agents) of any relevant restrictions or requirements applying under any zoning plans, Marine Parks regulations, permit, Deed, EMP, lease, and Dent Island Lightstation Heritage Management Plan.

Each person is to be made aware of and have an understanding of their obligations and duties as required under the *Environmental Protection Act 1994*, *Environment Protection and Biodiversity Conservation Act 1999*, *Great Barrier Reef Marine Park Act 1975*, relevant Marine Parks permits, lease requirements, licence conditions, and more specifically as detailed in the Sub-EMPs relevant to their role.

All staff will undertake a site induction and become familiarised with the contents of this EMP. This will include environmental emergency response, site environmental controls and targeted role-specific environmental training. Hamilton West will keep all records of training including:

- Date.
- Attendee details (name and role).
- Trainer details (name and role).
- Contents/purpose of training.

All new employees, contractors or sub-contractors are to undergo induction training conducted by senior staff which includes key environmental management actions (such as hazardous material spill response, waste management and pest fauna control). Induction training is to be in accordance with relevant legislative requirements.

4.3 Record keeping

All EMP records listed below shall be retained as a hard copy and/or electronically including:

- Induction and any specific environmental training records.
- EMP audit records.
- Monitoring records and external environmental reports.
- Maintenance logs in accordance with the Lease General Maintenance Plan and the Lease Asbestos Management Register and Plan.
- Approved compliance certificates for marine facilities as required by Marine Parks Permit G06/14462.1.
- Environmental incidents, complaints and non-compliance, and corrective action reports.

All records will be kept for a minimum of 7 years.

4.4 Performance and Review

4.4.1 Document Review

The EMP should be internally reviewed annually or if operational processes change. The following will be considered in the EMP review:

- All environmental aspects and impacts are being managed effectively.
- Any changes in regulatory requirements are incorporated in the EMP.
- All records are being maintained.
- Appropriate training is being provided.
- Document control is consistent.
- Communication of the EMP is effective.

General environmental reviews of site operations should also be undertaken annually to:

- Identify the potential for off-site environmental harm arising from operations.
- Risks of pests and weeds being introduced/spread.
- Ascertain whether contaminants are being inadvertently transported from site.
- Identify risks to public health and the environment.
- Document any environmental impacts.
- Report on the effectiveness of current controls and monitoring.
- Recommend further investigations.

4.4.2 Audits

Environmental audits are to be undertaken to ensure compliance with permit, lease and licence conditions, this EMP and to review areas that may benefit from improvement. Annual internal and five-yearly independent audits should be undertaken as described below. Internal audits should be undertaken with inputs from the senior Management Team.

The following auditing conditions are listed in Marine Park Permit G14/33314.1:

- 1) On or before 31 July each year for the duration of the permit, the Permittee must provide the Managing Agency (GBRMPA) with an annual report ("the Audit Report") prepared by the Permittee. The Audit Report must report against each of the following:
 - (i) implementation of the Environmental Management Plan (conditions 22 to 27), including compliance with the Irrigation Conditions (conditions 29 to 33) and compliance with the Take of Animals That Pose a Threat Condition (condition 28); and
 - (ii) compliance with Environmental Harm Conditions (conditions 14 to 16).
- 2) Every five (5) years on or before 31 July for the duration of the permit, the Permittee must provide the Managing Agency with an independent audit report prepared in accordance with ISO 19011 Standards: Guidelines for auditing management systems, or any subsequent review of these guidelines. The independent audit report must be prepared by a suitably qualified person or persons approved by the Managing Agency in writing prior to the commencement of the audit. The Audit Report must report against each of the following:
 - (i) implementation of the Environmental Management Plan (conditions 22 to 27), including compliance with the Irrigation Conditions (conditions 29 to 33) and compliance with the Take of Animals That Pose a Threat Condition (condition 28); and
 - (ii) compliance with Environmental Harm Conditions (conditions 14 to 16).

4.5 Inspections, Monitoring and Measurement

Monitoring requirements are listed within the individual Sub-EMPs. A summary of periodic monitoring requirements is also presented in Appendix H.

The staff and contractors are to undertake daily visual inspections of their work areas and monitor operations to determine any potential environmental harm that may occur from faulty machinery, vehicles, stormwater or other aspects.

4.6 Emergencies, Incidents and Complaints

The following are the minimum records to be kept in the event of an emergency, incident or non-conformance:

- Time, date, location, cause and nature of the incident.
- Contact details for the person(s) witnessing, reporting and/or responsible for the incident.
- Response and investigation undertaken as a result of the incident.
- Name of persons responsible for investigating the incident.
- Corrective action undertaken as a result of the incident investigation and signature of responsible person.

4.6.1 Emergency Response

Emergency response is to be undertaken in accordance with the Sub-EMP 6.10.

4.6.2 Incident Management

Certain operations have the potential to result in environmental incidents, which must be reported, detailing the cause and corrective actions taken. The following outlines the requirements for incident management on site. Incident reporting and management is to be in accordance with quality management procedures.

The CEO or delegate is to report all incidents to the relevant regulatory authority as outlined below within the specified time frames.

GBRMPA

For incidents requiring immediate response, including oil/fuel spills call 1800 431 211.

The following conditions from Marine Park Permit G14/33314.1 apply to all environmental incidents.

Condition 15 - The Permittee must notify the Managing Agency (by any means possible) of incidents or significant events causing or threatening to cause harm to the environment immediately after the Permittee becomes aware of the incident. The notification must include:

- (i) details of the incident, including date, time, location, cause and nature of the incident or risk;
- (ii) contact information for the person(s) witnessing, reporting and/or responsible for the incident;
- (iii) the type, estimated volume and concentration of any pollutants involved; and
- (iv) measures taken to mitigate the impact or risk, and the success of those measures in addressing the incident or risk.

Condition 16 - The Permittee must then provide written details of the notification as specified in condition 15 to the Managing Agency within 48 hours of the time the Permittee became aware of the incident. This written notification must include details specified in condition 15 as well as the following:

- (i) measures taken or proposed to prevent or mitigate against the recurrence of such an incident; and
- (ii) any other relevant matters.

'Incident' means an event involving actual or potential harm to the ecosystem, including but not limited to:

- coral damage; or
- a cyclone; or
- any shipping event that requires notification to a relevant authority under the *Queensland Marine Act 1958* or the *Navigation Act 2012*; or
- any aircraft event that requires notification to the relevant Authority under the *Civil Aviation Act 1988*; or
- any discharge of more than five (5) litres of untreated sewage effluent; or
- any discharge of more than five (5) litres of hazardous chemicals, fuel or biotoxic products.

'Significant event' means an incident which is not trivial, involving actual or potential harm to the ecosystem, including but not limited to:

- a category 4 or 5 cyclone;
- any shipping event that requires notification to a relevant authority under *Queensland Marine Act 1958* or the *Navigation Act 1912*;

- any aircraft event that requires notification to the relevant Authority under the *Civil Aviation Act 1988*; or
- the discharge of untreated sewage effluent.

Department of Environment and Heritage Protection (EHP)

The following conditions identified in the approval conditions prepared for the Coordinator General by the EHP apply to all environmental incidents.

(A5-1) Record, compile and keep all monitoring results required by this document and present this information to the administering authority when requested, in a specified format

(A6-1) Records must be kept for five years

(A7-1) The administering authority must be notified as soon as practicable when the release of contaminants is not in accordance with the conditions of this authority or any event where environmental harm may be caused.

(A8-1) Written advice of any event referred to in (A7-1) must be provided within fourteen (14) days following the event and must include:

- (a) the location of the event;
- (b) the time of the event;
- (c) the time the holder of the environmental authority became aware of the event;
- (d) the suspected cause of the event;
- (e) a description of the resulting effects of the event;
- (f) actions taken to mitigate any environmental harm and or environmental nuisance caused by the event; and
- (g) proposed actions to prevent a recurrence of the event.

4.6.3 Complaints Management

Complaint reporting and management is to be in accordance with quality management procedures, with complaints being recorded in the Complaints Register.

The following outlines the general requirements for complaint or inquiry management on site:

- Performance criteria for complaint management includes:
 - To respond promptly and effectively to guest/community complaints.
- Monitoring and auditing:
 - Business Hours: 9am to 5pm.
 - After Hours: Notify the on-call DIM or supervisor of complaint.
 - Register complaints and corrective actions through the completion of the Complaints Register.
- As per condition G1-1 of the approval conditions prepared for the Coordinator General, all complaints received must be recorded, including investigations undertaken, conclusions formed and action taken. This information must be made available to the administering authority on request.
- Corrective action:

- Prior to undertaking any corrective actions or investigations Hamilton West are to advise the complainant that their complaint has been received and it is being investigated; this is to be recorded in the Complaints Register.
- Investigate nature and extent of problem by site inspection and contacting complainant.
- DIM/s to allocate necessary resources or acquire assistance if needed.
- Implement corrective actions if appropriate otherwise instigate a more detailed investigation and implement monitoring (if required).
- Advise complainant of corrective actions being taken (where applicable).

5. Spill Response

5.1 General site activities relating to use of chemicals

Spillages of chemicals may occur due to refuelling of vehicles, vehicle maintenance, mechanical failure of vehicles, or spillages during loading and unloading of goods and equipment at the Barge Ramp.

The areas where chemical spills are most likely to occur are at the Maintenance Depot and the Barge Ramp.

Lawn mowers, vehicles and earth moving equipment are regularly operated on Dent Island. These vehicles run on either diesel or unleaded fuel. Spills of oil and/or grease are possible during operation of these vehicles.

A split AST with secondary containment is located within the Maintenance Depot for the refuelling of vehicles.

5.2 Reporting of Spills

Environmental incident reporting will be required if spillage occurs on unsealed areas and/or if substances enter stormwater, surface waters or the Marine Parks. Refer to section 4.6.2 for a description on environmental incident reporting.

5.3 Spill response training

In addition to the environmental site induction provided to all personnel on site, spill kit training will be provided to relevant site personnel as part of the site induction process.

Additional training on spill response and notification procedures will be provided to relevant management personnel. The content of this training program will include:

- Spill response and reporting requirements.
- Supervisor training regarding requirements related to dangerous goods.
- Emergency response training.

5.4 Spill Response – spill kits

Any spillage of chemicals, fuels, wastes, contaminants or other materials must be cleaned up as quickly as practicable. All spills of fuel or chemicals will be cleaned up using the spill equipment available on site and no dispersants will be used. Spillage must be contained and must not be cleaned up by hosing, sweeping or otherwise releasing such wastes, contaminants or materials to unsealed surfaces, external stormwater drains, roadside gutters or surface waters.

Appropriate spill kits, personal protective equipment and relevant operator instructions / emergency procedures for the management of wastes and chemicals onsite must be kept and maintained.

Spill response equipment available onsite will meet the type and size requirements for the chemicals and hydrocarbons stored and handled.

At minimum, spill kits will include the following:

- A 240 litre bin.
- Containment booms.
- Spill sorb (or similar absorbent material).

- Personal protective equipment including a face shield, chemically-resistant boots and gloves.
- General tools.
- Decanting receptacle for the relevant liquid / class.
- A suitable respirator.

Spill kits will be made available in accordance with Australian Standards and will be located in the Maintenance Depot and in areas where chemicals may be inadvertently released, such as the Barge Ramp.

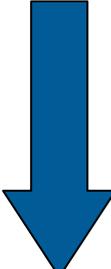
There will be two spill kits inside the Maintenance Depot, one within the workshop and one adjacent to the refuelling area. In addition, drip trays will be used and maintained in the refuelling area.

6. Sub Environmental Management Plans

6.1 Approach

The objective of the Sub-EMPs is to provide sound environmental systems and practices, which will minimise potential environmental impacts which may occur as a result of operations at the site. The approach to reducing potential impacts is shown in Table 3. All work on-site should use this approach where possible to avoid or prevent environmental impacts.

Table 3 Approach to reducing impacts of activities

 <p>Preferred</p> <p>Less preferred</p>	Avoid	<i>Activities that could cause adverse impacts</i>
	Prevent	<i>Measures that impede the occurrence of negative impacts</i>
	Preserve	<i>Preventing future actions that may negatively impact a resource or attribute</i>
	Minimise	<i>Limiting or reducing the degree of an impact</i>
	Rehabilitate	<i>Repair or enhance affected areas</i>
	Restore	<i>Restoring an affected resource to its state prior to impact</i>
	Compensate	<i>Create or enhance resource to compensate for what is lost</i>

6.2 Elements

The EMP comprises a number of discrete elements related to activities across the site. The Sub-EMPs have been selected as to comply with the requirements of the leases, Marine Parks Permits G06/14462.1 and G14/33314.1 attached in Appendix B.

Implementation and control of this EMP will therefore be the responsibility of the CEO, together with the nominated DIM/s as outlined in the Roles and Responsibilities in Appendix C.

This EMP contains the following Sub-EMPs:

- 6.3 Erosion and Sediment Control
- 6.4 Run Off Water Quality
- 6.5 Flora Management
- 6.6 Fauna Management
- 6.7 Marine Landing Facilities (Barge Ramp and Passenger Jetty)
- 6.8 Service Pipeline
- 6.9 Irrigation Management
- 6.10 Emergency Response and Risk Management
- 6.11 Commonwealth Terrestrial Facilities and Cultural Heritage
- 6.12 Visitor Management
- 6.13 Biosecurity
- 6.14 Waste

6.2.1 Structure of Sub-EMPs

The structure of the Sub-EMPs is summarised in Table 4.

Table 4 Structure of Sub-EMPs

Structure	Description
Performance Objective	The guiding objective that applies to the potential risk, i.e. what is expected to be achieved through effective management of this environmental element/aspect.
Performance Indicator	The criteria used to measure that the performance objective has been achieved.
Control Measures	The management and mitigations measures required to be implemented to ensure potential impacts are minimised or avoided.
Monitoring	The process of measuring actual performance or how well the objective has been achieved.
Reporting	General reporting including but not limited to; monitoring results, compliance audits, management reviews and record keeping. Also may include reporting of any findings of controlled substances, incidents of spills and impacts for example and the corrective actions that were taken to mitigate any potential impact to the relevant authority or manager (where applicable).
Corrective Action	A recommended action to be implemented and responsibility should there be a non-compliance or incident. More specific actions should be developed for each incident.
Legislative and other requirements	Statutory requirements which are relevant to the environmental element/aspect. Activities impacting individual environmental elements/aspects must be carried out in accordance with these statutory requirements.

6.3 Erosion and Sediment Control

Performance Objectives	<ul style="list-style-type: none"> To prevent the displacement of sediment through the management of soil and drainage within the site. Compliance with environmental authority conditions, leases and permits (Appendix B).
Performance Indicators	<ul style="list-style-type: none"> No visible erosion or sediment build-up as a result of site activities and stormwater run-off from the site. Installation and maintenance of erosion and sediment control controls and/or devices around drainage channels, excavations and stockpile areas.
Control Measures	
Responsibility	
Erosion and sediment control (ESC) devices will be installed and maintained around stockpile areas, roadside gutters and along stormwater drainage infrastructure as required.	DIM
Excavation work for maintenance of existing infrastructure where no clearing of native vegetation is required must ensure that erosion and sediment control devices are installed to prevent sediment runoff from the area. All excavations are to be reinstated and revegetated with appropriate Regional Ecosystem vegetation.	DIM
Close external areas to pedestrian and golf buggy traffic following heavy rain or fire damage until ground cover regenerates.	DIM
Manage / limit pedestrian traffic in areas susceptible to ground cover damage. Walking tracks incorporate stabilised surface over sections susceptible to erosion.	DIM
Areas around culverts and stormwater outfalls should be maintained so that stormwater flows do not cause excessive erosion and sediment runoff.	DIM
Monitoring	<ul style="list-style-type: none"> Visual monitoring of ESC devices will be undertaken monthly or as directed by the DIM. Particular attention will be given to installed ESC devices prior to the wet season and following rain events. Annual inspections of stormwater infrastructure.
Reporting	<ul style="list-style-type: none"> Report any environmental incidents or complaints to DIM.
Corrective Action	<ul style="list-style-type: none"> DIM will review erosion and sediment control measures and amend as appropriate to meet performance requirements. Rectification works will be undertaken as soon as practicable once a failure or potential failure has been identified. Any failure, or potential failure, of sediment or erosion control mechanisms is to be reported to the DIM. Seek and implement advice from the DIM in the event of an emergency. As identified in weekly checklists and internal/external audits.

Legislation and Guidelines**Commonwealth**

- *Environment Protection and Biodiversity Conservation Act 1999*
- *Great Barrier Reef Marine Park Act 1975*
- *Great Barrier Reef Marine Park Regulations 1983*

State

- *Environmental Protection Act 1994*
- *Environmental Protection (Water) Policy 2009*

Guidelines

- Best Practice Erosion and Sediment Control, International Erosion and Control Association (IECA), 2008
-

6.4 Run Off Water Quality

Performance Objectives	<ul style="list-style-type: none"> To limit and prevent the release of contaminants that have the potential to impact water quality in the dams and water courses on Dent Island and the Great Barrier Reef Marine Park. Compliance with environmental authority conditions, leases and permits (Appendix B).
Performance Indicators	<ul style="list-style-type: none"> Other than permitted by the environmental authority and relevant permits, contaminants must not be released from the site to any waters or the bed and banks of any waters. Contaminants must not be released to groundwater. Contaminants must not be released to stormwater and surface water. No slick, discoloration of ambient waters or visible evidence of oil or grease, visible floating oil, grease, scum, litter or other objectionable matter. Correct storage of chemicals. No complaints are received from regulatory authorities or the community in relation to decreased water quality attributable to the operation to the site.
Control Measures	
	Responsibility
Implement the Irrigation Management Sub-EMP to ensure water used for irrigation of the golf course does not cause elevated nutrient levels of watercourses, groundwater and marine waters.	DIM
Wastewater and washdown water is to be collected in the Maintenance Depot's stormwater system and treated through the oil/water separator prior to discharge to the pump station.	DIM
Use of low solubility pesticides and nitrogen sources and phosphorous to prevent contamination of stormwater runoff.	DIM
Plant and equipment will be regularly serviced in accordance with manufacturer's specifications to prevent spills of oils, lubricants and fuel.	DIM
All chemicals are to be stored within a bunded and covered area. No chemical leakage or discharge is permitted to stormwater.	DIM
All general and contaminated wastes are to be segregated, stored and disposed in accordance with local council requirements to ensure no wastes enter stormwater.	DIM
Any spillage of wastes, contaminants or other materials shall be cleaned up as quickly as practicable by using approved methods and materials to prevent contaminants or materials entering stormwater systems.	DIM
A spill kit will be located in appropriate locations within the Maintenance Depot and adjacent to the refuelling area. A spill kit shall also be maintained either at the Barge Ramp or on all operating barges.	DIM
Spill kits to be maintained with full equipment list, personal protective equipment and instructions (refer section 5.4).	DIM
Contact details for the relevant agencies for the event of an emergency are provided in Emergency Response and Risk Management Sub-EMP.	DIM

Washing, degreasing, servicing or other maintenance of vehicles, plant, or other equipment must not occur in any area where resulting contaminants may be released to any external stormwater system, land or waters.	DIM
Wastewater from cleaning of equipment must not be discharged directly or indirectly to any waterway or stormwater systems without treatment.	DIM
Storage and handling of fuels and chemicals will be in accordance with AS1940-2004 or subsequent revisions of this Standard.	DIM
Relevant staff will be trained in spill response and clean-up methods.	DIM
Spill clean-up material and used fuel and/or chemical spills and contaminated soil will be stored and disposed of in accordance with local council regulations. All hazardous waste will be retained in secure containers and removed to an appropriate location for disposal to a licensed facility.	DIM
Safety data sheets (SDS) will be provided and accessible for all dangerous goods stored onsite.	DIM
Regular inspections of the Clearmake Oil/Water Separator will be carried out, and maintenance undertaken as required.	DIM
Monitoring	<ul style="list-style-type: none"> • Annual water quality monitoring at the spillway of the lower dam during discharge for physical water quality parameters (Electrical Conductivity, Turbidity, pH, Dissolved Oxygen and Redox), Total Recoverable Hydrocarbons (TRH), Oil and Grease, Total Phosphorus, Total Nitrogen, OC/OP pesticides, and 8 metals. • Annual sampling of the Oil/Water Separator for Total Suspended Solids (TSS), Total Recoverable Hydrocarbons (TRH) and Oil and Grease. • Water samples will be sent to a NATA certified laboratory for analysis. In-situ testing is excluded from this requirement. • Quarterly inspections of the Maintenance Depot and Barge Ramp for evidence of hydrocarbon spillages and to ensure that spill kits are fully stocked and stored correctly. • Litter in rubbish bins will be monitored to determine what maintenance frequency is required.
Reporting	<ul style="list-style-type: none"> • Any water quality incidences of non-compliance are reported to the DIM. Water quality sampling and reporting shall be carried out by a suitably qualified person. • Water supply and consumption are reported to the nominated DIM. • Excessive contaminant or litter accumulation in sediment traps is reported to the nominated DIM.
Corrective Action	<ul style="list-style-type: none"> • In the event of a spill, spill response will be undertaken in accordance with section 5. • Personnel will identify the source of contamination / impact and repair any damage to, or modify the controls or modify procedures that may be inadequate.

	<ul style="list-style-type: none"> • All leaking fuel and chemical containers will be removed from site safely and disposed of appropriately. • Corrective action will be implemented to meet required outcomes of regulatory agencies. • Where an incident of non-compliance occurs, an investigation will take place and corrective action implemented. • Where water consumption monitoring indicates there has been an increase in water consumption an investigation will take place as to the cause and corrective action implemented.
Legislation and Guidelines	<p>Commonwealth</p> <ul style="list-style-type: none"> • <i>Great Barrier Reef Marine Park Act 1975</i> • <i>Great Barrier Reef Marine Park Regulations 1983</i> • <i>Environment Protection and Biodiversity Conservation Act 1999</i> <p>State</p> <ul style="list-style-type: none"> • <i>Environmental Protection Act 1994</i> • <i>Environmental Protection Regulation 2008</i> • <i>Environmental Protection (Water) Policy 2009</i> • <i>Marine Parks Act 2004</i> • <i>Marine Parks Regulation 2006</i> <p>Guidelines</p> <ul style="list-style-type: none"> • Queensland Water Quality Guidelines 2009, Department of Environment and Heritage Protection 2013 • Water Quality Guidelines for the Great Barrier Reef Marine Park, Great Barrier Reef Marine Park Authority, 2010 • Australian and New Zealand Guidelines for Fresh and Marine Water Quality, ANZECC / ARMCANZ, 2000

6.5 Flora Management

Performance Objectives	<ul style="list-style-type: none"> • Compliance with environmental authority conditions, leases and permits (Appendix B). • Minimise known and potential flora impacts. • Minimise impact on Endangered and Of Concern Regional Ecosystems. • Minimise spread of weeds onto and within subject site. • Revegetation of disturbed surfaces outside the golf course footprint with vegetation consistent with the Regional Ecosystem. • Control and eradicate exotic species, where feasible within the vicinity of the operations, as listed in Appendix F. Weed control techniques are listed in Appendix G. • Control all declared pests, both plants and animals where feasible • Regional Ecosystems may be maintained through ecological burning.
Performance Indicators	<ul style="list-style-type: none"> • No introduction of pests and weeds to the environment from the operation of the site. • No pedestrian impacts. • Natural vegetation structure surrounding each developed area remains intact. • Species that require removal are successfully replanted with native plant species during revegetation. • Disturbed areas outside the golf course footprint successfully planted with appropriate Regional Ecosystem vegetation.
Control Measures	
A permit to clear on State land will be obtained, as required, under the provisions of the <i>Land Act 1994</i> .	DIM
Maintain and do not extend garden beds within the heritage listed area containing exotic species.	DIM
Protection and active management, for conservation purposes, will be conducted for areas of <i>Lophostemon</i> forest and Grasslands on Dent Island. Edges of forested areas will not be slashed.	DIM
In order to minimise the spread of weeds onto and within subject site: <ul style="list-style-type: none"> • Implement the Biosecurity Sub-EMP to ensure pest species are not introduced to the island or are successfully eradicated. • Weeds to be managed in accordance with the General Biosecurity Obligation. 	DIM

<ul style="list-style-type: none"> The use of chemicals to control weeds will not impact existing vegetation. 	DIM
<p>Disturbed areas will be revegetated with appropriate Regional Ecosystem vegetation and, where necessary within the golf course footprint, non-fertile season grasses.</p>	DIM
<p>All woody vegetation cleared from the site will be chipped for use (where possible) only within the current footprint in landscaping and erosion control.</p>	DIM
<p>In order to retain health of vegetation the following measures are to be implemented:</p> <ul style="list-style-type: none"> Minimise herbicide/pesticide/fertiliser use on fairways. Minimise spray drift from herbicide/pesticide use on fairways. Minimise run-off potential of herbicide/pesticide/fertiliser from fairways. Minimise herbicide/pesticide use in natural areas and heritage area, instead use mechanical removal where possible. Ecological burns appropriate to maintain Regional Ecosystems on the island will be established after an initial trial burn is undertaken (the timing of which will be advised by QPWS in consultation with Hamilton West Senior Management). This will establish the framework for future ecological burns. A document to be known as the Fire Management Framework and Plan for Ecological Burning on Dent Island will be developed. During planning of future ecological burns, the Regional Ecosystem Fire Management Guidelines and the following documents will be considered: <ul style="list-style-type: none"> Ecological burns conducted in accordance with current version of Planned Burn Guidelines – Central Queensland Coast Bioregion of Queensland, 1. Planned Burn – Guideline 2. Fire Management 3. Bioregion – Queensland, Department of National Parks, Recreation, Sport and Racing, May 2013. ISBN 978-1-7423-0927 Ecological burns conducted in accordance with current version of Planned Burn Guideline - How to Assess if Your Burn is Ready to Go - 1. Planned Burn – Guideline 2. Fire Management, The State of Queensland. Department of National Parks, Recreation, Sport and Racing 2012. ISBN 978-1-7423-0921 	DIM
<p>Tree Management Plan including permits from relevant State and Commonwealth authorities to be issued prior to vegetation removal commencing.</p>	DIM
<p>Monitoring</p>	<ul style="list-style-type: none"> Site inspections in conjunction with QPWS and GBRMPA to ensure degradation to flora has not occurred and weed incursions have been identified along trafficable areas. Monitor the health of native vegetation adjacent to irrigated areas to determine any impact of nutrient run-off and spray drift.

Reporting	<ul style="list-style-type: none"> • Any non-compliance will be reported to the nominated DIM. • Any corrective action taken will be reported to the DIM.
Corrective Action	<ul style="list-style-type: none"> • In the event of any non-compliance, an investigation will take place and where necessary and corrective action implemented.
Legislation and Guidelines	<p>Commonwealth</p> <ul style="list-style-type: none"> • <i>Environment Protection and Biodiversity Conservation Act 1999</i> • <i>Biosecurity Act 2015</i> <p>State</p> <ul style="list-style-type: none"> • <i>Vegetation Management Act 1999</i> • <i>Land Protection (Pest and Stock Route Management) Act 2002</i> • <i>Biosecurity Act 2014</i> • <i>Nature Conservation Act 1992 and associated Regulations.</i> • <i>Fisheries Act 1994</i> <p>Guidelines</p> <ul style="list-style-type: none"> • Queensland Herbarium (2014) Regional Ecosystem Fire Guidelines (September 2014) (Queensland Department of Science, Information Technology, Innovation and the Arts: Brisbane).

6.6 Fauna Management

Performance Objectives	<ul style="list-style-type: none"> • Compliance with environmental authority conditions, leases and permits (Appendix B). • Minimise known and potential impacts on fauna. • Protect potential migratory bird sites. • Introduce compensatory habitat as required. • Implement pest management. • Ensure that feral animal populations do not increase as a result of site activities. • Control all declared pests, both plants and animals where feasible • Limit predation, competitive displacement and habituation of fauna.
Performance Indicators	<ul style="list-style-type: none"> • No incidents involving native wildlife. • No introduction of new pest species to the island. • Minimal native species are removed, dislocated or injured during the operation of the site. • No increase in the number of existing pest species. • No fauna feeding by guests or visitors.
Control Measures	Responsibility
If habitat trees are felled as a requirement for maintenance works a spotter catcher is to be engaged to survey the area prior to the commencement of works and install compensatory habitat as required.	DIM
No domesticated animals are permitted on Dent Island.	DIM
No exotic animals introduced to Dent Island.	DIM
Feral Goat sightings will be recorded. Individuals may be humanely destroyed as required.	DIM
Educate guests and visitors regarding fauna feeding and ensure disposed waste does not provide a feed source.	DIM
Enforce onsite vehicle speed limits to reduce the incidence of vehicle strike to fauna.	DIM
Pest control measures will be implemented to minimise the occurrence of vermin.	DIM
Pests to be managed in accordance with the General Biosecurity Obligation.	DIM
All putrescible waste will be stored in closed containers and disposed of at regular intervals.	DIM
Peripheral lighting will be kept to that necessary for a minimal level of	

safety. Direction lighting with protective guards, to limit spillover, will be utilised where possible.

DIM

All relocations of native species on both Commonwealth and State land, such as snakes, will be conducted in accordance with a Damage Mitigation Permit (DMP).	DIM
All equipment and containers to be transported to the island will be inspected to remove pests in accordance the General Biosecurity Obligation.	DIM
If densities of pest animal species increase, then the DIM is to instigate a trapping and destruction program with advice from QPWS.	DIM

Monitoring	<ul style="list-style-type: none"> The nominated DIM to monitor maintenance activities for any evidence of fauna injury or mortality. The nominated DIM to monitor any increase in pest species numbers.
Reporting	<ul style="list-style-type: none"> Death of native fauna to be reported to EHP & GBRMPA for Commonwealth section of island by the DIM. Any visitor non-compliance with access or feeding restrictions to be reported to the DIM.
Corrective Action	In the event of any non-compliance, an investigation will take place and where necessary, corrective action implemented.
Legislation and Guidelines	<p>Commonwealth</p> <ul style="list-style-type: none"> <i>Biosecurity Act 2015</i> <i>Environment Protection and Biodiversity Conservation Act 1999</i> <i>Great Barrier Reef Marine Park Act 1975</i> <i>Great Barrier Reef Marine Park Regulations 1983</i> <p>State</p> <ul style="list-style-type: none"> <i>Biosecurity Act 2014</i> <i>Nature Conservation Act 1992</i> <i>Nature Conservation (Wildlife) Regulation 2006</i> <i>Land Protection (Pest and Stock Route Management) Act 2002</i> <i>Fisheries Act 1994</i> <i>Marine Parks Act 2004</i> <i>Marine Parks Regulations 2006</i>

6.7 Marine Landing Facilitates (Barge Ramp and Passenger Jetty)

Performance Objectives	<ul style="list-style-type: none"> • To minimise the risk of spillages (of fuel, oils and other substances) and vessel movements that may impact upon the marine environment. • Minimise the risk of damage to the marine environment, including substrate, potentially caused by dislodgment or movement of all or part of the marine landing facility. • Compliance with environmental authority conditions, leases and permits (Appendix B).
Performance Indicators	<ul style="list-style-type: none"> <input type="checkbox"/> No identifiable oil or fuel spills. <input type="checkbox"/> In the event of a fuel or oil spill reef communities are not permanently affected. <input type="checkbox"/> Structural integrity of the facility has been maintained to design specifications. <input type="checkbox"/> No substrate damage as a result of barge landing movements.
Control Measures	Responsibility
Ensure barge and pedestrian vessels are appropriately maintained to minimise fuel leaks and accidental spills.	DIM
Spill kits to be maintained at the Barge Ramp or on incoming barges. Spills will be managed in accordance with Section 5 of this EMP. Any spills are cleaned using a dry method, not washed down. Dispersants are NOT to be used.	DIM
Abide by <i>Great Barrier Reef Marine Park Regulations 1983</i> in relation to distances that must be maintained around cetaceans.	DIM
Develop appropriate Hamilton West vessel movement procedures (e.g. reduce boat speed in designated areas in close proximity to landing facility and reef flat).	DIM
No refuelling of vessels is to occur at the Barge Ramp or Passenger Jetty.	DIM
Monthly maintenance checks of barge and pedestrian vessels.	DIM
Routine maintenance and cleaning of structures to maintain good working order at all times. Maintenance tasks for all facilities will be undertaken in accordance with internal Standard Operating Procedures.	DIM
For sanding, welding, corrosion removal and repainting works, all paint flecks and scale will be encapsulated and contained and disposed of in accordance with council requirements. The walkway will be underslung by a protective matting to catch any debris.	DIM
Only non-toxic antifoul paint (inert epoxy tar coatings or equivalent) will be applied to fixed structures where necessary.	DIM

Annual maintenance inspections of marine landing facilities by an appropriately qualified and competent professional marine assessor as agreed by relevant parties.	DIM
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Loading and unloading of fuels and chemicals to be conducted in a way that minimises the risk of spills to the receiving environment e.g. secondary containment, secure containers, correct storage, bunding etc.	DIM
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Monitoring	<ul style="list-style-type: none"> Annual maintenance inspections of marine landing facilities by an appropriately qualified and competent professional marine assessor as agreed by relevant parties.
Reporting	<ul style="list-style-type: none"> Non-compliance with maintenance schedules of barge and pedestrian vessels to be reported to the nominated DIM. Any incidences of oil or fuel spills to be reported to the DIM. The DIM to notify GBRMPA and EHP of any incidences of oil or fuel spills to the marine park. Report injured marine megafauna to the nominated DIM and the GBRMPA. Report sightings of megafauna in the vicinity of the marine landing facilities to the DIM.
Corrective Action	<ul style="list-style-type: none"> In the event of any non-compliance, an investigation will take place and where necessary, corrective action implemented.
Legislation and Guidelines	<p>Commonwealth</p> <ul style="list-style-type: none"> <i>Environment Protection and Biodiversity Conservation Act 1999</i> <i>Great Barrier Reef Marine Park Act 1975</i> <i>Great Barrier Reef Marine Park Regulations 1983</i> <p>Queensland</p> <ul style="list-style-type: none"> <i>Environmental Protection Act 1994</i> <i>Nature Conservation Act 1992</i> <i>Marine Parks Act 2004</i> <i>Marine Parks Regulations 2006</i>

6.8 Service Pipeline

Performance Objectives	<ul style="list-style-type: none"> To ensure the pipeline is maintained in a sound state of repair in accordance with design specifications/approved drawings. To immediately detect any leakage from the pipeline to Dent Passage. Compliance with environmental authority conditions, leases and permits (Appendix B).
Performance Indicators	No leakages from pipeline.
Control Measures	
	Responsibility
Comply with the requirements of Marine Parks permit G06/14462.1 (Appendix B).	DIM
Pipeline to remain securely banded.	DIM
'No anchorage' warning signs located at both sides of Dent Passage and documented on marine charts.	DIM
Maintain pressure loss/leak detection systems and shut-off valves.	DIM
Weighting blocks to remain secured in position over services.	DIM
Monitoring	<ul style="list-style-type: none"> Automatic monitoring by comparative flow meters located on Dent Island and Hamilton Island. Annual dive inspection of pipeline down to 20 m where visible.
Reporting	<ul style="list-style-type: none"> Prepare written report describing the state of the pipeline for the nominated DIM following each inspection. The nominated DIM shall instigate corrective action where performance is no longer met. Notify the EHP and GBRMPA immediately where potential or actual environmental harm is identified.
Corrective Action	<ul style="list-style-type: none"> Detect known leaks by injecting air into the pipeline to establish location. Undertake repair of pipeline with appropriate repair clamps as required, using appropriately qualified and competent commercial divers.
Legislation and Guidelines	<p>Commonwealth</p> <ul style="list-style-type: none"> <i>Great Barrier Reef Marine Park Act 1975</i> <i>Great Barrier Reef Marine Park Regulations 1983</i> <p>State</p> <ul style="list-style-type: none"> <i>Environmental Protection Act 1994</i> <i>Nature Conservation Act 1992</i> <i>Coastal Protection and Management Act 1995</i> <i>Coastal Protection and Management Regulation 2003</i>

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- *Marine Parks Act 2004*
 - *Marine Park Regulations 2006*
-

6.9 Irrigation Management

Performance Objectives	<ul style="list-style-type: none"> Comply with the requirements set on in the Irrigation Management Plan (GHD, 2015). Compliance with environmental authority conditions, leases and permits (Appendix B).
Performance Indicators	<ul style="list-style-type: none"> Soils and watercourses outside the designated irrigation area exhibit no physical evidence of an increase in the natural level of nutrients or the presence of chemicals. Indigenous and landscaped vegetation and turf grasses are healthy.
Control Measures	Responsibility
Implement the approved Irrigation Management Plan for Hamilton and Dent Islands.	DIM
The irrigation source is dam water and/or treated effluent as permitted under the development approval and Marine Park permit G14/3314.1 applicable to Commonwealth land.	DIM
Irrigation applications and scheduling arrangements will be undertaken upon closure of the Golf Course to the public. The Irrigation system and scheduling will be designed to provide repeat cycles with soak times between, in order to prevent run-off.	DIM
Application of Agro-chemicals will be in accordance with Best Management Practices with application methods and rates in accord with manufactures' directions and will be restricted to avoid nutrient loadings in excess of turf demand.	DIM
Maintenance practices will be developed, such as dethatching, to avoid excessive nutrient build up in the soil.	DIM
Warning signs are to be posted indicating that treated effluent is used for irrigation when being used.	DIM
The irrigation system will be designed to avoid any risk of off-site (upstream, downstream and adjacent land) spray drift.	DIM
Key staff will be adequately trained to recognise the risk inherent in the use of treated effluent and to act with due caution.	DIM
Monitoring	<ul style="list-style-type: none"> Soil sampling will be conducted annually within the irrigation areas (including minimum representation for Commonwealth land) to monitor nutrient levels in the soil ensuring they do not exceed plant uptake rates. Soil sampling will be undertaken at three representative greens for the following parameters: pH (1:5 soil/water extract), Electrical Conductivity (1:5 soil/water extract), Total Nitrogen (N), Total Phosphorus (P), Exchangeable Sodium Percentage (ESP), Organic Carbon and Chloride. And provided to GBRMPA in Audit Report (for Commonwealth side).
Reporting	<ul style="list-style-type: none"> Any incidence of non-compliance will be reported to the DIM.

	<ul style="list-style-type: none"> • Notify EHP and GBRMPA immediately where potential or actual environmental harm is identified.
Corrective Action	<ul style="list-style-type: none"> • Where an incidence of non-compliance occurs, an investigation will take place and corrective action implemented.
Legislation and Guidelines	<p>Commonwealth</p> <ul style="list-style-type: none"> • <i>Great Barrier Reef Marine Park Act 1975</i> • <i>Great Barrier Reef Marine Park Regulations 1983</i> <p>State</p> <ul style="list-style-type: none"> • <i>Environmental Protection Act 1994</i> • <i>Water Supply (Safety and Reliability) Act 2008</i> • <i>Nature Conservation Act 1992</i>

6.10 Emergency Response and Risk Management

Performance Objectives	<ul style="list-style-type: none"> Outline appropriate response procedures for emergency situations during the operation of the site. Ensure the safety of employees, guests and visitors on the Island. Compliance with environmental authority conditions, leases and permits (Appendix B).
Performance Indicators	<ul style="list-style-type: none"> All employees trained in evacuation procedures and emergency response procedures. Key staff trained in first aid. All volunteer fire personnel are trained in the use of Dent Island fire equipment. No injury or danger to employees, guests or visitors during emergency situations. The emergency response procedures are followed in an emergency situation.
Control Measures	Responsibility
The Emergency Action Plan is implemented for Dent Island.	DIM
Employees are trained in emergency response procedures.	DIM
A Cyclone Procedures Manual (reviewed annually) based on the Hamilton Island Tropical Cyclone Procedures Manual is implemented for Dent Island.	DIM
Upon receipt of a warning of an approaching cyclone, no new guest will be allowed travel to Dent Island.	DIM
The DIM, in conjunction with the fire response teams/ volunteer fire service, will implement bushfire procedures for wildfire suppression as part of overall emergency procedures.	DIM
Fire tender/trailer to be located on Dent Island.	DIM
Fires can be less severe when fuel loads have been reduced. Methods for reducing fuel loads include: <ul style="list-style-type: none"> Planned burning. Mechanical methods such as grading, dozing, ploughing or slashing. Using herbicides along control lines. 	DIM
If bushfires are present in the area that is likely to threaten buildings, operations will cease.	DIM
If evacuation is necessary this will occur by returning employees, guests and visitors to Hamilton Island.	DIM
Key staff are trained in first aid.	DIM

If deemed necessary, emergency medical assistance will be called from Hamilton Island.	DIM
Stretchers will be available in the event that the patient needs to travel by stretcher.	DIM
All Golf Course buildings will have clearly detailed emergency access ways.	DIM
Emergency access roads / tracks will be identified for the purposes of evacuation.	DIM
If deemed necessary i.e. in the event of severe fire or medical emergency, a helicopter will be deployed from Hamilton Island to assist.	DIM
Regular inspections of equipment and emergency response drills will be conducted in accordance with Queensland State Government requirements.	DIM
Monitoring	<ul style="list-style-type: none"> • The nominated DIM is responsible for monitoring employee performances in emergency response drills to ensure they are adequately trained in emergency procedures. • Emergency response equipment will be regularly inspected to ensure it is maintained in good working order. • The emergency action plan will be reviewed after each incident in which it is invoked to ensure it is continually updated and improved.
Reporting	<ul style="list-style-type: none"> • All incidents and emergencies will be documented and brought to the attention of the DIM.
Corrective Action	<ul style="list-style-type: none"> • Should an incident or failure to comply occur, the following steps will be taken: <ul style="list-style-type: none"> ○ Investigate why appropriate response procedures were not followed. ○ Review response to emergency and how it could have been improved, then amend the emergency response plan as addressed and reduce the risk of a reoccurrence.

Contacts

Depending on the emergency / incident, the following key government and emergency services may need to be contacted:

- Department of the Environment and Heritage Protection.
 - Department of Agriculture, Forestry and Fisheries.
 - Department of Emergency Services (including; Queensland Fire and Rescue).
 - State Emergency Services (SES) and Queensland Ambulance Service.
 - Queensland Police.
 - Queensland Parks and Wildlife Service.
 - Great Barrier Reef Marine Park Authority.
-

Legislation**Commonwealth**

- *Work Health and Safety Act 2011*

State

- *Work Health and Safety Act 2011*
-

6.11 Commonwealth Terrestrial Facilities and Cultural Heritage

Performance Objectives	<ul style="list-style-type: none"> • To minimise impacts to Aboriginal and European cultural heritage caused by the increase of visitors to the island. • Do not destroy, cause damage, interfere with or remove an Aboriginal or European heritage object or place. • To maintain permitted facilities within Commonwealth Islands Zone in a good state of repair at all times. • Comply with the Lease General Maintenance Plan. • Comply with the Asbestos Management Register and Plan in accordance with all requirements in relation to the handling and transport of asbestos. • Comply with the statutory Dent island Lightstation Heritage Management Plan. • Compliance with environmental authority conditions, leases and permits (Appendix B).
Performance Indicators	<ul style="list-style-type: none"> • Aboriginal and European cultural heritage present on Dent Island is maintained.
Control Measures	Responsibility
<p>A general “duty of care” exists to ensure that activities which disturb the surface of the ground do not cause harm to indigenous cultural heritage. In situations where there is any doubt about the existence of indigenous cultural heritage on the land, it is recommended that an investigation be undertaken in accordance with the <i>Aboriginal Cultural Heritage Act 2003</i>. Such investigation provides legal protection from the severe penalties that can apply for breach of the “duty of care”. Visitor management control measures are therefore applicable in the ongoing management of ground disturbance on Dent Island.</p> <p>The Dent Island Lightstation is Commonwealth Heritage Listed and the statutory Dent Island Lightstation Heritage Management Plan prepared under the <i>Environment Protection and Biodiversity Conservation Act 1999</i> outlines requirements to ensure that Commonwealth heritage is maintained.</p>	DIM
Maintenance tasks for all facilities will be undertaken in accordance with internal Standard Operating Procedures and General Maintenance Plan.	DIM
For sanding and repainting works all paint flecks will be encapsulated and contained and disposed of in accordance with council requirements.	DIM
Any works that are not covered by the approved Lease General Maintenance Plan and Permit are notified to GBRMPA via the submission of a Schedule of Works at least 20 business days prior to commencement. Works are not commenced until written approval is received from the Managing Agency.	DIM

Visitors will be restricted to designated walking pathways and the golf course area.	DIM
The Dent Island Lightstation Heritage Management plan is implemented and any identified heritage sites are protected from intense visitor activity.	DIM
Signs will be erected to clearly identify areas where visitor access is not permitted.	DIM
If any additional significant cultural heritage artefacts are discovered, this will be reported to EHP (State land) or GBRMPA (Commonwealth land).	DIM
Maintenance staff are to be trained on areas of cultural heritage on Dent Island and reporting procedures in the event previously undiscovered cultural heritage items are identified.	DIM
Monitoring	<ul style="list-style-type: none"> • Visitor behaviour will be monitored by staff. • Maintenance logs. • Maintenance of the heritage management plan register (including photographic records) (refer Clause 11.3 of Lease).
Reporting	<ul style="list-style-type: none"> • If any potential items of cultural heritage are identified the DIM will be notified immediately. If applicable the additional significant cultural heritage artefacts will be reported to the GBRMPA and EHP. • Staff shall report any incidences of visitor misbehaviour to the DIM. • A report listing all incidences and actions taken shall be maintained by the DIM.
Corrective Action	<ul style="list-style-type: none"> • In the event of visitor misbehaviour, the offender shall be immediately stopped and an investigation will take place as to how the offender was able to engage in the activity. Management procedures will be revised and new procedures developed. • All non-compliances in relation to cultural heritage will be rectified in an appropriate manner.
Legislation and Guidelines	<p>Commonwealth</p> <ul style="list-style-type: none"> • <i>Environment Protection and Biodiversity Conservation Act 1999</i> • <i>Great Barrier Reef Marine Park Act 1975</i> • <i>Great Barrier Reef Marine Park Regulations 1983</i> • <i>Dent Island Lightstation Heritage Management Plan</i> <p>Queensland</p> <ul style="list-style-type: none"> • <i>Queensland Heritage Act 1992</i> • <i>Queensland Heritage Regulation 2003</i> • <i>Aboriginal Cultural Heritage Act 2003</i>

6.12 Visitor Management

Performance Objectives	<ul style="list-style-type: none"> • To minimise impacts caused by the increase of visitors to the island. • Compliance with environmental authority conditions, leases and permits (Appendix B).
Performance Indicators	<ul style="list-style-type: none"> <input type="checkbox"/> No incidences of unpermitted visitor behaviour. <input type="checkbox"/> No incidences of guest complaint.
Control Measures	Responsibility
Signs and educational material is available to explain the sensitivity of Dent Island with regards to the introduction of weed species and identifying the environmental significance of Dent Island.	DIM
Visitors will be restricted to the golf course area.	DIM
The Dent Island Lightstation and any identified heritage sites in the Commonwealth area are protected from intense visitor activity in accordance with the Dent Island Lightstation Heritage Management Plan.	DIM
Signs are erected to clearly identify areas where visitor access is not permitted.	DIM
Covered bins are provided for general refuse.	DIM
Implementation of the Dent Island Lightstation Heritage Management Plan.	DIM
Prior to any Lightstation residences or buildings being used for visitor accommodation, a Visitor Management Plan will be developed and submitted to GBRMPA for approval.	DIM
Monitoring	<ul style="list-style-type: none"> • Visitor behaviour will be monitored employees.
Reporting	<ul style="list-style-type: none"> • Employees shall report any incidences of visitor misbehaviour to the DIM. • The DIM will maintain a register of all incidences and actions taken.
Corrective Action	<ul style="list-style-type: none"> • In the event of visitor misbehaviour, the offender shall be immediately stopped and an investigation will take place as to how the offender was able to engage in the activity. Management procedures will be revised and new procedures developed.

6.13 Biosecurity

Performance Objectives	<ul style="list-style-type: none"> • Prevention of the entry, establishment or spread of biosecurity matter on Dent Island. • Ensure reasonable and practical measures to prevent or minimise the biosecurity risk are maintained in accordance with our General Biosecurity Obligations. • Minimise the likelihood of causing a biosecurity event, or to limit the consequences of a biosecurity event. • Prevent weeds being introduced into and spreading through the area. • Management of pest species to ensure no impact upon local provenance flora. • Prevent the introduction of plant pest species from visitors and staff. • Compliance with environmental authority conditions, leases and permits (Appendix B).
Performance Indicators	<ul style="list-style-type: none"> • No introduction of new pests, diseases or contaminants. • No increase in the number of pest plant species.
Control Measures	Responsibility
All visitors including employees, contractors and guest to be informed of their General Biosecurity Obligation during the greeting and safety talk prior to transfer to Dent Island or through the induction and training for employees and contractors on Dent Island.	DIM
All skippers to take fair and reasonable steps to visually inspection shoes of those being transferred to Dent Island with shoe scrub and wash facilities available if required.	DIM
All fair and reasonable steps will be taken to visually inspected all products when being loaded for transport to ensure they are free of pest, disease and contaminants.	DIM
All suppliers must adhere to Supplier Agreements that state suppliers must comply with all laws in respect of the supply of the Products including Acts, Regulations, Commonwealth, State and Local Government law and Australian Standards or any other industry regulatory authorities of which include supplier General Biosecurity Obligations.	DIM
The Temporary Vehicle Permit Application which details biosecurity obligation requirements must be completed prior to vehicles gaining entry on to the barge and access to the island.	DIM
All vehicles and machinery (including construction equipment) transported to Dent Island will be visually inspected and washed down if required. All vehicles serviced and returned to Dent Island are washed as part of the servicing process.	DIM
Mowers and greenskeeping machinery to be washed down each time they come off the golf course within the contained wash down bay in which the water is treated and reused.	DIM

An on-going eradication and monitoring program is established to maintain the removal of plant pest species from the Island. Weed eradication techniques are detailed in Appendix G.	DIM
Continued application of the Sub-EMPs relevant to maintaining General Biosecurity Obligation including (but not limited to): <ul style="list-style-type: none"> • Sub-EMP 6.4 Run Off Water Quality. • Sub-EMP 6.5 Flora Management. • Sub-EMP 6.6 Fauna Management. • Sub-EMP 6.14 Waste. 	DIM

Monitoring	<ul style="list-style-type: none"> • Constant visual monitoring during day to day works will be undertaken and actionable items reported to DIM. • Monitor pest plant outbreaks to determine success of pest plant eradication and management program.
Reporting	<ul style="list-style-type: none"> • Report any biosecurity incursions to DIM. • Any increase in the establishment rate of any pest plant species during the operation of the site is reported to the nominated DIM. • Reporting requirements as set out in abovementioned Sub-EMPs.
Corrective Action	<ul style="list-style-type: none"> • In the event that pest plant species are introduced to the island, an investigation will take place and corrective action implemented. • In the event of an incursion, an investigation will take place and corrective action implemented. • As directed by the relevant Sub-EMPs.
Legislation and Guidelines	<p>Commonwealth</p> <ul style="list-style-type: none"> • <i>Biosecurity Act 2015</i> • <i>Great Barrier Reef Marine Park Act 1975</i> • <i>Great Barrier Reef Marine Park Regulations 1983</i> • <i>Environment Protection and Biodiversity Conservation Act 1999</i> <p>State</p> <ul style="list-style-type: none"> • <i>Biosecurity Act 2014</i> • <i>Nature Conservation Act 1992</i> • <i>Land Protection (Pest and Stock Route Management) Act 2002</i>

6.14 Waste

Performance Objectives	<ul style="list-style-type: none"> To limit and prevent the release of wastes such as sewage, general waste, regulated waste, grass clippings. Compliance with environmental authority conditions, leases and permits (Appendix B).
Performance Indicators	<ul style="list-style-type: none"> No visible litter observed in the vicinity of trafficable areas. No complaints are received from regulatory authorities or the community in relation to waste issues.
Control Measures	
Responsibility	
No waste to be brought onto Dent Island.	DIM
All general waste generated on Dent island is to be collected and disposed of to a licensed landfill facility.	DIM
All regulated waste is to be collected and disposed of by a licensed contractor.	DIM
Sewage holding tanks associated with the non-reticulated toilet blocks on Dent Island are emptied periodically based on usage and tank capacity to ensure that release of sewage does not occur. Pump out equipment should be fit for purpose and operated and maintained in accordance with applicable specifications and manuals to minimise risk of spill.	DIM
All waste containers are fully enclosed and secured during transportation.	DIM
All general and regulated wastes are to be segregated, stored and disposed in accordance with local council requirements.	DIM
Recyclable wastes to be segregated from general waste.	DIM
Any spillage of wastes, contaminants or other materials shall be cleaned up as quickly as practicable by using approved methods and materials.	DIM
Grass clippings are not placed in the natural areas of the island.	DIM
Fair and reasonable steps will taken to ensure the premises is kept in a state of cleanliness, of good appearance and to avoid the accumulation of golf balls. All visible golf balls that can be safely collected will be collected and removed on a regular basis. Additionally, after an ecological burn all golf balls that can be safely removed from the area will be collected and removed from the premises.	DIM
Health and safety limitations restrict staff access to within 6 m of the fairway due to terrain difficulties and/or venomous snakes.	
Monitoring	<ul style="list-style-type: none"> Constant visual observations during day to day works will be undertaken and actionable items reported to DIM.
Reporting	<ul style="list-style-type: none"> All waste tracking receipts for regulated wastes to be kept on file.
Corrective Action	<ul style="list-style-type: none"> Where required, corrective actions must be implemented as soon as possible following a complaint and/or environmental incident. Should a problem re-occur several times, a review of current equipment / control procedures must be undertaken.

-
- *Great Barrier Reef Marine Park Act 1975*
 - *Great Barrier Reef Marine Park Regulations 1983*
 - *Environment Protection and Biodiversity Conservation Act 1999*

State

- *Environmental Protection Act 1994*
 - *Environmental Protection Regulation 2008*
 - *Waste Reduction and Recycling Act 2011*
 - *Waste Reduction and Recycling Regulation 2011*
-

6.15 Scope and limitations

This report: has been prepared by GHD for Hamilton West Pty Ltd and may only be used and relied on by Hamilton West Pty Ltd for the purpose agreed between GHD and the Hamilton West Pty Ltd as set out in section 1.2 of this report.

GHD otherwise disclaims responsibility to any person other than Hamilton West Pty Ltd arising in connection with this report. GHD also excludes implied warranties and conditions, to the extent legally permissible.

The services undertaken by GHD in connection with preparing this report were limited to those specifically detailed in the report and are subject to the scope limitations set out in the report.

The opinions, conclusions and any recommendations in this report are based on conditions encountered and information reviewed at the date of preparation of the report. GHD has no responsibility or obligation to update this report to account for events or changes occurring subsequent to the date that the report was prepared.

The opinions, conclusions and any recommendations in this report are based on assumptions made by GHD described in this report (refer section 6.16). GHD disclaims liability arising from any of the assumptions being incorrect.

GHD has prepared this report on the basis of information provided by Hamilton West Pty Ltd and others who provided information to GHD (including Government authorities)], which GHD has not independently verified or checked beyond the agreed scope of work. GHD does not accept liability in connection with such unverified information, including errors and omissions in the report which were caused by errors or omissions in that information.

6.16 Assumptions

The following assumptions were made in completion of this EMP:

- *All relevant information was provided to GHD in order to develop this EMP.*
- *Any information provided to GHD was true and accurate to the best knowledge of Hamilton West.*

Appendices

Appendix A – Dent Island Lease Area Map

Based on or contains data provided by the State of Queensland (Department of Natural Resources and Mines) 2015. In consideration of the State permitting use of this data you acknowledge and agree that the State gives no warranty in relation to the data (including accuracy, reliability, completeness, currency or suitability) and accepts no liability (including without limitation, liability in negligence) for any loss, damage or costs (including consequential damage) relating to any use of the data. Data must not be used for direct marketing or be used in breach of the privacy laws.
 © The State of Queensland (Department of Natural Resources and Mines) 2015.



Legend

- Boundary of Subject Lots
- Property Boundary
- Easement Boundary

1:22,500 (at A4)

0 200 400 600 800

Metres

Map Projection: Universal Transverse Mercator
 Horizontal Datum: GDA 1994
 Grid: GDA 1994 MGA Zone 55



Hamilton West Pty Ltd
 Hamilton Island Golf Course Resort - Dent Island
 ENVIRONMENTAL MANAGEMENT PLAN

Job Number 42-18744
 Revision A
 Date 29 Jan 2015

Property Details

Figure 1

Appendix B – Environmental Permissions and Approvals

APPENDIX 1 – CONDITIONS

Schedule 1

Conditions to be attached to the Development Permit for the Material Change of Use under the *Integrated Planning Act 1997*.

Condition 1

Site Development

The proposed development of the Dent Island Golf Course Resort Development, involving construction of an 18-hole, international-standard golf course, 109 five-star guest rooms, 38 villa suites and 172 predominantly two-bedroom and three-bedroom apartments and associated infrastructure must be undertaken in accordance with the Dent Island master plan, attached as Appendix 1, Schedule 3.

The Conditions detailed in Appendix 1, Schedule 2 of this Report, which are to be administered by the Environmental Protection Agency, must be complied with.

Condition 2

Acid Sulphate Soils

The draft Marine Landing Facility sub-EMP must be finalised, in consultation with the Department of Natural Resources, Mines and Energy (DNRME) and the Environmental Protection Agency (EPA), to reflect the same Acid Sulphate Soil management protocol contained in the Service Pipeline sub-EMP. Both sub-EMPs must be amended to incorporate the management of Acid Sulphate Soils at any sites used to supply fill during construction activity associated with the Marine Landing Facility and the Service Pipeline.

In addition to any advice received from DNRME the following requirements are to be incorporated into the Marine Landing Facility and Service Pipeline sub-EMPs.

- A pre-construction Acid Sulphate Soil investigation is to be conducted at the relevant sites. The investigation must comply with the methods prescribed in the *Guidelines for Sampling and Analysis of Lowland Acid Sulphate Soils in Queensland (Ahern et al. 1998)* and the *Queensland Government Instructions for the Treatment and Management of Acid Sulphate Soils 2001*. Soil and sediment profiles should be mapped at a suitable scale and described according to the *Australian Soil and Land Survey Field Handbook (McDonald et al. 1990)* and *Australian Soil Classification (Isbell 1996)*.
- The pre-construction investigation is to be conducted by an experienced and appropriately qualified person such as a certified professional soil scientist.
- The pre-construction investigation report must be submitted to DNRME for perusal and approval before any site works commence.
- Where the pre-construction investigation indicates that construction activity may be detrimental to the environment, an Acid Sulphate Soil Management Plan is to be prepared in accordance with the guidelines cited above.

Condition 3

Vegetation Clearance

For each stage of the project, the Department of Natural Resources, Mines and Energy must be consulted about any proposed vegetation disturbance or clearance and, where necessary, approvals must be obtained under the *Integrated Planning Act 1997*.

Condition 4

Clearing and Landscaping

Any vegetation removed shall be disposed of to the requirements of the Whitsunday Shire Council. Transplanting, chipping or removal from site is the preferred solution.

A Development Permit for Operational Works (Landscaping) application shall be approved by Whitsunday Shire Council prior to the commencement of work on site for each stage.

The application shall be accompanied by detailed plans and specifications. The landscaping should seek to achieve the minimum requirements for landscaping as contained in Whitsunday Shire Council's Development Manual.

The landscaping shall be established in accordance with the approved plans prior to the commencement of the use and maintained thereafter to the requirements of Whitsunday Shire Council.

Condition 5

Building Works

Prior to issue of any Development Permit for Building Works, certificates of structural and geotechnical compliance with accepted standards must be provided by both Structural and Geotechnical Engineers. All work must be supervised by the Structural and Geotechnical Engineers and a Certificate of Completion must be provided to Whitsunday Shire Council prior to occupancy of the buildings.

Condition 6

Water Reticulation

A potable water supply must be designed, constructed and maintained in accordance with Australian Standard AS3500 and the requirements of the National Health and Medical Research Council Guidelines.

Condition 7

Sewer Reticulation

An internal sewerage system must be designed, constructed and maintained in accordance with Australian Standard AS3500.

Condition 8

Roadways, Driveways and Parking

All roadways, driveways and parking shall be designed in accordance with Australian Standard AS 2890 and comprise a sealed pavement to Whitsunday Shire Council's requirements.

All roadways and driveways shall be constructed prior to commencement of use of each stage and maintained thereafter to the requirements of Whitsunday Shire Council.

All cut/fill batter/slopes are to be protected and retained in a visually acceptable manner, with certified retaining structures, approved by Whitsunday Shire Council's Assessment Manager. None of these structures is to be greater than two (2) metres in height. Gabion walls are not an acceptable solution. No cut and/or fill batter shall be left unprotected.

Condition 9

Stormwater and Flooding

All stormwater drainage works are to be designed and constructed in accordance with the Queensland Urban Drainage Manual and Whitsunday Shire Council's Development Manual.

Condition 10

Electricity and Telecommunications

Electricity and telecommunications connection must be provided to the proposed development to the requirements of the relevant authority. A certification of compliance shall be provided from the relevant authority prior to the commencement of use of each stage of the development.

Condition 11

Geotechnical Matters

Any application for a Development Permit for Building or Operational Works shall be accompanied by a Geotechnical Report. The geotechnical report may be submitted to an independent Geotechnical Consultant for review and preparation of the appropriate:

- Request for further information.
- Conditions to be included on any Development Permit for Building or Operational Works.

All work on site shall be supervised by the Developer's Engineer who shall ensure that all work is completed in accordance with the proposal and any Development Permit for Building or Operational Works conditions. A certification to confirm compliance shall be provided prior to the commencement of the use.

The following geotechnical matters will be considered in future reports;

- all driveways and drainage works to be built to a standard secure from erosion before building works commence in the relevant sub-precincts.
- control of drainage being fundamental to slope stability.
- minimum factor of safety for slip of 1:4 for buildings.

-
- engineered retaining walls no higher than two (2) metres unless agreed otherwise by Council.
 - limited vegetation clearing of the site.
 - more detailed investigation and analysis to be undertaken.

Condition 12

Cultural Heritage

If any item of cultural heritage is identified during site works, all work shall cease and the Department of Natural Resources Mines and Energy shall be notified. Work can resume only after clearance is obtained from that Department.

Condition 13

Miscellaneous Matters

Provision and maintenance of refuse collection areas is to be undertaken in accordance with the requirements of the Coordinator – Environmental Health.

The colour scheme of all buildings and works shall comprise muted tones such as greys, browns, greens, dark blues and be approved by the Manager - Development & Environmental Services.

Any alteration necessary to electricity, telephone, and/or public utility installations resulting from the development or in connection with the development, shall be at full cost to the developer.

Condition 14

Construction Timing

The timing of construction activities must not interfere with coral spawning or breeding or calving seasons for green turtles, dugongs, humpback whales or other migratory species. The construction schedule must be finalised in consultation with the Environmental Protection Agency and incorporated into an appropriate sub-EMP.

Condition 15

Environmental Management Plan

The draft Environmental Management Plan for the proposed development, (provided in the Supplementary Environmental Impact Statement and updated in correspondence dated 22 September 2003 from Humphreys Reynolds Perkins Planning Consultants to the Department of State Development and Innovation) must be finalised in accordance with the *Environmental Protection Act 1994*, and in consultation with the Environmental Protection Agency, and submitted with the application for a development permit to commence construction works.

The Environmental Management Plan is to address the construction and/or operational elements of the sub-EMPs described in the table below.

ELEMENTS OF ENVIRONMENTAL MANAGEMENT PLAN				
No	Issue Description	Phase of Project		
		C ¹	O ²	C&O ³
1	Erosion & Sediment Control	X	X	
2	Site Contamination			X
3	Water Quality	X	X	
4	Tidal Flows & Storm Surge			X
5	Flora Management			X
6	Fauna Management			X
7	Marine Landing Facility	X	X	
8	Pest Plant & Animal Control			X
9	Landscaping & Rehabilitation/Regeneration			X
10	Visual Amenity			X
11	Noise & Vibration	X		
12	Air Quality	X		
13	Transport			X
14	Potable Water Management			X
15	Sewage Disposal			X
16	Service Pipeline			X
17	Irrigation Management			X
18	Emergency Response & Risk Management	X	X	
19	Cultural Heritage	X		
20	Visitor Management		X	

- C¹ Sub-EMP dedicated to the Construction Phase
O² Sub-EMP dedicated to the Operational Phase
C&O³ Sub-EMP addresses both Construction and Operational Phases

Recommended Conditions to be imposed on a Marine Parks Permit

Condition 16

Service Pipeline and Marine Construction Monitoring Program

The relevant approvals for the Service Pipeline crossing of the Dent Island reef flat must be obtained from the Queensland Department of Primary Industries and Fisheries and the Great Barrier Reef Marine Park Authority. The applications for the relevant approvals must set out the Service Pipeline route, and construction and installation methodology.

The marine construction monitoring program must be approved by the Great Barrier Reef Marine Park Authority (GBRMPA), the Environmental Protection Agency (EPA) and the Department of Primary Industries and Fisheries (DPIF).

Details of the pre-construction, end-of-construction and post-construction surveys of corals and other organisms included in the marine construction monitoring program are to be submitted to GBRMPA, the EPA and DPIF in accordance with a schedule negotiated between the Proponent and those agencies.

Condition 17

Nutrient Management Modelling

The Proponent is to undertake nutrient management modelling in accordance with the requirements of the Environmental Protection Agency before commencing construction.

The results to the modelling and consequent recommended management responses and actions are to be submitted to the Environmental Protection Agency for consideration as soon as they become available.

Management responses or actions considered relevant by the Environmental Protection Agency must be incorporated into the Environmental Management Plan.

Schedule 2 - Conditions prepared for the Coordinator-General by EPA

Conditions applying to dredging and the treatment of sewage associated with the development of Dent Island.

Parts Applicable to this authority:

1. Part 1 General Conditions All Activities
2. Part 2 Sewage treatment
3. Part 3 Dredging

Part 1 General conditions applicable to all activities covered under this approval

Activity

Prevent and /or minimise likelihood of environmental harm

(A1-1) In carrying out the environmentally relevant activities, you must take all reasonable and practicable measures to prevent and / or to minimise the likelihood of environmental harm being caused. Any environmentally relevant activity, that, if carried out incompetently, or negligently, may cause environmental harm, in a manner that could have been prevented, shall be carried out in a proper manner in accordance with the conditions of this authority.

NOTE: This authority authorises the environmentally relevant activity. It does not authorise environmental harm unless a condition contained within this authority explicitly authorises that harm. Where there is no condition or the authority is silent on a matter, the lack of a condition or silence shall not be construed as authorising harm.

Maintenance of measures, plant and equipment

(A2-1) The holder must:

- install all measures, plant and equipment necessary to ensure compliance with the conditions of this authority; and
- maintain such measures, plant and equipment in a proper and efficient condition; and
- operate such measures, plant and equipment in a proper and efficient manner.

Records

(A5-1) Record, compile and keep all monitoring results required by this document and present this information to the administering authority when requested, in a specified format.

(A6-1) Records must be kept for five years

(A7-1) The administering authority must be notified as soon as practicable when the release of contaminants is not in accordance with the conditions of this authority or any event where environmental harm may be caused.

(A8-1) Written advice of any event referred to in (A7-1) must be provided within fourteen (14) days following the event and must include:

- (a) the location of the event;
- (b) the time of the event;
- (c) the time the holder of the environmental authority became aware of the event;
- (d) the suspected cause of the event;
- (e) a description of the resulting effects of the event;
- (f) actions taken to mitigate any environmental harm and or environmental nuisance caused by the event; and
- (g) proposed actions to prevent a recurrence of the event.

Integrated Environmental Management System (IEMS)

(A9-1) An Integrated Environmental Management System (IEMS) must be developed and implemented prior to carrying out of the activities permitted by this authority.

(A9-3) The Integrated Environmental Management System must provide for at least the following functions:

- (i) The measurement and monitoring of contaminants released into the environment including procedures, methods, record keeping and notification of results;
- (ii) The assessment of the environmental impacts of any releases of contaminants into the environment;
- (iii) The training of all relevant staff in the awareness of environmental issues, including:
 - (a) The environmental policy of the holder of this authority so that staff are aware of any relevant commitments to environmental management; and
 - (b) Any relevant environmental objectives and targets so that all staff are aware of the relevant performance objectives and can work towards these; and
 - (c) Control procedures for routine operations for day to day operational activities to prevent or minimise environmental harm, however occasioned or caused; and
 - (d) Contingency plans and emergency procedures for non-routine situations to deal with foreseeable risks and hazards including corrective responses to prevent and mitigate environmental harm (including any necessary site rehabilitation); and
 - (e) Organisational structure and responsibility to ensure that roles, responsibilities and authorities are appropriately defined to manage environmental issues effectively; and
 - (f) Effective communication to ensure two-way communication on environmental matters between operational staff and higher management; and
 - (g) Their obligations in respect of record keeping required under this environmental authority.
- (iv) Periodic conduct of energy audits and review of environmental performance and procedures adopted, not less frequently than every three years;
- (v) Waste management plans for waste prevention, treatment and disposal.
- (vi) A storm water management plan;
- (vii) An irrigation management plan for the sustainable disposal of effluent to land;
- (viii) A biosolids management plan;
- (ix) Contingency plans and emergency procedures for the operation of the environmentally relevant activities;
- (x) Maintenance plans for critical components, and
- (xi) A program for continuous improvement.

(A9-4) The waste management plans referred to in condition A9-3 (v) must address at least the following:

- (a) the estimated quantity and nature of each waste produced;
- (b) the current method of disposal;
- (c) proposed methods of pre-treatment or disposal;
- (d) proposals for reductions in the quantity of waste produced through waste minimisation and cleaner production, and
- (e) the maintenance of records for the removal and disposal of waste from the premises.

(A9-5) The stormwater management plan referred to in condition A9-3 (vi) must have regard for best practice erosion and sediment control and must achieve the following outcomes:

- (a) prevention of incident storm water and storm water run-off from contacting wastes or contaminants;
- (b) diversion of upstream run-off away from areas containing wastes or contaminants;
- (c) collection, treatment and disposal of contaminated storm water run-off, for example, from waste disposal sites and any short term solid waste storage areas;
- (d) details the natural water flows;
- (e) details the location and design of water diversions and sediment control measures;

- (f) details the inspection and maintenance of diversion and sediment control measures; and
- (g) provides for the periodic monitoring of the effectiveness of the control measures (for example by the measurement of suspended solids levels).

(A9-6) The irrigation management plan referred to in condition A9-3 (vii) must achieve the following outcomes:

- (a) the efficient application of effluent to land utilising best practice methods;
- (b) the control of salinity and sodicity in any receiving soils;
- (c) the minimal soil structure degradation;
- (d) the control of nutrient and heavy metal build up in both soils and subsoil from effluent and other sources;
- (e) the prevention of subterranean flows of effluent to waters;
- (f) the prevention of impacts on the groundwater resource through infiltration;
- (g) the prevention of effluent run-off from receiving soils by limiting application rates and/or the use of tail-water dams;
- (h) the prevention of surface ponding in areas accessible to the general public;
- (i) the prevention of spraydrift or overspray from effluent disposal areas;
- (j) the prevention of damage to native vegetation;
- (k) maximisation of health and safety protection in relation to effluent handling and irrigation definition the effluent irrigation area.
- (l) The prevention of impacts on potable water supplies, and
- (m) Details the areas to be used for effluent irrigation.

(A9-7) The bio-solids management plan referred to in condition A9-3 (viii) must address at least the following:

- (a) the estimated quantity and nature of bio-solids produced;
- (b) the current method of disposal;
- (c) any proposed methods of pre-treatment or disposal; and
- (d) the subsequent environmental impacts and corrective and preventive measures taken to prevent and / or minimise the likelihood of environmental harm associated with biosolids.

(A9-9) An up to date copy of the Integrated Environmental Management System must be kept in a location readily accessible to personnel carrying out the activities.

(A9-10) The IEMS must be maintained and updated at least once every five years.

(A9-11) The IEMS must not be implemented in a way that contravenes any condition of this authority, or any development condition applicable to carrying out the activities.

Acid sulphate soils (ASS)

(A9-4) You must comply with the latest edition of the Queensland Environmental Protection Agency's INSTRUCTIONS FOR THE TREATMENT AND MANAGEMENT OF ACID SULPHATE SOILS, 2001, produced by the Queensland Environmental Protection Agency in consultation with the Department of Natural Resources and Mines and the Department of Primary Industries.

(A10-1) Acid sulphate soils must be managed such that contaminants are not directly or indirectly released, as a result of the activity, to any waters or the bed and banks of any waters.

END OF CONDITIONS FOR SCHEDULE A PART 1

Schedule B - Air

Nuisance

(B1-1) The release of noxious or offensive odours or any other noxious or offensive airborne contaminants resulting from the activity must not cause a nuisance at any odour sensitive place.

END OF CONDITIONS FOR SCHEDULE B PART 1

Schedule C- Water
Erosion and sediment control

(C1-1) Earthworks and clearing on site must be in compliance with the stormwater management plan.

END OF CONDITIONS FOR SCHEDULE C PART 1

Schedule D – Noise and vibration
Noise nuisance

(D1-1) Noise from activities must not cause an environmental nuisance at any noise affected premises.

END OF CONDITIONS FOR SCHEDULE D PART 1

Schedule E Waste Management

(E1-1) All regulated waste removed from the site must be removed by a person who holds a current environmental authority to transport such waste under the provisions of the Environmental Protection Act 1994.

END OF CONDITIONS FOR SCHEDULE E PART 1

Schedule G - Community
Complaint response

(G1-1) All complaints received must be recorded, including investigations undertaken, conclusions formed and action taken. This information must be made available to the administering authority on request.

END OF CONDITIONS FOR SCHEDULE G PART 1

END OF CONDITIONS FOR PART 1

PART 2 Sewage Treatment

Schedule A – General

(A1-2) This authority applies to the treatment of a maximum 1800 cubic meters of effluent per day by the Hamilton island sewage treatment plant for 6000 equivalent persons.

Annual monitoring report (Sewage treatment)

(A2-2) An annual monitoring report must be provided to the administering authority with the annual return. This report shall include but not be limited to:

- (a) summary of the previous twelve (12) months' monitoring results obtained under any monitoring programs required under this authority and, in graphical form showing relevant limits, a comparison of the previous twelve (12) month's monitoring results to both this authority limits and to relevant prior results;
- (b) an evaluation/explanation of the data from any monitoring programs;
- (c) a summary of any record of quantities of releases required to be kept under this authority;
- (d) a summary record of equipment failures or events that have caused environmental harm or have potential to cause environmental harm must be recorded for any site under this authority; and
- (e) an outline of actions taken or proposed to minimise the environmental risk from any deficiency identified by the monitoring or recording programs;

END OF CONDITIONS FOR SCHEDULE A PART 2

Schedule C – Water

Release to waters

(C1-2) Contaminants must only be released to waters from the discharge location and in compliance with the release limits listed in Schedule C Table 1

SCHEDULE C TABLE 1 - RELEASE QUALITY CHARACTERISTIC LIMITS

Sampling point	Release point	QUALITY CHARACTERISTICS	RELEASE LIMIT	LIMIT TYPE
Chlorine contact tank outlet	W1	5-day Biochemical Oxygen Demand	10mg/l	80th percentile
Chlorine contact tank outlet	W1	5-day Biochemical Oxygen Demand	20mg/l	maximum
Chlorine contact tank outlet	W1	Suspended Solids.	15mg/l	80th percentile
Chlorine contact tank outlet	W4	Suspended Solids.	30mg/l	maximum
Chlorine contact tank outlet	W1	pH	6.5 - 8.5	range
Effluent collection well	W1	Dissolved Oxygen	2 mg/L	minimum
Chlorine contact tank outlet	W1	Free Residual Chlorine	0.7(mg/L)	maximum
Chlorine contact tank outlet	W1	Ammonia	1(mg/l)	max.
Chlorine contact tank outlet	W1	Total Nitrogen	5(mg/l)	max.
Chlorine contact tank outlet	W1	Total Phosphorus as P.	1(mg/l)	max.
Chlorine contact tank outlet	W1	Faecal Coliforms (CFU/100mL)	1000 colonies per 100 millilitres	median ⁽¹⁾
Chlorine contact tank outlet	W1	Faecal Coliforms (CFU/100mL)	4000 colonies per 100 millilitres	Max

Notes: (1) Median and 80th percentiles must be based on the results of at least five consecutive samples, individual samples may be collected at intervals specified in Schedule C Table 3

(2) "80th percentile" for this quality characteristic means that the measured values of the quality characteristic must not be greater than the limit for any more than one out of five consecutive samples.

Discharge location details

(C2-2) Contaminants must only be released to waters from the discharge location W1.

Discharge Location W1 - namely release of treated sewage effluent from Hamilton Island STP to waters described as Dent Passage, Coral Sea at a location described as adjacent to the treatment plant.

(C3-2) The discharge location W1 must be submerged such that the top of the outfall pipe is at least 20 metres below Low Water Datum.

Monitoring

(C4-2) Monitoring must be undertaken and records kept of contaminant releases to waters from the final contact tank for the parameters and not less frequently than specified in Schedule C Table 2. All determinations of the quality of contaminants released must be:

- (a) made in accordance with methods prescribed in the latest edition of the Environmental Protection Agency Water Quality Sampling Manual; and
- (b) carried out on samples that are representative of the discharge.

SCHEDULE C - TABLE 2 - MONITORING FREQUENCY

QUALITY CHARACTERISTIC DETERMINATION	MONITORING POINTS	FREQUENCY
5-day Biochemical Oxygen Demand.	Chlorine Contact tank Outlet	monthly
Suspended Solids.	Chlorine Contact tank Outlet	monthly
pH.	Chlorine Contact tank Outlet	daily
Dissolved Oxygen.	Chlorine Contact tank Outlet	daily
Free Residual Chlorine.	Chlorine Contact tank Outlet	daily
Faecal Coliforms. (Organisms/100 ml)	Chlorine Contact tank Outlet	quarterly
Ammonia (mg/l)	Chlorine Contact tank Outlet	Monthly
Total Nitrogen (mg/l)	Chlorine Contact tank Outlet	Monthly
Total Phosphorous as P (mg/l)	Chlorine Contact tank Outlet	Monthly

(C5-2) The total quantity of contaminants released to waters via the release point W1, must not exceed the respective quantities stated for the release point in Schedule C - Table 4 on any dry weather day or on any one day.

Schedule C - Table 4

Maximum permitted quantity of release		
Release point	Maximum release on any dry weather day	Maximum release on any one day
W1	1800 cubic meters	3200 cubic meters

(C6-2) The daily volume of contaminants released to waters must be determined or estimated by an appropriate method, for example a flow meter, and records kept of such determinations and estimates.

(C7-2) The release of contaminants into Dent Passage for any one year must not exceed 5% of the total volume of contaminants treated by the sewage treatment plant.

Stormwater management

(C8-2) There must be no release of stormwater runoff that has been in contact with any contaminants at the site to any waters, roadside gutter or stormwater drain.

Contaminant and sewage pump station

(C9-2) Contaminant pumping stations must be fitted with stand-by pumps and pump-failure alarms as well as high level alarms to warn of imminent pump station overflow. All alarms must be able to operate without mains power.

(C10-2) Pump failure alarms must be detectable by the maintenance staff, in such a manner as to facilitate compliance with general environmental duty. All alarms must be able to operate without mains power.

(C11-2) A list of pump stations associated with this schedule of the environmental authority must be maintained by the holder of this integrated environmental authority and be made available to the administrative authority when requested.

(C14-2) An infiltration management plan must be prepared and implemented, which achieves the following outcomes:

- (a) Identifies actions for reduction of infiltration to sewers.
- (b) Avoidance of unintended stormwater inflows to sewer.
- (c) Timeframes for implementation of the controls identified in point (a) and (b)

Pond conditions

(C12-2) All ponds used for the storage or treatment of contaminants, sewage or wastes at or on the authorised place must be constructed, installed and maintained:

- so as to minimise the likelihood of any release of effluent through the bed or banks of the pond to any waters (including ground water);

so that a freeboard of not less than 0.5 metres is maintained at all times, except in emergencies; and
so as to ensure the stability of the ponds' construction.

(C13-2) Suitable banks and/or diversion drains must be installed and maintained to exclude stormwater runoff from entering any ponds or other structures used for the storage or treatment of contaminants or wastes.

END OF CONDITIONS FOR SCHEDULE C PART 2

Schedule E – Waste

(E1-2) Sludge drying beds and a hardstand area for biosolids (dewatered sewerage sludge) must be developed to achieve the following:

- (a) prevention of leachate release to ground water
- (b) diversion of uncontaminated stormwater
- (c) control and capture of incidental stormwater
- (d) capture of and disposal of incidental stormwater to appropriate facilities to meet the limits set in Schedule F Table 1.

END OF CONDITIONS FOR SCHEDULE E PART 2

Schedule F - Land

Land disposal

(F2-1) The only contaminants permitted to be released to land are treated effluents and stormwater to the areas shown in the irrigation management plan in compliance with the limits levels stated in Schedule F Table 1.

Schedule F - Table 1 (Release limits - 'Land')

Quality characteristics	Release Limit				
	Minimum	50th Percentile	80th Percentile	Maximum	Median
5-Day Biological Oxygen Demand			15mg/l	45 mg/L	
Suspended Solids			20mg/l	30 mg/L -	
Faecal Coliforms CFU/ 100mls				1000 CFU per 100 millilitres	100 CFU per 100millilitres
Total Nitrogen				20 mg/L	
Total Phosphorus				5 mg/L	

Notes: (1) Median and 80th percentiles must be based on the results of at least five consecutive samples, individual samples must be collected at intervals specified in Schedule F Table 2

(2) "80th percentile" for this quality characteristic means that the measured values of the quality characteristic must not be greater than the limit for any more than one out of five consecutive samples.

(F2-2) Monitoring must be undertaken and records kept of a monitoring program of contaminant releases to the irrigation area at the monitoring points, frequency and the parameters specified in Schedule F – Table 2.

Schedule F - Table 2 (Frequency - 'Land')

Monitoring point	Quality characteristic Determination	Units	Frequency
Release point to irrigation system following chlorination	5-Day Biological Oxygen Demand	mg/L	Monthly
Release point to irrigation system following chlorination	Suspended Solids	mg/L	Monthly
Release point to irrigation system following chlorination	Faecal Coliforms	CFU per 100 millilitres	Quarterly
Release point to irrigation system following chlorination	Total Nitrogen	mg/L	Monthly
Release point to irrigation system following chlorination	Total Phosphorus	mg/L	Monthly

(F3-2) The daily volume of contaminants released to land must be determined or estimated by an appropriate method, for example a flow meter, and records kept of such determinations and estimates.

(F4-2) When conditions prevent the irrigation of treated effluent to land (such as during or following rain events), alternative measures must be taken to store effluent prior to any discharge to waters.

(F6-2) Effluent must only be dispersed to land that is subject to the irrigation management plan.

(F8-2) Notwithstanding the quality characteristic limits specified in Schedule F Table 1 the contaminants supplied to another party must not have any properties nor contain any organisms or contaminants in concentrations, which are capable of causing environmental harm.

Preventing contaminant release to land

(F9-2) Spillage of all chemicals and fuels must be contained within an on-site containment system and controlled in a manner that prevents environmental harm.

NOTE: All petroleum product storage's must be designed, constructed and maintained in accordance with AS 1940 - Storage and Handling of Flammable and Combustible Liquids.

END OF CONDITIONS FOR SCHEDULE F PART 2

END OF CONDITIONS FOR PART 2

Part 3 Dredging

Schedule A Part 3 Dredging

(A1-3) The only dredging permitted by this authority is dredging of material for the pipe bundle from Dent Island to Hamilton Island as detailed within the Environmental Impact Statement and Supplementary Report for the Dent Island Golf Course Resort.

(A2-3) The placement of dredged spoil may only be on the areas adjacent to the pipe bundle trench prior to filling in of the trench with the dredged material.

END OF CONDITIONS FOR SCHEDULE A PART 3

Schedule C Part 3 Water

Water

(C3-3) Turbidity generated from the works must not result in a change of greater than 10% above the background values at any point further than 200 metres from the dredging operation. For this

condition, the background values of the ambient water quality will be those determined by the baseline water quality monitoring specified in the EIS for the proposal.

(C4-3) Any dredge spoil proposed to be stockpiled on land must be laboratory tested for acid forming potential in accordance with methods prescribed in the latest edition of the Guidelines for sampling and analysis of lowland Acid Sulphate Soils (ASS) in Queensland 1998 (Ahern, C.R., Ahern, M.R. and Powell, B.).

(C5-3) A dredge management plan must be prepared, implemented and maintained prior to any dredging operations taking place which addresses the following issues:

- (a) Management of dredge spoil material prior to backfilling of the pipe bundle trench.
- (b) Control measures established to minimise turbidity generation from the operation of the dredge.
- (c) Control measures implemented to address the siltation from the operation of the dredge.
- (d) Procedures for assessment and monitoring of the siltation and turbidity from the operation of the dredge.
- (e) Map of defined dredge operation area.

END OF CONDITIONS FOR SCHEDULE C PART 3

END OF CONDITIONS FOR PART 3

Schedule H - Definitions

Words and phrases used throughout this licence or development approval are defined below. Where a definition for a term used in this approval is sought and the term is not defined within this approval the definitions provided in the Environmental Protection Act 1994, its regulations, and Environmental Protection Policies shall be used.

Word Definitions

"administering authority" means the Environmental Protection Agency or its successor.

"you" means the holder of this Environmental Authority or owner / occupier of the land which is the subject of this Development Approval.

"site" means the place to which this environmental authority relates or the premises to which this development approval relates.

"authorised place" means the place authorised under this environmental authority/development approval for the carrying out of the specified environmentally relevant activities.

"this authority" means this environmental authority/development approval.

"environmental authority" means level 1 licence (without development approval), or level 1 approval (without development approval), or level 2 approval (without development approval) under the Environmental Protection Act 1994.

"development approval" means 'notice of development application decision' or 'notice of concurrence agency response' under the Integrated Planning Act 1997

"stormwater management plan" means the stormwater management plan referred to in Part 1 condition A3-9 (vi)

"irrigation management plan" means the irrigation management plan referred to in Part 1 condition A3-9 (vii)

"dust sensitive place" means -

- a dwelling, mobile home or caravan park, residential marina or other residential place;
- a motel, hotel or hostel;

-
- a kindergarten, school, university or other educational institution;
 - a medical centre or hospital;
 - a protected area;
 - a park or gardens; or
 - a place used as an office or for business or commercial purposes.

and includes the curtilage of any such place.

"odour sensitive place" has the same meaning as a "dust sensitive place"

"dwelling" means any of the following structures or vehicles that is principally used as a residence-

- a house, unit, motel, nursing home or other building or part of a building;
- a caravan, mobile home or other vehicle or structure on land;
- a water craft in a marina.

"noxious" means harmful or injurious to health or physical well being.

"offensive" means causing offence or displeasure; is disagreeable to the sense; disgusting, nauseous or repulsive.

"nuisance sensitive place" includes -

- a dwelling, residential allotment, mobile home or caravan park, residential marina or other residential premises; or
- a motel, hotel or hostel; or
- a kindergarten, school, university or other educational institution; or
- a medical centre or hospital; or
- a protected area under the Nature Conservation Act 1992, the Marine Parks Act 1992 or a World Heritage Area; or
- a public thoroughfare, park or gardens; or
- a place used as a workplace, an office or for business or commercial purposes.

and includes a place within the curtilage of such a place reasonably used by persons at that place.

" $L_{A, 10, \text{adj}, 10 \text{ mins}}$ " means the A-weighted sound pressure level, (adjusted for tonal character and impulsiveness of the sound) exceeded for 10% of any 10 minute measurement period, using Fast response.

" $L_{A, 1, \text{adj}, 10 \text{ mins}}$ " means the A-weighted sound pressure level, (adjusted for tonal character and impulsiveness of the sound) exceeded for 1% of any 10 minute measurement period, using Fast response

" $L_{A, \text{max adj}, T}$ " means the average maximum A-weighted sound pressure level, adjusted for noise character and measured over any 10 minute period, using Fast response.

"noise affected premises" means a "noise sensitive place" or a "commercial place"

"noise sensitive place" means -

- a dwelling, mobile home or caravan park, residential marina or other residential premises; or
- a motel, hotel or hostel; or
- a kindergarten, school, university or other educational institution; or
- a medical centre or hospital; or
- a protected area; or
- a park or gardens.

and includes the curtilage of such place.

"commercial place" means a place used as an office or for business or commercial purposes.

"intrusive noise" means noise that, because of its frequency, duration, level, tonal characteristics, impulsiveness or vibration -

- is clearly audible to, or can be felt by, an individual; and
- annoys the individual.

In determining whether a noise annoys an individual and is unreasonably intrusive, regard must be given to Australian Standard 1055.2 - 1997 Acoustics - Description and Measurement of Environmental Noise Part 2 - Application to Specific Situations.

"protected area" means -

- a protected area under the Nature Conservation Act 1992; or
- a marine park under the Marine Parks Act 1992; or
- a World Heritage Area.

"waters" includes river, stream, lake, lagoon, pond, swamp, wetland, unconfined surface water, unconfined water, natural or artificial watercourse, bed and bank of any waters, dams, non-tidal or tidal waters (including the sea), stormwater channel, stormwater drain, roadside gutter, stormwater run-off, and groundwater and any part thereof.

"50th percentile" means not more than three (3) of the measured values of the quality characteristic are to exceed the stated release limit for any six (6) consecutive samples for a release/monitoring point at any time during the environmental activity(ies) works.

"80th percentile" means not more than one (1) of the measured values of the quality characteristic is to exceed the stated release limit for any five (5) consecutive samples for a sampling point at any time during the environmental activity(ies) works.

"dredge spoil" means material taken from the bed or banks of waters by using dredging equipment or other equipment designed for use in extraction of earthen material.

"land" in the "land schedule" of this document means land excluding waters and the atmosphere.

"mg/L" means milligrams per litre.

"NTU" means nephelometric turbidity units

"regulated waste" means non-domestic waste mentioned in Schedule 7 of the Environmental Protection Regulation 1998 (whether or not it has been treated or immobilised), and includes:

- for an element - any chemical compound containing the element; and
- anything that has contained the waste.

"licensed vehicle" means a vehicle authorised to be used under the licence to transport regulated waste.

"registered vehicle" means "licensed vehicle"

"clinical waste" means waste that has the potential to cause disease including, for example, the following:

- animal waste;
- discarded sharps;
- human tissue waste;
- laboratory waste.

"infectious waste" means "clinical waste"

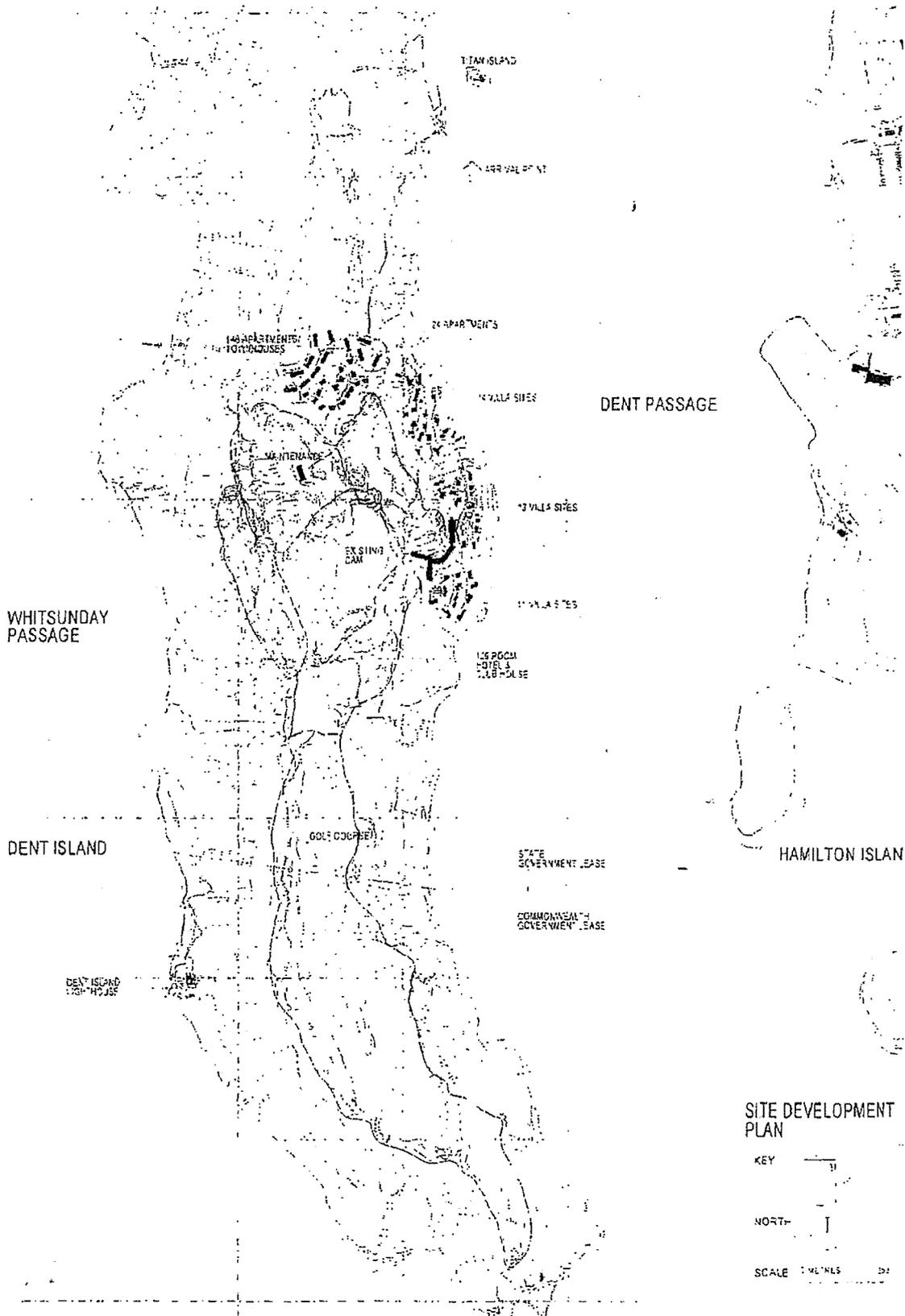
"vibration sensitive place" means a noise sensitive place or a commercial place.

"annual return" means the return required by the annual notice (under section 316 of the Environment Protection Act, 1994) for the section 86(2) licence that applies to the development approval.

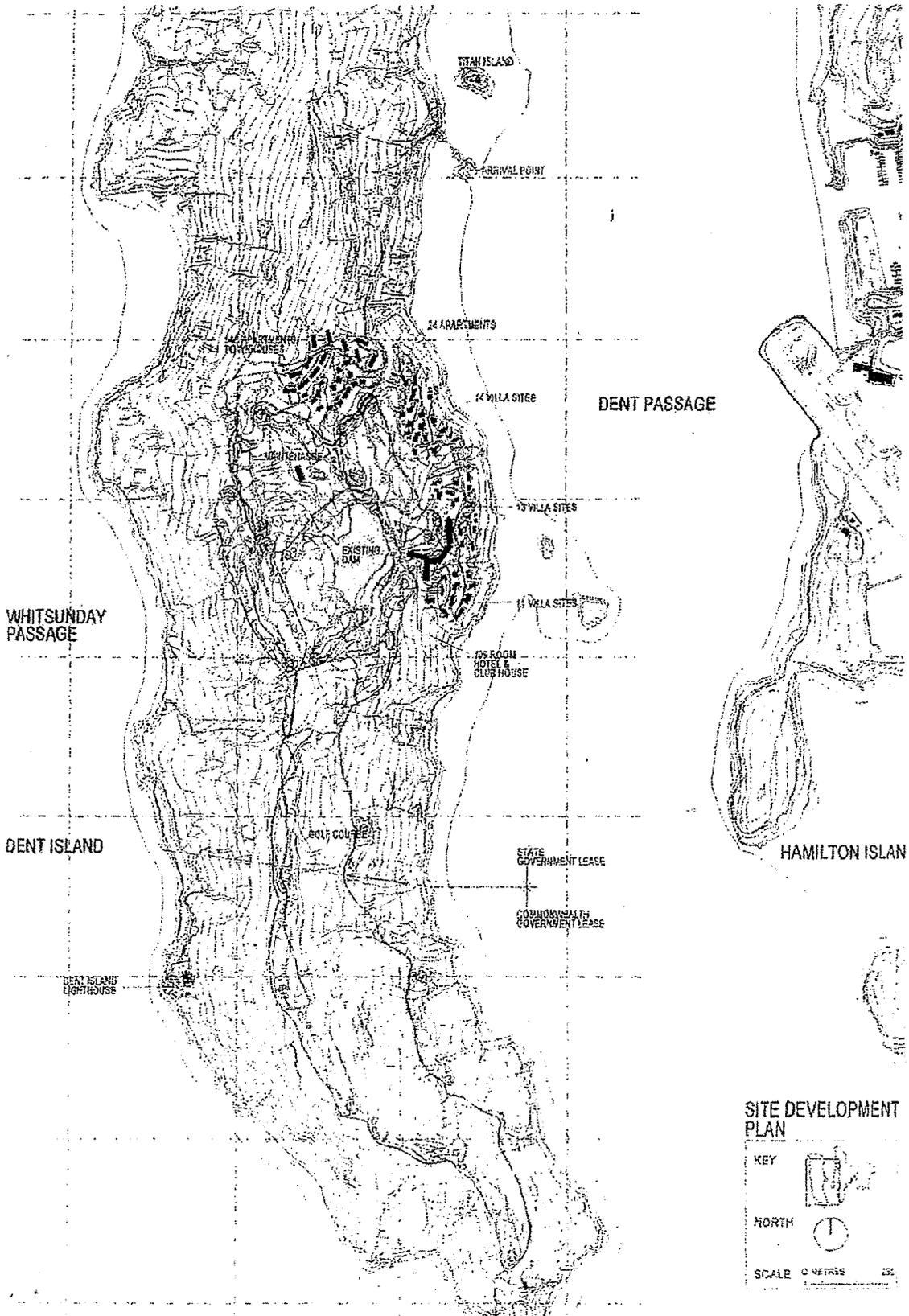
END OF DEFINITIONS FOR SCHEDULE H

END OF CONDITIONS

Schedule 3 – Dent Island Master Plan



Schedule 3 – Dent Island Master Plan



APPENDIX 2 - RESPONSE CHRONOLOGY

Respondent	Draft ToR	EIS	EIS Supp
Department of Emergency Services	30 Nov 2001	8 Aug 2002	10 Feb 2003
Department of Families*	26 Nov 2001	12 Aug 2002	NR**
Department of Local Government, Planning, Sport and Recreation	10 Dec 2001	21 Aug 2002	7 Mar 2003
Department of Main Roads	14 Nov 2001	12 Aug 2002	13 Feb 2003
Department of Natural Resources, Mines and Energy	23 Nov 2001	9 Aug 2002	21 Feb 2003
Department of the Premier and Cabinet	7 Dec 2001	21 Aug 2002	NR
Department of Primary Industries and Fisheries	16 Nov 2001	16 Aug 2002	11 Feb 2003
Department of Tourism, Fair Trading and Wine Industry Development	3 Dec 2001	29 Aug 2002	Refer TQ
Department of the Environment and Heritage	23 Nov 2001	NR	20 Feb 2003
Environmental Protection Agency	23 Nov 2001	8 Aug 2002	28 Feb 2003
Queensland Health	NR	NR	12 Feb 2003
Queensland Transport	13 & 29 Nov 2001	13 Aug 2002	11 Feb 2003
Tourism Queensland	Refer DT,FT&WID	Refer DT,FT&WID	12 Feb 2003
Whitsunday Shire Council	22 Nov 2001	22 Aug 2002	21 Feb 2003
A T Johnson	NR	1 Aug 2002	NR
Mackay Conservation Group	23 Nov 2001	9 Aug 2002	24 Feb 2003
Mackay Whitsunday REDC	3 Dec 2001	NR	NR
Whitsunday Wildlife	19 Nov 2001	NR	13 Feb 2003

* The Department of Families was abolished on 12 February 2004 following the Queensland State Election on Saturday 7 February 2004. The former Department's functions were redistributed between the newly established agencies of the Department of Child Safety and the Department of Communities.

** NR = No response received for that particular document.

APPENDIX 3 - LIST OF ABBREVIATIONS

ASS	Acid Sulphate Soils
CHMP	Cultural Heritage Management Plan
CG	Coordinator-General
DATSIP	Department of Aboriginal and Torres Strait Islander Policy
DEH	Department of the Environment and Heritage
DES	Department of Emergency Services
DET	Department of Employment and Training
DF	Department of Families
DIR	Department of Industrial Relations
DLGPS&R	Department of Local Government, Planning, Sport and Recreation
DMR	Department of Main Roads
DNRME	Department of Natural Resources, Mines and Energy
DOH	Department of Housing
DPIF	Department of Primary Industries and Fisheries
DSDI	Department of State Development and Innovation
EIS	Environmental Impact Statement
EMP	Environmental Management Plan
EPA	Environmental Protection Agency
<i>EP Act</i>	<i>Environmental Protection Act 1994</i>
<i>EPBC Act</i>	<i>Environment Protection and Biodiversity Conservation Act 1999</i>
EPC	Exploration Permit – Coal
EPP	Environmental Protection Policy
EQ	Education Queensland
ERA	Environmentally Relevant Activity
ERP	Emergency Response Plan
ETP	Employment and Training Plan
GBRMPA	Great Barrier Reef Marine Park Authority
IAS	Impact Assessment Study
InAS	Initial Advice Statement
<i>IPA Act</i>	<i>Integrated Planning Act 1997</i>
PASS	Potential Acid Sulphate Soils
QT	Queensland Transport
<i>SDPWO Act</i>	<i>State Development and Public Works Organisation Act 1971</i>
TMP	Traffic Management Plan
ToR	Terms of Reference

– END OF REPORT –



PERMIT

Great Barrier Reef Marine Park Regulations 1983 (Commonwealth)

G14/33314.1

These permissions remain in force, unless sooner surrendered or revoked, for the following period:

01-JAN-2014 TO 31-DEC-2028

Permission is granted to:

PERMITTEE: **HAMILTON WEST PTY LTD (ACN 010 254 207)**

ADDRESS: **Level 3, 100 Pacific Highway
ST LEONARDS NSW 2065**

for use of and entry to zones in the **Amalgamated Great Barrier Reef Marine Park Section** (as established by the *Great Barrier Reef Marine Park Act 1975* (Cth)) in accordance with the details set out herein.

.....
Delegate of the

Great Barrier Reef Marine Park Authority

Date 11/12/13

The purpose/s of use and entry may only be undertaken in the zone/s and location/s described below.

Zone/s and location/s to which the permission applies:

COMMONWEALTH ISLANDS ZONE (#22-058c) - that part of Dent Island described as Lot 4 on Crown Plan HR2019 and Lease B in Lot 2 on Crown Plan HR2019 on SP150037, County of Herbert, Parish of Whitsunday and as shown in Attachment A.

Purpose/s of use and entry authorised by the permission:

OPERATING A FACILITY – being five (5) holes of a golf course and associated paths, amenity blocks and toilets including: operation, maintenance, decommissioning and/or removing the facility and the use of treated sewage effluent waste for irrigation purposes;

CONDUCT OF A TOURIST PROGRAM – activities being the operation of a golf course;

OPERATING A FACILITY – being the residences and associated buildings of the Dent Island Lightstation including the operation and maintenance of the facility and visitor accommodation;

CONDUCT OF A TOURIST PROGRAM – activities being guided heritage tours of the Dent Island Lightstation; and

A program for the taking of animal(s) which pose a threat to the use and amenity of an area, being unmanaged goats (*Capra hircus*).

STANDARD CONDITIONS

- 1 All activities must be undertaken in accordance with the provisions of the laws in force from time to time in the State of Queensland.
 - 2 The Permittee must ensure that when operations are conducted in the Marine Park under this permission, this permission (or a certified copy), and any related documents such as the approved Environmental Management Plan are held at the site or sites of operation.
 - 3 The Permittee must inform all participants in the activities permitted herein (including, but not limited to, the employees, officers, sub-contractors, and agents of the Permittee) of any relevant restrictions or requirements applying under any zoning plans, plans of management, Marine Park regulations, this permit, the Deed, the Environmental Management Plan, the lease and the Dent Island Lightstation Heritage Management Plan as approved by the Managing Agency from time to time.
-

DEED CONDITIONS

- 4 Within 20 business days of the date of commencement of this permit, the Permittee must execute, seal and deliver as a Deed to the Great Barrier Reef Marine Park Authority, a Deed in the form annexed to this permit, identified with the permit number, and marked 'Deed of Agreement'.
 - 5 The Permittee must observe and perform its obligations under and pursuant to the Deed. Any breach of the Deed shall be a breach of this condition.
-

LEASE CONDITIONS

- 6 The Permittee must comply with the Lease. Any default under the Lease shall be a breach of this condition.
 - 7 The Permittee will be deemed to be in breach of this permit if the Lease expires (and is not held over), is surrendered, or is terminated prior to the expiry of this permit.
-

HERITAGE CONDITIONS

- 8 The Permittee must comply with and implement the Dent Island Lightstation Heritage Management Plan. Any breach of the Dent Island Lightstation Heritage Management Plan or a failure to implement this Plan, is a breach of this condition.
 - 9 The Permittee must comply with any protocol developed by the Managing Authority and/or the Australian Maritime Safety Authority in consultation with the Permittee, for conducting heritage tours of the Dent Island Lightstation.
 - 10 The Permittee must not use the residences and buildings of the Dent Island Lightstation for visitor accommodation until the Permittee has prepared and submitted to the Managing Agency a Visitor Management Plan, and this Plan has been approved by the Managing Agency.
-

FACILITY CONDITIONS

- 11 The Permittee must ensure that the facility is maintained in a good state of repair at all times and complies with the Lease General Maintenance Plan and the Lease Asbestos Management Register and Plan and any amendment to or replacement thereof.
- 

- 12 The Permittee must, at least 20 business days prior to the commencement of any works that are not described in the approved Environmental Management Plan, submit a schedule of works to the Managing Agency for approval.
- 13 The Permittee must ensure that all works are carried out in accordance with an approved schedule of works.

ENVIRONMENTAL HARM CONDITIONS

- 14 The Permittee must take all reasonable steps to ensure that operations and works carried out under this permit are carried out in a manner to prevent and minimise harm to the environment.
- 15 The Permittee must notify the Managing Agency (by any means possible) of incidents or significant events causing or threatening to cause harm to the environment immediately after the Permittee becomes aware of the incident. The notification must include:
 - (i) details of the incident, including date, time, location, cause and nature of the incident or risk;
 - (ii) contact information for the person(s) witnessing, reporting and/or responsible for the incident;
 - (iii) the type, estimated volume and concentration of any pollutants involved; and
 - (iv) measures taken to mitigate the impact or risk, and the success of those measures in addressing the incident or risk.
- 16 The Permittee must then provide written details of the notification as specified in condition 15 to the Managing Agency within 48 hours of the time the Permittee became aware of the incident. This written notification must include details specified in condition 15 as well as the following:
 - (i) measures taken or proposed to prevent or mitigate against the recurrence of such an incident; and
 - (ii) any other relevant matters.

ENVIRONMENTAL SITE SUPERVISOR CONDITIONS

- 17 The Permittee must ensure that any works which require a schedule of works to be approved under condition 12 are supervised by the Environmental Site Supervisor, unless otherwise advised in writing by the Managing Agency.
- 18 The Permittee must provide the 24-hour contact details of an on-site liaison officer(s) whom the Environmental Site Supervisor can contact, as and when required.
- 19 Where the Environmental Site Supervisor has directed the Permittee to stop, suspend or modify works, the Permittee must not recommence works unless authorised in writing by the Environmental Site Supervisor.
- 20 Where the Environmental Site Supervisor directs the Permittee to stop, suspend or modify works, the Permittee must comply with:
 - (i) any directions given by the Environmental Site Supervisor; or
 - (ii) an approved Schedule of Works; or
 - (iii) where (i) and (ii) are in conflict or the Permittee disputes the Environmental Site Supervisor's direction, written directions from the Managing Agency.
- 21 The Permittee and its employees, contractors and subcontractors and agents must comply with any reasonable direction given by the Environmental Site Supervisor for the purpose of ensuring compliance with the permit, Deed of Agreement, Schedule of Works, Lease, Environmental Management Plan, Dent Island Lightstation Heritage Management Plan or any direction considered necessary by the Environmental Site Supervisor for the conservation, protection and preservation of the Marine Park and property in the Marine Park.

ENVIRONMENTAL MANAGEMENT PLAN CONDITIONS

- 22 The Permittee must prepare or have prepared at its direction an Environmental Management Plan and this must be submitted to the Managing Agency for approval within six (6) months of the commencement date of this permit.

- 23 The Permittee must comply with the Environmental Management Plan as approved by the Managing Agency.
- 24 The Permittee must ensure that any modifications to the Environmental Management Plan are approved in writing by the Managing Agency prior to implementation.
- 25 If the Managing Agency believes that it is necessary or desirable for the better protection of the environment to do so, the Managing Agency may request the Permittee to make revisions to the Environmental Management Plan and submit the revised Environmental Management Plan to the Managing Agency for its approval. If the Managing Agency approves a revised Environmental Management Plan pursuant to this condition, the Permittee must implement that revised Environmental Management Plan.
- 26 The Environmental Management Plan must be reviewed within six (6) months of the commencement date of this permit, and once approved by the Managing Agency, the Environmental Management Plan must be made available (electronically) on the Permittees website within five (5) business days after the approval date.
- 27 The Permittee, employees, officers, subcontractors and agents and agents of the Permittee must comply with and ensure that all activities undertaken in connection with the permit are undertaken in accordance with the permit and the Environmental Management Plan as approved by the Managing Agency from time to time.

TAKE OF ANIMALS THAT POSE A THREAT

- 28 The Permittee must keep a record of the number of individual unmanaged goats *Capra hircus* sighted, or humanely controlled as part of a feral goat control program and provide this register to the Managing Agency on request.

IRRIGATION CONDITIONS

- 29 Only treated sewage and stormwater are permitted to be irrigated to the Dent Island Lightstation grounds and the fairways, greens and tees of the golf course located on Lot 4 on Plan HR2019 shown in Attachment A.
- 30 The Permittee must not irrigate the Dent Island golf course with treated sewage unless the sewage has met the tertiary equivalent nutrient concentrations identified in TABLE 1.

TABLE 1. Irrigation standards for treated sewage use on Dent Island.

Monitoring Point	Monitoring Frequency	Parameter	Release Limit	
			Minimum	Maximum
Final Pump Station	Monthly	Total Nitrogen		10 mg/L
Final Pump Station	Monthly	Total Phosphorus		2 mg/L
Final Pump Station	Daily	Dissolved Oxygen	2 mg/L	
Final Pump Station	Daily	pH	6.0	8.5
Final Pump Station	Monthly	5 Day Biochemical Oxygen Demand (BOD)		20 mg/L
Final Pump Station	Monthly	Suspended Solids		30 mg/L
Final Pump Station	Monthly	Enterococci Organisms (CFU/100 mL)		200 colonies / 100 ml*
Final Pump Station	Monthly	Chlorine		0.2 mg/L

* At least five (5) samples of the effluent, collected at intervals of not less than half an hour:
 (i) have in respect of all the samples, a geometric mean value that is not more than 200 colonies per 100 millilitres; and
 (ii) number, in 80% of the samples, less than 1000 colonies per 100 millilitres.

- 31 The irrigation of treated sewage must be carried out in a manner such that:
- (i) native vegetation is not damaged;
 - (ii) it does not cause soil erosion;
 - (iii) there is no surface ponding of effluent;
 - (iv) percolation of effluent beyond the plant root zone is minimised; and
 - (v) the quality of ground water is not adversely affected.
- 32 The Permittee must prepare an Irrigation Management Plan, including a monitoring and reporting regime, for inclusion in the Environmental Management Plan to be approved by the Managing Agency as per condition 22.
- 33 Notices must be prominently displayed on any treated sewage irrigation area warning the public not to use or drink it. These notices must be maintained in a visible and legible condition.
-

AUDIT REPORTING CONDITIONS

- 34 On or before 31 July each year for the duration of the permit, the Permittee must provide the Managing Agency with an annual report ("the Audit Report") prepared by the Permittee. The Audit Report must report against each of the following:
- (i) implementation of the Environmental Management Plan (conditions 22 to 27), including compliance with the Irrigation Conditions (conditions 29 to 33) and compliance with the Take of Animals That Pose a Threat Condition (condition 28); and
 - (ii) compliance with Environmental Harm Conditions (conditions 14 to 16).
- 35 Every five (5) years on or before 31 July for the duration of the permit, the Permittee must provide the Managing Agency with an independent audit report prepared in accordance with *ISO 19011 Standards: Guidelines for auditing management systems*, or any subsequent review of these guidelines. The independent audit report must be prepared by a suitably qualified person or persons approved by the Managing Agency in writing prior to the commencement of the audit. The Audit Report must report against each of the following:
- (i) implementation of the Environmental Management Plan (conditions 22 to 27), including compliance with the Irrigation Conditions (conditions 29 to 33) and compliance with the Take of Animals That Pose a Threat Condition (condition 28); and
 - (ii) compliance with Environmental Harm Conditions (conditions 14 to 16).
- 

INTERPRETATION AND DEFINITIONS

INTERPRETATION

This permit extends to all employees of the Permittee, or other persons, who are acting on behalf of, or at the direction of, the Permittee for the purposes specified in this permit.

This permit is not intended to extinguish any native title.

A law shall be taken to be a law in force in the State of Queensland notwithstanding that it applies to only part of the State.

A word or phrase in this permit has the same meaning as the word or phrase has in the *Great Barrier Reef Marine Park Act 1975* (Cth), the *Great Barrier Reef Marine Park Regulations 1983* (Cth), Zoning Plans or Plans of Management, unless the contrary intention appears.

A note or heading may be used to give assistance in interpreting conditions in case of ambiguity.

A reference to a date includes that date.

DEFINITIONS

'Commonwealth Heritage values' means the same as 'Commonwealth Heritage value' in the *Environment Protection and Biodiversity Conservation Act 1999* (Cth).

'Dent Island Lightstation' means the Dent Island Lightstation listed as a Commonwealth Heritage place pursuant to the *Environment Protection and Biodiversity Conservation Act 1999* (Cth).

'Dent Island Lightstation Heritage Management Plan' means the Plan prepared by the Managing Agency pursuant to section 341S of the *Environment Protection and Biodiversity Conservation Act 1999* (Cth) and includes any amendment to or replacement thereof.

'environment' includes:

- (a) ecosystems and their constituent parts;
- (b) natural and physical resources; and
- (c) the qualities and characteristics of locations, places and areas, that contribute to their:
 - (i) biodiversity and ecological integrity; or
 - (ii) intrinsic or attributed aesthetic, cultural, heritage, ecological, economic, recreational, social, scientific value or interest or amenity.

'Environmental Management Plan' means the environmental management plan prepared by the Permittee (or at its direction), and approved by the Managing Agency in writing.

'Environmental Site Supervisor' means the person from time to time nominated in writing by the Managing Agency to the Permittee.

'facility' in this permit includes a building, a structure, a golf course, goods, equipment, or services.

'harm' includes:

- (a) any adverse effect;
- (b) direct or indirect harm; or
- (c) harm to which the person's use or entry has contributed, to any extent (whether or not other matters have contributed to the harm).

'harm' to the environment is material if:

- (a) it involves actual or potential harm to the health or safety the environment that is not trivial and any act or omission that results in the pollution of the Marine Park; or
- (b) it results in actual or potential loss or property damage of an amount, or amounts in aggregate, exceeding \$10,000 (or such other amount as is prescribed by the regulations). Loss includes the reasonable costs and expenses that would be incurred in taking all reasonable and practicable measures to prevent, mitigate or make good harm to the environment, that is not trivial or otherwise not authorised by this Permit.

'Lease' means the Lease with a commencement date of 1 January 2014 (including any amendment thereto) between the Permittee as lessee and the Managing Agency as lessor over Lot 4 on Crown Plan HR2019 and Lease B in Lot 2 on Crown Plan HR2019 on SP150037, County of Herbert, Parish of Whitsunday, and each schedule, annexure or exhibit thereto.

'Managing Agency' means the Great Barrier Reef Marine Park Authority, a member of the staff of that Authority or a person referred to in Section 48A of the *Great Barrier Reef Marine Park Act 1975* (Cth) performing functions or exercising powers under that Act in accordance with an agreement referred to in that section.

'Marine Park' means the Great Barrier Reef Marine Park established by the *Great Barrier Reef Marine Park Act 1975* (Cth).

'Marine Park regulations' means the *Great Barrier Reef Marine Park Regulations 1983* (Cth).

'permit' means the permissions the subject of Permit Number G14/33314.1 granted to the Permittee pursuant to the *Great Barrier Reef Marine Park Regulations 1983* (Cth).

'Permittee' means Hamilton West Pty Ltd (ACN 010 254 207).

'reasonable steps' - In determining whether all reasonable steps have been taken, regard shall be given to the following:

- (a) the nature of the harm to the environment that might or will result from the person's use or entry;
- (b) the risk of harm from the person's use or entry;
- (c) the sensitivity of the environment that might or will be affected by the person's use or entry;
- (d) if the person is using or entering a zone - any objectives specified for the zone in its zoning plan;
- (e) the practicalities, including cost, of steps that will prevent or minimise the harm;
- (f) whether or not the person's use or entry complies with the laws applying in the Marine Park in relation to the environment or natural resources;
- (g) whether or not the person's use or entry complies with any relevant code of practice, standard or guideline; and
- (h) whether or not the person's use or entry is in accordance with any conditions of a permission granted under the regulations for the purposes of a zoning plan or a provision of the *Great Barrier Reef Marine Park Act 1975* (Cth).

'Schedule of Works' means a document which includes but may not be limited to:

- (a) details of the works to be undertaken including the methods and timeframe for works;
- (b) a risk assessment;
- (c) if appropriate, details of the disposal and fate of waste and/or the facility including any encrusting fauna and flora; and
- (d) any remediation strategies to rehabilitate and/or clean up the site.

'significant event' means an incident which is not trivial, involving actual or potential harm to the ecosystem including but not limited to:

- (a) a category 4 cyclone; or
- (b) any shipping event that requires notification to a relevant authority under the *Queensland Marine Act 1958* or the *Navigation Act 1912*; or
- (c) any aircraft event that requires notification to the relevant Authority under the *Civil Aviation Act 1988*; or
- (d) the discharge of untreated sewage effluent.

'take' of an animal includes; removing, gathering, catching, capturing and killing the animal.

'unmanaged goats' means goats that are free-living and not subject to livestock husbandry but may be 'owned'.

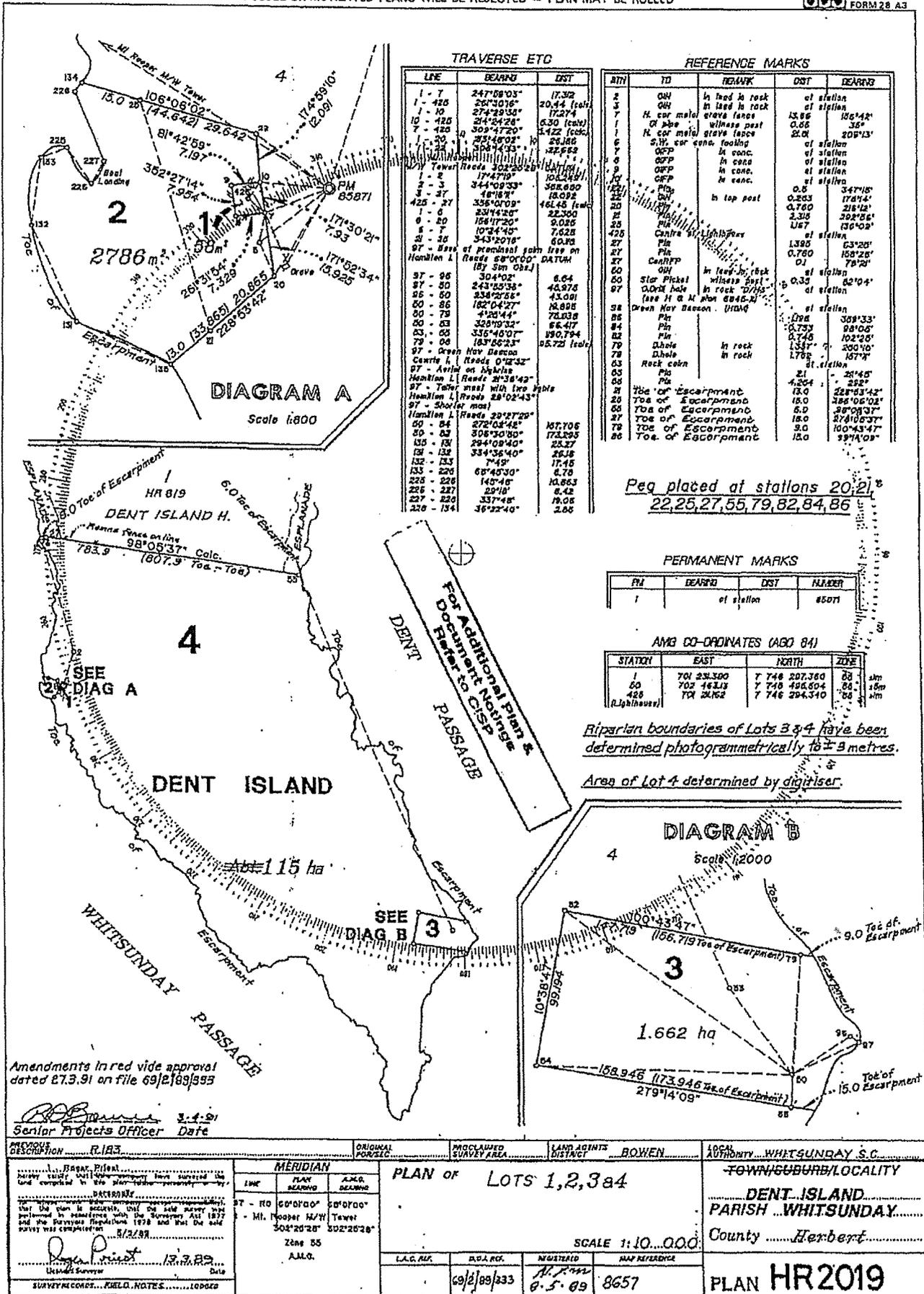
'works' means all activities associated with installation, construction, maintenance and/or removal of all plant and materials comprising or used in connection with the permitted activities (including dredging, installations, structures, facilities, moorings, vessels or aircraft of any kind associated directly or indirectly with the permission) and the use (authorised or unauthorised) of the Marine Park in connection with the permit.

'Zoning Plan' means the *Great Barrier Reef Marine Park Zoning Plan 2003* (Cth).

ATTACHMENT A - DENT ISLAND SURVEY PLAN

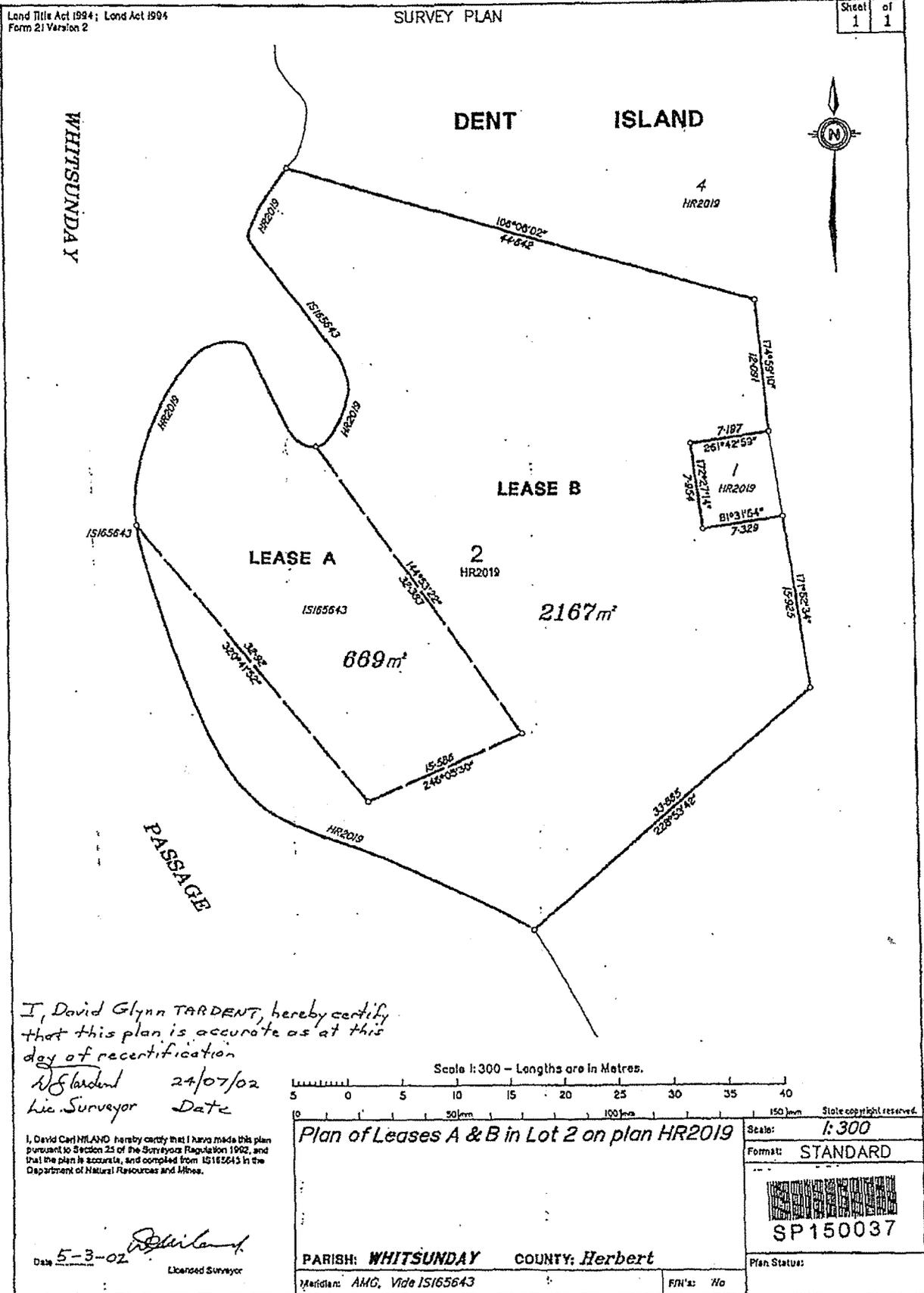
FOLDED OR MUTILATED PLANS WILL BE REJECTED - PLAN MAY BE ROLLED

FORM 28 A3



CROWN COPYRIGHT SUBSISTS IN THIS PLAN

ATTACHMENT A – DENT ISLAND SURVEY PLAN



ATTACHMENT A – DENT ISLAND SURVEY PLAN

<p align="center">706830776</p> <p align="center">\$246.25 25/07/2003 11:48</p> <p>BE 403</p>	<p>WARNING : Folded or Mutilated Plans will not be accepted. Plans may be rolled. Information may not be placed in the outer margins.</p>																					
<p>1. Certificate of Registered Owners or Lessees.</p> <p>we <u>GREAT BARRIER REEF MARINE PARK AUTHORITY</u></p> <p>(Names in full)</p> <p>* as Registered Owners of the land agree to this plan and dedicate the Public Use Land as shown hereon in accordance with Section 50 of the Land Title Act 1994.</p> <p>Signature of * Registered Owners * Lessees: <i>Virginia Chadwick</i></p> <p align="center">  </p>	<p>5. Lodged by</p> <p align="center">MINTER ELLISON WATERFRONT PLACE 1 EAGLE STREET BRISBANE, QLD. 4000</p> <p align="center"><small>(Include address, phone number, reference, and Lodger Code)</small></p>																					
<p>2. Local Government Approval.</p> <p>hereby approves this plan in accordance with the:</p> <p>Whitsunday Shire Council approves this plan and certifies that the requirements of this Council, the Integrated Planning Act 1997 and all Local Laws have been complied with.</p> <p>Dated this <u>Eleventh</u> day of <u>November</u>, 2002</p> <p align="center">  N J Ball Manager - Development & Environmental Services </p>	<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <th colspan="2">6. Existing</th> <th colspan="3">Created</th> </tr> <tr> <th>Title Reference</th> <th>Lot</th> <th>Plan</th> <th>Lots</th> <th>Emts</th> <th>Road</th> </tr> <tr> <td>18791025</td> <td>2</td> <td>HR2019</td> <td>Leases A & B</td> <td></td> <td></td> </tr> </table> <table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td style="width:50%;">R183</td> <td style="width:50%;"></td> </tr> <tr> <td>Orig</td> <td>Lots</td> </tr> </table> <p>7. Portion Allocation :</p> <p>a. Map Reference : <u>8657</u></p> <p>9. Locality : <u>DENT ISLAND</u></p> <p>10. Local Government : <u>WHITSUNDAY S.C.</u></p> <p>11. Passed & Endorsed :</p> <p>By : <i>NREH</i></p> <p>Date : <i>11/11/02</i></p> <p>Signed : <i>[Signature]</i></p> <p>Designation : <i>Surveyor</i></p>	6. Existing		Created			Title Reference	Lot	Plan	Lots	Emts	Road	18791025	2	HR2019	Leases A & B			R183		Orig	Lots
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<p>3. Plans with Community Management Statement :</p> <p>CMS Number :</p> <p>Name :</p>	<p>4. References :</p> <p>Dept File :</p> <p>Local Govt :</p> <p>Surveyor :</p>																					
<p>12. Building Format Plans only.</p> <p>I certify that :</p> <ul style="list-style-type: none"> As far as it is practical to determine, no part of the building shown on this plan encroaches onto adjoining lots or road. Part of the building shown on this plan encroaches onto adjoining lots and road. <p>13. Lodgement Fees :</p> <table style="width:100%;"> <tr> <td>Survey Deposit</td> <td>\$.....</td> </tr> <tr> <td>Lodgement</td> <td>\$.....</td> </tr> <tr> <td>..... New Titles</td> <td>\$.....</td> </tr> <tr> <td>Photocopy</td> <td>\$.....</td> </tr> <tr> <td>Postage</td> <td>\$.....</td> </tr> <tr> <td>TOTAL</td> <td>\$.....</td> </tr> </table> <p>14. Insert Plan Number SP150037</p>		Survey Deposit	\$.....	Lodgement	\$..... New Titles	\$.....	Photocopy	\$.....	Postage	\$.....	TOTAL	\$.....									
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Marine Parks Permit

Great Barrier Reef Marine Park Regulations 1983 (Commonwealth)
Marine Parks Regulations 1990 (Queensland)

This/these permission/s remain/s in force,
unless sooner surrendered or revoked, for the period:

11-MAY-2006 to 15-APR-2021

Permit No:

G06/14462.1

Permission/s is/are granted to

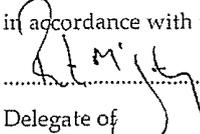
Permittee: HAMILTON WEST PTY LTD (ACN 010 254 207)

Address: C/- Executive Office
HAMILTON ISLAND QLD 4803

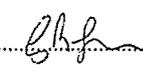
for use of and entry to zones in the following Great Barrier Reef Marine Park Sections/Queensland Marine Parks as established
by the Commonwealth *Great Barrier Reef Marine Park Act 1975* and Queensland *Marine Park Act 1982* (the Marine Park):

AMALGAMATED GREAT BARRIER REEF SECTION
GREAT BARRIER REEF COAST MARINE PARK

in accordance with the details as stated in Part A, and subject to conditions stated in Part B on the reverse side.

 date 11.5.2006

Delegate of
the Great Barrier Reef Marine Park Authority

 date 05-04-06

Delegate of
the Chief Executive, Environmental Protection Agency

Part A:

The purpose/s of use and entry may only be undertaken in the zone/s and location/s described below.

Zone/s and location/s to which the permission/s applies:

HABITAT PROTECTION ZONE and CONSERVATION PARK ZONE – Waters between Dent Island
(20-058) and Hamilton Island (20-057)

Purpose/s of use and entry authorised by permission/s:

CONSTRUCTION, OPERATION AND MAINTENANCE OF A MARINE LANDING FACILITY AND A
SERVICE PIPELINE as described in the permit application documents of Dent Island Golf Course Resort
– Marine Parks Permit Application, February 2005.



STANDARD CONDITIONS

- 1) All activities must be undertaken in accordance with the provisions of the laws in force from time to time in the State of Queensland.
- 2) The Permittee must ensure that when operations are conducted in the Marine Park under this Permit, this Permit (or a certified copy thereof), and any related documents such as the approved Environmental Management Plan are held at the site or sites of operation, and are available on demand by the Managing Agency.
- 3) The Permittee must inform all participants in the activities permitted herein (including, but not limited to, the employees, officers, sub-contractors, and agents of the Permittee) of any relevant restrictions or requirements applying under the *Great Barrier Reef Marine Park Act 1975 (Cth)*, the *Great Barrier Reef Marine Park Zoning Plan 2004 (Cth)*, the *Whitsundays Plan of Management* (as amended), the *Great Barrier Reef Marine Park Regulations 1983 (Cth)*, this Permit, the Deed, and the Environmental Management Plan, and ensure that all activities are undertaken in accordance with these restrictions or requirements.
- 4) The Permittee and its employees, contractors, subcontractors and agents must comply with any reasonable direction given by the Managing Agency for the purpose of ensuring compliance with this Permit, the Deed, the Environmental Management Plan, or any direction considered necessary by the Managing Agency for the conservation, protection and preservation of the Marine Park, or property and things in the Marine Park.

DEED CONDITIONS

- 5) Within 30 days of the date of commencement of this Permit, or prior to the commencement of any works permitted herein, whichever is sooner, the Permittee must execute, seal and deliver as a Deed to the Authority, a Deed in the form annexed to this Permit, identified with the permit number and marked 'Deed of Agreement'.
- 6) The Permittee must observe and perform its obligations under and pursuant to such Deed. Any breach of the Deed by the Permittee shall be a breach of this condition.

GENERAL CONDITIONS

- 7) At least 28 days prior to the commencement of any works in the Marine Park, the Permittee must provide detailed design construction drawings (as amended from time to time), including design specifications and exact location of the works, certified by an appropriately qualified engineer, that the facility meets the design criteria specified in the application document entitled *Dent Island Golf Course Resort – Marine Parks Permit Application, February 2005* or such design criteria as may be amended from time to time and approved by the Authority.
- 8) The works must be carried out in accordance with the design specifications referred to in condition 7.
- 9) The Permittee must obtain an approved compliance certificate from an appropriately qualified engineer following installation of the facility to verify that the facility is installed in accordance with the approved drawings, and provide those certificates to the Authority within 28 days of installation.
- 10) The Permittee must, within 28 days of being issued written notice to do so, provide to the Managing Agency a report duly certified by an appropriately qualified engineer detailing the adequacy of the works permitted herein and advising whether the structural integrity of the works has been maintained to design specifications.
- 11) The Permittee must have installed and operated the permitted facilities under this Permit within seven (7) years of the commencement of this Permit.

ENVIRONMENTAL MANAGEMENT PLAN CONDITIONS

- 12) The Permittee must prepare or have prepared at its direction an Environmental Management Plan in accordance with the 'Guidelines for the Environmental Management Plan – Dent Island Golf Course Project', annexed to this Permit as 'Attachment A'. A breach of the Environmental Management Plan is a breach of this condition.
- 13) The Permittee must not carry out any of the works permitted herein unless the Managing Agency has advised the Permittee in writing that the relevant components of the Environmental Management Plan have been approved.
- 14) Any modifications to the Environmental Management Plan must be approved in writing by the Managing Agency prior to implementation.
- 15) The Permittee must:
 - (i) notify the Managing Agency of any proposed works (including maintenance) that are not covered by the Environmental Management Plan, at least 28 days prior the commencement of such works and provide a written report giving full particulars, including relevant certified drawings of the proposed works; and
 - (ii) comply with any directions of the Managing Agency in relation to the conduct of the proposed works.
- 16) The Permittee, employees, officers, subcontractors and agents of the Permittee must comply with and ensure that all activities undertaken in connection with the Permit are undertaken in accordance with this Permit and the Environmental Management Plan as approved by the Managing Agency from time to time.

ENVIRONMENTAL SITE SUPERVISOR CONDITIONS

- 17) The Permittee must provide in writing to the Authority no less than 28 days prior to the commencement of the installation of the permitted facilities, a detailed schedule of works and the 24-hour contact details of an on-site liaison officer whom the Environmental Site Supervisor can contact, as and when required.
- 18) The Permittee must ensure that any works permitted herein are supervised by the Environmental Site Supervisor, unless otherwise advised in writing by the Authority.
- 19) The Permittee must immediately comply with any direction of the Managing Agency or the Environmental Site Supervisor to:
 - (i) cease designated works; or
 - (ii) modify the conduct of designated works so as to mitigate or avoid the occurrence of any harm to the environment resulting or likely to result from the unmodified conduct of designated works.
- 20) Where the Environmental Site Supervisor has directed the Permittee to cease or modify the works, the Permittee must cease or modify the works and must not re-commence works unless authorised in writing by the Environmental Site Supervisor.
- 21) Where the Environmental Site Supervisor directs the Permittee to cease or to modify the works under condition 19, the conduct of the Permittee in compliance with the order must be in accordance with:
 - (i) any directions given by the Environmental Site Supervisor; or
 - (ii) the Environmental Management Plan; or
 - (iii) best environmental practice (where (i) and (ii) do not apply).
- 22) The Permittee and its employees, contractors and subcontractors and agents must comply with any reasonable direction given by the Managing Agency or the Environmental Site Supervisor for the purpose of ensuring compliance with the Permit, the Deed, the Environmental Management Plan, or any direction considered necessary by the Managing Agency or the Environmental Site Supervisor for the conservation, protection and preservation of the Marine Park or property and things in the Marine Park.

INTERPRETATION

This Permit extends to all employees of the Permittee, or other persons, who are acting on behalf of, or at the direction of, the Permittee for the purposes specified in this permit.

This Permit is not intended to extinguish any native title.

A law shall be taken to be a law in force in the State of Queensland notwithstanding that it applies to only part of the State.

A word or phrase in this permit has the same meaning as the word or phrase has in the *Great Barrier Reef Marine Park Act 1975*, the *Great Barrier Reef Marine Park Regulations*, the *Marine Parks Act (Qld) 1982*, the *Marine Parks Regulations (Qld)*, *Zoning Plans* or *Plans of Management*, unless the contrary intention appears.

A note or heading may be used to give assistance in interpreting conditions in case of ambiguity.

A reference to a date includes that date.

DEFINITIONS

'approved drawing' means a certified drawing, approved by the Authority.

'appropriately qualified engineer' means a Registered Professional Engineer of Queensland or equivalent, with training and experience in a relevant field of engineering.

'the Authority' means the Great Barrier Reef Marine Park Authority established by the *Great Barrier Reef Marine Park Act 1975 (Cth)*.

'certified drawing' means a technical drawing certified by an appropriately qualified engineer.

'the Deed' means the Deed executed by the Permittee in accordance with condition 5, in the form annexed to this Permit, identified with the permit number and marked 'Deed of Agreement'.

'designated works' means those works which are the subject of a direction under condition 19.

'environment' includes all aspects of the surroundings of human beings, including:

- (a) the physical factors of those surroundings, such as the land, the waters and the atmosphere; and
- (b) the biological factors of those surroundings, such as the animals, plants and other forms of life; and
- (c) the aesthetic factors of those surroundings, such as their appearance, sounds, smells, tastes and textures.

'Environmental Management Plan' means the environmental management plans prepared in accordance with the document titled 'Guidelines for the Environmental Management Plan - Dent Island Golf Course Project' at Attachment A hereto, prepared by the Permittee (or at its direction), and approved by the Managing Agency in writing.

'Environmental Site Supervisor' means the person from time to time nominated in writing by the Authority to the Permittee, funded by the Permittee and under contract to the Authority.

'facility' has the same meaning as this word has in section 3A(9) of the *Great Barrier Reef Marine Park Act 1975*.

'harm' in relation to the environment, includes any direct or indirect alteration to the environment that has the effect of degrading the environment and, without limiting the generality of the foregoing, includes any act or omission that results in the pollution of the Marine Park.

'maintenance' means all works associated with maintaining the facilities authorised by this Permit.

'Managing Agency' means the Great Barrier Reef Marine Park Authority, a member of the staff of that Authority or a person referred to in Section 42 of the *Great Barrier Reef Marine Park Act* performing functions or exercising powers under that Act in accordance with an agreement referred to in that section.

'Marine Park' means the Great Barrier Reef Marine Park established by the *Great Barrier Reef Marine Park Act 1975 (Cth)*.

'Permit' means the permissions the subject of Permit G06/14462.1 granted by the Authority to the Permittee pursuant to the *Great Barrier Reef Marine Park Regulations 1983 (Cth)*.

'works' means and includes all plant and materials comprising or used in connection with all constructions, erections, dredging, installations, structures, facilities, moorings, vessels or aircraft of any kind associated directly or indirectly with the Permit and the use of the Marine Park in connection with the Permit, and any part thereof.

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Guidelines for the Environmental Management Plan Dent Island Golf Course Project

INTRODUCTION

These guidelines for the Environmental Management Plan (EMP) have been developed by the Great Barrier Reef Marine Park (GBRMPA). For more information on EMPs please refer to the GBRMPA website at www.gbrmpa.gov.au/corp_site/management/eim/eia/emp.html.

The EMP allows for the construction, maintenance and operation of the Dent Island Golf Course Resort Project.

The purpose of the Environmental Management Plan (EMP) is to ensure that all work undertaken in association with permits G06/13704.1 and G06/14462.1 are carried out in such a way that potential risks to the environment of the Great Barrier Reef Marine Park and World Heritage Area are minimised. It is expected that, to the greatest extent possible, best engineering and environmental practices are recognised and adopted by the permittee through this plan.

APPLICATION OF EMP

The Environmental Management Plan (EMP) applies to the operation of, and activities associated with, Dent Island Golf Course Resort Development

TERM

This EMP applies for the period provided for by the Lease and the associated permits

ONGOING IMPROVEMENT

Hamilton West Pty Ltd will undertake to commit to the ongoing improvement of the environmental management of operations on and associated with Dent Island.

Upon Hamilton West Pty Ltd providing the information requested herein, the GBRMPA will endeavour to provide comment, or suggest options, or prescribe necessary action, to minimise harm to the environment.

EMP CONDITIONS

GENERAL CONDITIONS

Hamilton West Pty Ltd must undertake the works at Dent Island in accordance with relevant laws, Australian Standards, any applicable best practice guidelines and further ensure that the works do not cause harm to the environment.

Where no Commonwealth laws or Australian Standards apply, Hamilton West Pty Ltd must comply with relevant Queensland and Whitsunday Shire law.

The EMP will include all of the subEMP components as specified in the application documents (February 2005) and those additional components as listed in table 1. The subEMP components must be forwarded to the Great Barrier Reef Marine Park Authority (GBRMPA) for approval prior to the relevant parts of the project being undertaken. The GBRMPA will use its best endeavours when considering approval action.

Table 1

Construction	Operation
1 Erosion & Sediment Control	1. Erosion & Sediment Control
2 Site Contamination	
3 Water Quality	3. Water Quality
4. Tidal Flows and Storm Surge	
5 Flora Management	5 Flora Management
6 Fauna Management	6 Fauna Management
7 Marine Landing Facility	7. Marine Landing Facility
8. Pest Plants & Animal Control	8. Pest Plants & Animal Control
9 Landscaping & Rehabilitation/Regeneration	
10 Visual Amenity	
11 Noise & Vibration	
12 Air Quality	
13 Transport Management	
14 Potable Water	
15 Sewerage Disposal	
16 Service Pipeline	16 Service Pipeline
17 Irrigation Management	17 Irrigation Management
18 Emergency Response & Risk Management	18 Emergency Response & Risk Management
19 Cultural Heritage	19 Cultural Heritage
20	20 Visitor Management

SPECIFIC CONDITIONS

6 Fauna Management

In 'Actions' include the following:

Ensure sufficient habitat is available and maintained, in the form of boulder piles adjacent to the coast, for the Coastal Sheathtail Bat (*Taphozous australis*).

7 Marine Landing Facility – Construction and Operation

Include the same ASS management protocol as contained in the Service Pipeline subEMP (if required).

15 Sewage Disposal

In Actions ensure that any toilet facilities installed are designed, installed and operated using best environmental practices to minimise impact to terrestrial and aquatic environment.

IMPACT MONITORING PROGRAM

In addition to the monitoring regimes identified in the individual subEMPs there is also a requirement for an Impact Monitoring Program (IMP)

The IMP should be as detailed in the Tony Ayling report (May 2003).



WHITSUNDAY

Decision Notice Approval

INTEGRATED PLANNING ACT 1997, Section 3.5.15



Contact Name:	Ingrid Kalnins	Contact Number:	4945 0242
File No:	20050104	Date of Decision:	02 nd August 2005

1. APPLICANT DETAILS

Name:	Hamilton West Pty Ltd		
Postal address:	c/- Humphreys Reynolds Perkins, P O Box 244, MACKAY QLD 4740		
Phone no:	(07) 4953 2877	Mobile no:	Fax: (07) 4953 2577

2. PROPERTY DESCRIPTION

Street address:	Dent Island
Suburb/locality	Whitsunday
Real property description:	Lot 5 on CP855596 and Lot 4 on HR2019, Parish of Whitsunday

3. OWNER DETAILS - LOT 5 ON CP855596

Name:	Department of Natural Resources, Mines & Energy	
Postal address:	P O Box 63, MACKAY QLD	Postcode: 4740

4. OWNER DETAILS - LOT 4 ON HR2019

Name:	Great Barrier Reef Marine Park Authority	
Postal address:	P O Box 1379, TOWNSVILLE QLD	Postcode: 4810

5. LAND USE DESCRIPTION

A Development Permit for Material Change of Use - Golf Course Resort Development including an 18 hole international-standard golf course; clubhouse; 109 five-star guest room hotel and associated restaurant, lounge, bar, pool and tennis court; 38 villa sites and associated infrastructure including maintenance compound, marine landing facility, dredging and sewage treatment.

A Preliminary Approval for Material Change of Use - Golf Course Resort Development including 172 two and three-bedroom townhouses/apartments and 38 villas.

5. APPROVAL TYPE

	Development Permit	Preliminary Approval
• Material change of use made assessable by the planning scheme	YES	YES

6. THE CURRENCY PERIOD

The standard currency periods stated in Section 3.5.21 of Integrated Planning Act apply to each aspect of development in this approval, if not stated in the conditions of approval attached.

7. THE APPROVED PLANS

The approved development is to be completed and maintained generally in accordance with the approved drawings and documents:

Development Permit For Material Change Of Use - Golf Course Resort Development Including An 18 Hole International-Standard Golf Course; Clubhouse; 109 Five-Star Guest Room Hotel And Associated Restaurant, Lounge, Bar, Pool And Tennis Court; 38 Villa Sites And Associated Infrastructure Including Maintenance Compound, Marine Landing Facility, Dredging And Sewage Treatment

Plan/Document Name	Plan Number	Dated	Received
Proposed Development Location Plan	04-676 Figure 5	18 February '05	26 May 2005
Site development Plan	04-676 Figure 6	18 February '05	26 May 2005
Accommodation Precinct Plan	04-676 Figure 7	18 February '05	23 February 2005
Golf Course Precinct Plan	04-676 Figure 8	18 February '05	26 May 2005
Jetty Option 3E	04-676 Figure 9	18 February '05	23 February 2005
Jetty Side Elevation	04-676 Figure 10	18 February '05	23 February 2005
Water Reticulation	04-676 Figure 11	18 February '05	23 February 2005
Water Reticulation Island Link	04-676 Figure 12	18 February '05	26 May 2005
Hotel & Clubhouse Section 1 and East Elevation	Drawing (v)	July 2002	23 February 2005
Hotel & Clubhouse Section 2 and South Elevation	Drawing (vi)	July 2002	23 February 2005
Hotel & Clubhouse Section 3 and West Elevation	Drawing (vii)	July 2002	23 February 2005
Hotel & Clubhouse Perspective Facing South	Drawing (viii)	July 2002	23 February 2005
Hotel & Clubhouse Floor Plan: RL 44.0 / 42.5	Drawing (ix)	July 2002	23 February 2005
Hotel & Clubhouse Floor Plan: RL 50.0 / 48.5	Drawing (x)	July 2002	23 February 2005
Hotel & Clubhouse Floor Plan: RL 54.0	Drawing (xi)	July 2002	23 February 2005
Hotel & Clubhouse Floor Plan: RL 57.0	Drawing (xii)	July 2002	23 February 2005

Preliminary Approval For Material Change Of Use - Golf Course Resort Development Including 38 Villas And 172 Two And Three-Bedroom Apartments/Townhouses

Plan/Document Name	Plan Number	Dated	Received
Proposed Development Location Plan	04-676 Figure 5	18 February '05	26 May 2005
Site development Plan	04-676 Figure 6	18 February '05	26 May 2005
Accommodation Location Guide	Unnumbered	July 2002	23 February 2005

Typical Apartments Elevations	Drawing (i)	July 2002	23 February 2005
Typical Apartments Upper Level Floor Plan	Drawing (ii)	July 2002	23 February 2005
Typical Villa	Drawing (iii)	July 2002	23 February 2005
Typical Villa Floor Plan	Drawing (iv)	July 2002	23 February 2005

8. FURTHER DEVELOPMENT PERMITS REQUIRED

Development Permit For Material Change Of Use - Golf Course Resort Development Including An 18 Hole International-Standard Golf Course; Clubhouse; 109 Five-Star Guest Room Hotel And Associated Restaurant, Lounge, Bar, Pool And Tennis Court; 38 Villa Sites And Associated Infrastructure Including Maintenance Compound, Marine Landing Facility, Dredging And Sewage Treatment

Type of Development Permit required	Subject of the required Development Permit
Operational Works:	<ul style="list-style-type: none"> • Earthworks and retaining walls • Roadworks • Driveways and car parking • Landscaping • Stormwater drainage • Water supply and sewer reticulation
Building Works	
Plumbing and Drainage Works	
Material Change of Use	<ul style="list-style-type: none"> • 38 Villas and 172 Two and Three-Bedroom Apartments/Townhouses (Code Assessment)

Preliminary Approval For Material Change Of Use - Golf Course Resort Development Including 38 Villas And 172 Two And Three-Bedroom Apartments/Townhouses

Type of Development Permit required	Subject of the required Development Permit
Operational Works:	<ul style="list-style-type: none"> • Earthworks and retaining walls • Roadworks • Driveways and car parking • Landscaping • Stormwater drainage • Water supply and sewer reticulation
Building Works	
Plumbing and Drainage Works	
Material Change of Use	<ul style="list-style-type: none"> • 38 Villas and 172 Two and Three-Bedroom Apartments/Townhouses (Code Assessment)

9. CODES FOR SELF ASSESSABLE DEVELOPMENT

Self Assessable Development under a Transitional Planning Scheme

10. SUPERSEDED PLANNING SCHEME NO

11. PRELIMINARY APPROVAL OVERRIDING THE PLANNING SCHEME – NOT APPLICABLE

12. IDAS REFERRAL AGENCIES

Environmental Protection Agency
Director
Environment (Central Region)
P O Box 3130
ROCKHAMPTON SHOPPING FAIR QLD 4701

Department of Main Roads
Manager (Private Development)
GPO Box 2595
BRISBANE QLD 4001

Queensland Transport
Integrated Transport Planning
GPO Box 1549
BRISBANE QLD 4001

Department of Emergency Services
Strategic Management and Policy Unit
GPO Box 1425
BRISBANE QLD 4001

Department of Natural Resources, Mines and Energy
Regional Services Director
Central West
P O Box 63
MACKAY QLD 4740

Department of Primary Industries & Fisheries
Director, Regional Services (Central)
P O Box 668
MACKAY QLD 4740

Department of Local Government, Planning, Sport & Recreation
Principal Planner
NQPD Mackay
P O Box 1734
MACKAY QLD 4740

Tourism Queensland
Director
Sustainable Tourism
Tourism Queensland
GPO Box 328
BRISBANE QLD 4001

Department of Communities
Regional Director
P O Box 995
MACKAY QLD 4740

Queensland Health
Director
Environmental Health Services
P O Box 688
MACKAY QLD 4740

Environment Australia
Director
Tourism & Natural Resources Section
Environment Assessment and Approvals Branch
GPO Box 787
CANBERRA ACT 2600

GBRMPA
Tourism and Natural Resources
Environment Assessment & Approvals Branch
Department of Environment & Heritage
GPO Box 787
CANBERRA ACT 2601

Department of Tourism, Fair Trading &
Wine Industry Development
GPO Box 1141
BRISBANE QLD 4001

Department of the Premier and Cabinet
Environment Impact Studies Unit
P O Box 15185
BRISBANE CITY EAST QLD 4002

13. SUBMISSIONS

Properly made submissions were received from:
1) A.T. Johnson, P O Box 143, CANNONVALE QLD 4802
2) Mackay Conservation Group, P O Box 826, MACKAY QLD 4740

14. RIGHTS OF APPEAL

Rights of appeal in relation to this application are attached.

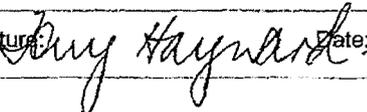
15. WHEN THE DEVELOPMENT APPROVAL TAKES EFFECT

This development approval takes effect:

- When the submitter's appeal period ends – if there is a submitter and the applicant does not appeal the decision to the court.

This approval will lapse unless substantially started within the above stated currency periods (refer to Sections 3.5.19 and 3.5.20 of Integrated Planning Act for further details).

16. ASSESSMENT MANAGER – WHITSUNDAY SHIRE COUNCIL

Name: AV Hayward (Chief Executive Officer)	Signature: 	Date: 03 rd August 2005
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C.C. State Development and Innovation
Coordinator-General
P O Box 168
BRISBANE ALBERT STREET QLD 4002

C.C. Environmental Protection Agency
Director
Environment (Central Region)
P O Box 3130
ROCKHAMPTON SHOPPING FAIR QLD 4701

- C.C** Department of Main Roads
Manager (Private Development)
GPO Box 2595
BRISBANE QLD 4001
- C.C** Queensland Transport
Integrated Transport Planning
GPO Box 1549
BRISBANE QLD 4001
- C.C** Department of Emergency Services
Strategic Management and Policy Unit
GPO Box 1425
BRISBANE QLD 4001
- C.C** Department of Natural Resources, Mines and Energy
Regional Services Director
Central West
P O Box 63
MACKAY QLD 4740
- C.C** Department of Primary Industries & Fisheries
Director, Regional Services (Central)
P O Box 668
MACKAY QLD 4740
- C.C** Department of Local Government, Planning, Sport & Recreation
Principal Planner
NQPD Mackay
P O Box 1734
MACKAY QLD 4740
- C.C.** Tourism Queensland
Director
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Tourism and Natural Resources
Environment Assessment & Approvals Branch
Department of Environment & Heritage
GPO Box 787
CANBERRA ACT 2601
- C.C** Department of Tourism, Fair Trading &
Wine Industry Development
GPO Box 1141
BRISBANE QLD 4001

C.C Queensland Health
Director
Environmental Health Services
P O Box 688
MACKAY QLD 4740

C.C Department of the Premier and Cabinet
Environment Impact Studies Unit
P O Box 15185
BRISBANE CITY EAST QLD 4002



DEVELOPMENT PERMIT FOR MATERIAL CHANGE OF USE - GOLF COURSE RESORT DEVELOPMENT INCLUDING AN 18 HOLE INTERNATIONAL-STANDARD GOLF COURSE; CLUBHOUSE; 109 FIVE-STAR GUEST ROOM HOTEL AND ASSOCIATED RESTAURANT, LOUNGE, BAR, POOL AND TENNIS COURT; 38 VILLA SITES AND ASSOCIATED INFRASTRUCTURE INCLUDING MAINTENANCE COMPOUND, MARINE LANDING FACILITY, DREDGING AND SEWAGE TREATMENT.

1.0 ADMINISTRATION

1.1 The approved development is to be completed and maintained generally in accordance with the approved drawings and documents;

Plan/Document Name	Plan Number	Dated	Received
Proposed Development Location Plan	04-676 Figure 5	18 February '05	26 May 2005
Site development Plan	04-676 Figure 6	18 February '05	26 May 2005
Accommodation Precinct Plan	04-676 Figure 7	18 February '05	23 February 2005
Golf Course Precinct Plan	04-676 Figure 8	18 February '05	26 May 2005
Jetty Option 3E	04-676 Figure 9	18 February '05	23 February 2005
Jetty Side Elevation	04-676 Figure 10	18 February '05	23 February 2005
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Hotel & Clubhouse Floor Plan: RL 44.0 / 42.5	Drawing (ix)	July 2002	23 February 2005
Hotel & Clubhouse Floor Plan: RL 50.0 / 48.5	Drawing (x)	July 2002	23 February 2005
Hotel & Clubhouse Floor Plan: RL 54.0	Drawing (xi)	July 2002	23 February 2005
Hotel & Clubhouse Floor Plan: RL 57.0	Drawing (xii)	July 2002	23 February 2005

1.2 The applicant is to comply with the Coordinator-General's Report Appendix 1 Conditions as outlined in the Coordinator-General's Report dated August 2004.

1.3 The following further development permits are required prior to commencement of work on site or commencement of the use:

1.3.1 Operational Works;

- Earthworks and retaining walls
- Roadworks
- Driveways and car parking
- Landscaping
- Stormwater drainage
- Water supply and sewer reticulation

1.3.2 Plumbing and Drainage Works;

1.3.3 Building Works; and

1.3.4 Material Change of Use – 38 Villas and 172 Two and Three-Bedroom Apartments/Townhouses (Code Assessment).

All Operational Works, Plumbing and Drainage Works Development Permits must be obtained prior to the issue of a Building Works Development Permit.

- 1.4 Where a discrepancy or conflict exists between the written conditions of this approval and the approved plans, the requirements of the written condition(s) will prevail.
- 1.5 This approval is valid for a period of four years from the date of decision. If the first stage of construction of a 9-hole golf course and temporary clubhouse have not commenced use in accordance with the approved conditions within four years the approval will lapse.

2.0 BUILDING

- 2.1 Measurements of aircraft noise shall be validated at Building Application Stage to confirm the required façade and building attenuation requirements are in accordance with AS 2021 – 2000.

3.0 WATER RETICULATION

- 3.1 Water reticulation works are to be designed and constructed, in accordance with the Council Development Manual, Water Resources Commission Guidelines, Council's Standard Drawings and to the satisfaction of Council's Manager Infrastructure Services. Similarly, adherence to Acts, Regulations, relevant standards and Council's Local Laws is required.

4.0 SEWER RETICULATION

- 4.1 Sewerage reticulation works are to be designed and constructed, in accordance with the Council Development Manual, Water Resources Commission Guidelines, and Council's Standard Drawings and to the satisfaction of Council's Manager Infrastructure Services. Similarly, adherence to Acts, Regulations, relevant standards and Council's Local Laws is required.

5.0 DRIVEWAYS AND PARKING

- 5.1 A development permit for Operational Works (Carpark Construction) shall be obtained prior to issue of Decision Notice of Approval for Building.
- 5.2 Detailed engineering drawings and specifications for the design of the works, which are to include turning templates for all types of vehicles in use, are to be submitted to Council for approval.
- 5.3 The detailed drawings shall include all necessary internal accesses, internal driveways, circulation roads, parking aisles, parking bays, and general manoeuvring areas as required. Where applicable all accesses, driveways, circulation roads, aisles, parking bays and manoeuvring areas are to be designed and constructed so as to comply with the criteria described in AS2890. Design of aisle widths shall allow for a single manoeuvre entry and exit as a minimum (width).

6.0 STORMWATER AND FLOODING

- 6.1 The Applicant shall provide the following information prior to obtaining a Development Permit for Operational Works.
- 6.2 All site works shall be undertaken to ensure that there is:
- No increase in upstream or downstream flood levels for all levels of immunity up to Q100.

- No increase in velocity profiles for which no remedy exists to prevent and/or control erosion. In the event that modelling shows non-compliance with the above, works shall be undertaken within the system to satisfy the above criteria for development. All works shall be undertaken to the satisfaction of Council and at full cost to the applicant.
 - The applicant shall demonstrate that the developed flows from the land drain to a lawful point of discharge.
- 6.3 The design criteria are to be as per Council's Development Manual. The approved documentation is to be part of the approved construction documentation for the development.
- 6.4 The applicant shall submit a catchment area plan for the site showing the existing catchment area and the fully developed catchment area (not just the developed site).
- 6.5 Freedom from inundation shall not be less than in accordance with QUDM. All habitual dwellings and allotments shall be constructed to a level not less than 300mm (freeboard) above the Q100 flood level for the developed site.
- 6.6 Engineering design drawings including calculations and certifications of the design are to be submitted for approval.
- 7.0 ROAD WORKS**
- 7.1 A Development Permit for Operational Works (Roadworks) shall be obtained prior to commencement of work on site.
- 7.2 A detailed plan of the overall Internal Road layout prepared by a registered civil engineer will be submitted for Council approval detailing the road layout, geometric standards, horizontal and vertical alignments, pavement widths, cross sections, stormwater drainage works, embankment stabilisation works as part of the application for Operational works (Roadworks).
- 7.3 Prior to any building development works any staged development commencing the internal roadwork including stormwater drainage servicing such development shall be constructed as approved by Council.
- 7.4 The proposed access roads shall be designed to meet as a minimum requirement of pavement width and grades shown on Table 1.4.1 of Council's Development Manual. Pavement widths shall be designed in accordance to a traffic analysis that takes into account the type of traffic used on the Island in servicing and maintaining the facility and provide a safe environment for all activities and uses. Adequate provision will be made for emergency vehicles.
- 8.0 INTERNAL ACCESS**
- 8.1 A development Permit for Operational Works (Internal Access) shall be obtained prior to commencement of work on site.
- 8.2 Prior to the issue of a Building Permit the applicant shall design and construct the internal access. The design is to include provision for all drainage from within the development site and along the driveway surface to be collected and discharged by way of a pipe or other approved means to a lawful point of discharge.
- 8.3 Detailed Engineering Drawings are to be submitted to Council for approval prior to the issue of a Building Permit.
- 9.0 SITE WORKS**
- 9.1 The applicant shall demonstrate that the following conditions have been adequately addressed prior to the issue of a Building Permit.
- 9.2 All Earthworks, cut/fill batter treatment, retaining walls and drainage associated with the roadworks shall be designed so as to achieve the design criteria detailed in the Geotechnical Report.
- 9.3 All Earthworks cut/fill batters, retaining walls and drainage shall be supervised during construction and certified at the completion by a qualified Geotechnical Engineer registered with the Queensland Board of Professional Engineers.
- 9.4 All cut/fill batter slopes are to be protected and retained in a visually acceptable manner with structure designed in accordance with the recommendations contained in the Geotechnical Engineering Report and supervised and certified during construction. No cut/fill batters shall be left unprotected.
- 9.5 All stormwater drainage works associated with the above roadworks shall be designed and constructed in accordance with Section 1.6 and 1.10 of Council's Development Manual.
- 9.6 Design and construction of the works shall be in accordance with Council's Standard, Specifications and Standard Drawings applicable at the time.

9.7 Construction and development works shall be carried out in accordance with the approved Engineering Plans and Specifications and shall be supervised and certified, as per Council's Development Manual, by Qualified Civil and Geotechnical Engineers registered with the Board of Professional Engineers, who are independent of the contractor for the works.

10.0 ELECTRICITY AND TELECOMMUNICATIONS

10.1 Provide electricity and telecommunications connection to the proposed development to the requirements of the relevant authority. A certification of compliance shall be provided from the relevant authority prior to commencement of the use of the development.

11.0 ENVIRONMENTAL MANAGEMENT & MONITORING PLANS (EMMP'S)

11.1 The applicant shall, in consultation with the Environmental Protection Authority, finalise all Revised Draft Environmental Management & Monitoring Plans (EMMP's) dated 21 January 2004, and listed in Appendix F of the Planning Assessment Report submitted with the Development Application on 23 February 2005, prior to any work commencing on site.

All Environmental Management & Monitoring Plans shall be approved by Council prior to commencement of any work on site and all recommendations of each Environmental Management & Monitoring Plan shall be completed to the requirements of Council.

11.2 The applicant shall at all times comply with the requirements of the Fire Management Reports titled 'Operations Plan for Dent Island' and 'A Fire Management Framework for Ecological Burning on Hamilton and Dent Islands, prepared by Brown & Root Services Asia Pty Ltd, dated 2 August 2000, and listed in Appendix E of the Planning Assessment Report submitted with the Development Application on 23 February 2005.

12.0 GEOTECHNICAL

12.1 Prior to the application for an Operational Works Permit for Roadworks, Stormwater, Water Supply, Sewer Reticulation, Retaining Walls, Golf Course Development or Landscaping and prior to the issue of a Building Permit the applicant shall undertake a detailed Geotechnical Investigation over the site addressing the points identified in the Preliminary Report prepared by Ullman & Nolan Geotechnic, which is to include, as a minimum, and make recommendations on the following:

- Particular detail shall be provided to ensure stability of the site and the slopes.
- Provide recommendations to ensure the road and drainage works and other civil works are built to a standard secure from erosion and instability.
- Stormwater management. Identify the need (or not) to control all drainage (including sub surface) to eliminate risk of slip. Clearly identify the locations that will require specific drainage works to ensure the stability of the site.
- Minimise cut/fill and provide recommendations on engineered retaining walls.
- Limited vegetation to be cleared.
- Comment and make recommendations on Building Form and Treatment to be undertaken to minimise risk of slip.
- Risk Management Options and recommendations to be undertaken on all civil works on the site.
- Carry out sufficient subsurface explorations to ensure that there are no conditions below the surface that could cause problems during construction or require remediation to bring the land up to a suitable standard for its intended usage. This shall include providing a full understanding of any uncontrolled fill within the proposed site.
- The Geotechnical Engineer should quantify the risk of gully erosion and, if necessary, make recommendations as to how to avoid this occurrence.
- Provide methods of constructing the fairways and greens considering the dispersive and erodible soils and landform constraints. Methods of cut/fill operations shall be detailed.

Any recommendations arising out of the detailed report are to be included in the design of buildings, roads, retaining walls, cut/fill batters etc.

The above report is to be submitted to Council's Infrastructure Manager and Catchment Coordinator for assessment and approval prior to any design or construction being undertaken on the site.

13.0 DEVELOPER CONTRIBUTIONS

The applicant shall construct and provide twenty-seven (27) car parking spaces at Shute Harbour for exclusive use of Dent Island Development or provide payment of a contribution towards twenty-seven (27) car parking spaces at Shute Harbour to the sum of \$175,000, prior to the issue of a Development Permit for Building Works. With respect to the obligation to construct and provide twenty-seven (27) car parking spaces, the applicant shall give evidence to the satisfaction of the Council that it has long term security and legal entitlement to lawfully use the land for car parking associated with the Dent Island Development.

14.0 MISCELLANEOUS

- 14.1 If any item of cultural heritage is identified during site works, all work shall cease and the relevant State Agency shall be notified. Work can resume only after State Agency clearance is obtained.
- 14.2 Provision and maintenance of refuse collection areas to the requirements of the Co-Ordinator – Environmental Health.
- 14.3 The colour scheme of all buildings and works shall comprise muted tones such as greys, browns, greens, dark blue and be approved by the Manager - Development & Environmental Services.
- 14.4 Any alteration necessary to electricity, telephone, water mains, sewerage mains, and/or public utility installations resulting from the development or in connection with the development, shall be at full cost to the developer.

15.0 ADVISORY NOTES

- 15.1 The approved development is also required to comply with Council's Local Laws from time to time and other controls. The following may be relevant:
 - Local Law 64 – Tree Preservation;
 - Local Law 13A – Flats, Tenement Buildings and Boarding Houses;
 - Local Law 13 – Advertising;
 - Environmental Protection Regulations 1998;
 - Environmental Protection Policies;
 - Compliance with the provisions of the Land Protection (Pest and Stock Routes Management) Act 2002 and Council's Pest Management Plan;
 - Food Store/Restaurant/Bar Facilities to comply with the Food Hygiene Regulations 1989 and FSANZ Food Safety Standards Code 2001;
 - Compliance with the provisions of the Dangerous Goods Safety Management Act 2001 and Regulations; and
 - Compliance with the provisions of the Health Regulations 1996 Part 8 – Mosquito Prevention and Destruction - dams are to be protected from mosquito breeding.
- 15.2 Enquiries relating to the aforementioned conditions should be directed to the Planning and Development Secretary on 4945 0248 who will direct the enquiry to the relevant officer.

PRELIMINARY APPROVAL FOR MATERIAL CHANGE OF USE - GOLF COURSE RESORT DEVELOPMENT INCLUDING 38 VILLAS AND 172 TWO AND THREE-BEDROOM APARTMENTS/TOWNHOUSES

1.0 ADMINISTRATION

1.1 The approved development is to be completed and maintained generally in accordance with the approved drawings and documents:

Plan/Document Name	Plan Number	Dated	Received
Proposed Development Location Plan	04-676 Figure 5	18 February '05	26 May 2005
Site development Plan	04-676 Figure 6	18 February '05	26 May 2005
Accommodation Location Guide	Unnumbered	July 2002	23 February 2005
Typical Apartments Elevations	Drawing (i)	July 2002	23 February 2005
Typical Apartments Upper Level Floor Plan	Drawing (ii)	July 2002	23 February 2005
Typical Villa	Drawing (iii)	July 2002	23 February 2005
Typical Villa Floor Plan	Drawing (iv)	July 2002	23 February 2005

1.2 The applicant is to comply with the Coordinator-General's Report Appendix 1 Conditions as outlined in the Coordinator-General's Report dated August 2004.

1.3 The following further development permits are required prior to commencement of work on site or commencement of the use:

1.3.1 Operational Works;

- Earthworks and retaining walls
- Roadworks
- Driveways and car parking
- Landscaping
- Stormwater drainage
- Water supply and sewer reticulation

1.3.2 Plumbing and Drainage Works;

1.3.3 Building Works; and

1.3.4 Material Change of Use – 38 Villas and 172 Two and Three-Bedroom Apartments/Townhouses (Code Assessment.)

All Operational Works, Plumbing and Drainage Works Development Permits must be obtained prior to the issue of a Building Works Development Permit.

1.4 Where a discrepancy or conflict exists between the written conditions of this approval and the approved plans, the requirements of the written condition(s) will prevail.

1.5 This approval is valid for a period of six years from the date of decision.

2.0 LANDSCAPING

2.1 A preliminary landscaping plan shall be submitted to Council with each Development Application for Material Change of Use.

2.2 Landscaping shall comply with the Hamilton Island Building and Design Guidelines Issue C March 2005 and any updated Issue that may be current prior to the lodgement of a Development Application for Material Change of Use.

3.0 BUILDING

- 3.1 The development associated with the villas and apartments/townhouses shall comply with the Hamilton Island Building and Design Guidelines Issue C March 2005 and any updated Issue that may be current prior to the lodgement of a Building Permit. The villas shall comply with Sections 1.0 – 4.0 and Section 7.0 of the Guidelines. The apartments/townhouses shall comply with Sections 1.0 – 3.0, 5.0 and 7.0 of the Guidelines.
- 3.2 Measurements of aircraft noise shall be validated at Building Application Stage to confirm the required façade and building attenuation requirements are in accordance with AS 2021 – 2000.

4.0 WATER RETICULATION

- 4.1 Water reticulation works are to be designed and constructed, in accordance with the Council Development Manual, Water Resources Commission Guidelines, Council's Standard Drawings and to the satisfaction of Council's Manager Infrastructure Services. Similarly, adherence to Acts, Regulations, relevant standards and Council's Local Laws is required.

5.0 SEWER RETICULATION

- 5.1 Sewerage reticulation works are to be designed and constructed, in accordance with the Council Development Manual, Water Resources Commission Guidelines, and Council's Standard Drawings and to the satisfaction of Council's Manager Infrastructure Services. Similarly, adherence to Acts, Regulations, relevant standards and Council's Local Laws is required.

6.0 STORMWATER AND FLOODING

- 6.1 All stormwater drainage works are to be designed and constructed in accordance with the Queensland Urban Drainage Manual and Council's Development Manual.
- 6.2 Buildings within 100 metres of the new dam or in the area at risk in the event of dam failure shall be designed to have a floor level at or above RL 35, whilst complying with the maximum building height of 8.5 metres above natural ground level.

7.0 ROAD WORKS

- 7.1 A Development Permit for Operational Works (Roadworks) shall be obtained prior to commencement of work on site.

8.0 INTERNAL ACCESS

- 8.1 A development Permit for Operational Works (Internal Access) shall be obtained prior to commencement of work on site.

9.0 SITE WORKS

- 9.1 A development Permit for Operational Works (Site Civil Works) shall be obtained prior to commencement of work on site.
- 9.2 All Earthworks, cut/fill batter treatment, retaining walls and drainage associated with the roadworks shall be designed so as to achieve the design criteria detailed in the Geotechnical Report.
- 9.3 All cut/fill batter slopes are to be protected and retained in a visually acceptable manner with structure designed in accordance with the recommendations contained in the Geotechnical Engineering Report. No cut/fill batters shall be left unprotected.
- 9.4 All stormwater drainage works associated with the above roadworks shall be designed and constructed in accordance with Section 1.6 and 1.10 of Council's Development Manual.
- 9.5 Design and construction of the works shall be in accordance with Council's Standard, Specifications and Standard Drawings applicable at the time.

10.0 ELECTRICITY AND TELECOMMUNICATIONS

- 10.1 Provide electricity and telecommunications connection to the proposed development to the requirements of the relevant authority. A certification of compliance shall be provided from the relevant authority prior to commencement of the use of the development.

11.0 ENVIRONMENTAL MANAGEMENT & MONITORING PLANS (EMMP'S)

11.1 The applicant shall finalise, prior to any work commencing on site, all Revised Draft Environmental Management & Monitoring Plans (EMMP's) dated 21 January 2004, and listed in Appendix F of the Planning Assessment Report submitted with the Development Application on 23 February 2005, showing design and control measures to be adopted for both the construction and post construction phase of the development.

All Environmental Management & Monitoring Plans shall be approved by Council prior to commencement of any work on site and all recommendations of each Environmental Management & Monitoring Plan shall be completed to the requirements of Council.

11.2 The applicant shall at all times comply with the requirements of the Fire Management Reports titled 'Operations Plan for Dent Island' and 'A Fire Management Framework for Ecological Burning on Hamilton and Dent Islands, prepared by Brown & Root Services Asia Pty Ltd, dated 2 August 2000, and listed in Appendix E of the Planning Assessment Report submitted with the Development Application on 23 February 2005.

12.0 GEOTECHNICAL

12.1 The applicant shall submit at each Material Change of Use Development Application a geotechnical report prepared by a qualified geotechnical engineer which shall address the points identified in the Preliminary Report prepared by Ullman & Nolan Geotechnic.

Any recommendations arising out of the report are to be included in the design of buildings, roads, retaining walls, cut/fill batters etc.

13.0 DEVELOPER CONTRIBUTIONS

13.1 The applicant shall contribute to Car Parking Requirements in accordance with Council's Policy or Infrastructure Charges Plan applicable at the date of payment, prior to the issue of each Development Permit for Building Works.

14.0 MISCELLANEOUS

14.1 If any item of cultural heritage is identified during site works, all work shall cease and the relevant State Agency shall be notified. Work can resume only after State Agency clearance is obtained.

14.2 Provision and maintenance of a refuse collection areas to the requirements of the Co-ordinator – Environmental Health.

14.3 The colour scheme of all buildings and works shall comprise muted tones such as greys, browns, greens, dark blue and be approved by the Manager - Development & Environmental Services.

14.4 Any alteration necessary to electricity, telephone, water mains, sewerage mains, and/or public utility installations resulting from the development or in connection with the development, shall be at full cost to the developer.

15.0 ADVISORY NOTES

15.1 The approved development is also required to comply with Council's Local Laws from time to time and other controls. The following may be relevant:

- Local Law 64 – Tree Preservation;
- Local Law 13A – Flats, Tenement Buildings and Boarding Houses;
- Local Law 13 – Advertising;
- Environmental Protection Regulations 1998;
- Environmental Protection Policies;
- Compliance with the Land Protection (Pest and Stock Routes Management) Act 2002 and Council's Pest Management Plan;

- Compliance with the provisions of the Dangerous Goods Safety Management Act 2001 and Regulations; and
- Compliance with the provisions of the Health Regulations 1996 Part 8 – Mosquito Prevention and Destruction - dams are to be protected from mosquito breeding.

15.2 Enquiries relating to the aforementioned conditions should be directed to the Development and Environmental Services Secretary on 4945 0248 who will direct the enquiry to the relevant officer.



The following is an extract from the *Integrated Planning Act* (Chapter 4).

Division 8 Appeals to court relating to development applications**4.1.27 Appeals by applicants**

(1) An applicant for a development application may appeal to the court against any of the following—

- (a) the refusal, or the refusal in part, of a development application;
- (b) a matter stated in a development approval, including any condition applying to the development, and the identification of a code under section 3.1.6;79
- (c) the decision to give a preliminary approval when a development permit was applied for;
- (d) the length of a currency period;
- (e) a deemed refusal.

(2) An appeal under subsection (1)(a) to (d) must be started within 20 business days (the **applicant's appeal period**) after the day the decision notice or negotiated decision notice is given to the applicant.

(3) An appeal under subsection (1)(e) may be started at any time after the last day a decision on the matter should have been made.

4.1.28 Appeals by submitters

(1) A submitter for a development application may appeal to the court about—
79 Section 3.1.6 (Preliminary approval may override local planning instrument)

s 4.1.29 166 s 4.1.29

Integrated Planning Act 1997

- (a) the giving of a development approval, including any conditions (or lack of conditions) or other provisions of the approval; or
- (b) the length of a currency period for the approval.

(2) The appeal must be started within 20 business days (the **submitter's appeal period**) after the day the decision notice or negotiated decision notice is given to the submitter.

(3) If a person withdraws a submission before the application is decided, the person may not appeal the decision.

(4) If an application involves both impact assessment and code assessment, appeal rights for submitters are available only for the part of the application involving impact assessment.

(5) If an application is processed under section 6.1.28(2), appeal rights for submitters for the application are available only for the aspects of

the development that would have required public notification under the repealed Act.

(6) If an application involves assessment against a concurrence agency code, appeal rights for submitters for the application are not available against the part of the approval that represents the concurrence agency's response for the code.

4.1.29 Appeals by advice agency submitters

(1) An advice agency may, within the limits of its jurisdiction, appeal to the court about the giving of a development approval for a development application if—

- (a) the development application involves impact assessment; and

(b) the advice agency told the applicant and the assessment manager to treat its response to the application as a submission for an appeal.

(2) The appeal must be started within 20 business days after the day the decision notice or negotiated decision notice is given to the advice agency as a submitter.

s 4.1.30 167 s 4.1.31

Integrated Planning Act 1997

4.1.30 Appeals for matters arising after approval given**(co-respondents)**

(1) For a development approval given for a development application, a person to whom any of the following notices have been given may appeal to the court against the decision in the notice—

- (a) a notice giving a decision on a request for an extension of the currency period for an approval;
- (b) a notice giving a decision on a request to make a minor change to an approval.

(2) The appeal must be started within 20 business days after the day the notice of the decision is given to the person.

(3) Subsection (1)(a) does not apply if the approval resulted from a development application (superseded planning scheme) that was assessed as if it were an application made under a superseded planning scheme.

(4) Also, a person who has made a request mentioned in subsection (1) may appeal to the court against a deemed refusal of the request.

(5) An appeal under subsection (4) may be started at any time after the last day the decision on the matter should have been made.



THIS DEED is made the 17th day of JANUARY 2014

BETWEEN: GREAT BARRIER REEF MARINE PARK AUTHORITY (ABN 12 949 356 885), a body corporate established by the *Great Barrier Reef Marine Park Act 1975* (Cth) ('the Managing Agency') on behalf of the Commonwealth of Australia of the first part,

AND: HAMILTON WEST PTY LTD (ACN 010 254 207), a company duly incorporated according to law and having its registered office at Level 3, 100 Pacific Highway ST LEONARDS NSW 2065 of the second part ('the permittee').

WHEREAS

- A. The Managing Agency has granted to the permittee Permit Number G14/33314.1 pursuant to the *Great Barrier Reef Marine Park Act 1975* (Cth) and the *Great Barrier Reef Marine Park Regulations 1983* (Cth).
- B. The permit has been granted to the permittee subject to the permittee executing and delivering to the Managing Agency a Deed in the form approved by the Managing Agency.
- C. The permittee acknowledges that the conditions imposed by the permit and the obligations cast upon the permittee by this Deed are necessary for the attainment of the object of the *Great Barrier Reef Marine Park Act 1975* (Cth).

NOW THE PARTIES HERETO EXPRESSLY COVENANT AND AGREE WITH EACH OTHER AND THIS DEED WITNESSES AS FOLLOWS:

DEED OF AGREEMENT ANNEXED TO PERMIT G14/33314.1

GBRMPA.....

Permittee.....

1.0 **DEFINITIONS AND INTERPRETATIONS**

1.1. In this Deed, unless a contrary intention appears:-

- (a) 'Act' in relation to the Great Barrier Reef Marine Park means the *Great Barrier Reef Marine Park Act 1975* (Cth) (as amended).
- (b) 'clean up' means remove wastes and materials and disperse, remove or render harmless oil and other pollution and contaminants.
- (c) 'environmental impact' includes direct as well as indirect, and cumulative as well as immediate impact, to or upon the environment.
- (d) 'Environmental Management Plan' means the Environmental Management Plan prepared by the permittee (or at its direction) and approved by the Managing Agency and includes any approved variations thereto.
- (e) 'Environmental Site Supervisor' means the person or persons from time to time nominated in writing by the Managing Agency to the permittee, funded in accordance with this Deed of Agreement.
- (f) 'GBRMPA' means the Great Barrier Reef Marine Park Managing Agency established by the *Great Barrier Reef Marine Park Act 1975* (Cth).
- (g) 'harm' in relation to the environment, includes any direct or indirect alteration to the environment that has the effect of degrading the environment and, without limiting the generality of the foregoing, includes any act or omission that results in pollution of the Marine Park.
- (h) 'Managing Agency' in relation to the Great Barrier Reef Marine Park means the GBRMPA, a member of the staff of that Managing Agency, a person referred to in section 48A of the *Great Barrier Reef Marine Park Act 1975* (Cth) performing functions or exercising powers under that Act in accordance with an agreement referred to in that section, or an inspector within the meaning of that Act.
- (i) 'Marine Park' means the Great Barrier Reef Marine Park established by the *Great Barrier Reef Marine Park Act 1975* (Cth).
- (j) 'Monitoring Consultant' means the person from time to time nominated in writing by the permittee and approved by the Managing Agency.
- (k) 'Monitoring Program' means the monitoring program that is prepared and approved in accordance with the Environmental Management Plan, or designed to quantify environmental impact.
- (l) 'operating term' means the period of time from the commencement of any works in the Marine Park in connection with Permit Number G14/33314.1 until the earliest of the expiry, revocation or surrender of the permit and includes any period for which the permit remains in force pursuant to regulation 88ZC of the Regulations.
- (m) 'permit' means the permissions the subject of Permit Number G14/33314.1 granted by the Managing Agency to the permittee pursuant to the Regulations in relation to the works.
- (n) 'permittee' means HAMILTON WEST PTD LTD (ACN 010 254 207), being the second named party to this Deed.
- (o) 'person' shall include a body corporate or a company.
- (p) 'preventative action' in relation to 'the works' means action:
 - (i) to render safe;
 - (ii) to stabilise;

DEED OF AGREEMENT ANNEXED TO PERMIT G14/33314.1

GBRMPA.....

Permittee.....

- (iii) to barricade or render inaccessible; and/or
 - (iv) to mitigate damage caused or likely to be caused to the Marine Park or property or things in the Marine Park.
 - (q) 'Regulations' in relation to the Great Barrier Reef Marine Park means the *Great Barrier Reef Marine Park Regulations 1983* (Cth) (as amended).
 - (r) 'rehabilitate' means rebuild, re-shape, re-plant, replace and/or transplant marine or terrestrial organisms or natural structures so as to restore the natural appearance of the area.
 - (s) 'works' means and includes all plant and materials comprising or used in connection with all constructions, erections, dredging, installations, structures, facilities, vessels or aircraft of any kind associated directly or indirectly with the permit and the use (authorised or unauthorised) of the Marine Park in connection with the permit.
- 1.2. Words importing the singular number or plural number shall include the plural and singular number respectively.
- 1.3. Any reference to a Commonwealth officer or body or persons shall be referred to as a reference to any other officer or body for the time being exercising the powers or performing the functions of the first mentioned officer or body.
- 1.4. Any reference to money received by the Managing Agency is received for and on behalf of the Commonwealth of Australia.

2.0 AGREEMENT TO COMPLY WITH AND ABIDE BY CONDITIONS OF THE PERMIT

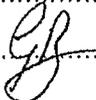
- 2.1. The permittee hereby expressly covenants and agrees to abide, and procure that its contractors abide, by the conditions of the permit and any obligations (howsoever described) in this Deed and (if relevant) the approved Environmental Management Plan as amended from time to time, with the written approval of the Managing Agency.

3.0 COVENANTS AND INDEMNITY

- 3.1. The permittee hereby expressly covenants and agrees with the Managing Agency as follows:
- (a) to remove from the Marine Park, within three (3) months or such reasonable time as is nominated in writing by the Managing Agency, the works, in whole or in part according to the direction in writing of the Managing Agency, in the event that:
 - (i) the works are wrecked, damaged, sunk or stranded so that they are rendered unfit for a period of four weeks (or longer) for the purpose described in the permit by any cause whatsoever (including Acts of God, negligence or deliberate or accidental act of any person not party to this Deed) unless the permittee is informed in writing by the Managing Agency that such removal is not required, provided that in the event the works are damaged the permittee's obligation to remove the works within this sub-clause shall be suspended, where it has satisfied the Managing Agency that the works may be reinstated to fitness for the purpose described in the permit within a reasonable time, for so long as the permittee satisfies the Managing Agency that it is proceeding expeditiously to effect such reinstatement; or

DEED OF AGREEMENT ANNEXED TO PERMIT G14/33314.1

GBRMPA.....

Permittee.....

- (ii) the works are abandoned or the permit expires or is revoked or surrendered or is rendered invalid through any cause whatsoever unless the permittee is informed in writing by the Managing Agency that such removal is not required; or
 - (iii) the removal is directed by the Managing Agency in accordance with the Environmental Management Plan; and
- (b) to indemnify the Managing Agency against any and all loss or damage arising out of, or costs, charges or expenses reasonably incurred by the Managing Agency for or in relation to, the removal of the works from the Marine Park in the event of the permittee failing to do so pursuant to paragraph (a)(i); and
 - (c) to indemnify the Managing Agency against any and all loss or damage arising out of, or costs, charges or expenses reasonably incurred by the Managing Agency for or in relation to, the removal of the works from the Marine Park in the event of the permittee failing to do so pursuant to paragraph (a)(ii); and
 - (d) to indemnify the Managing Agency against any and all loss or damage arising out of, or costs, charges or expenses reasonably incurred by the Managing Agency for or in relation to, the removal of the works from the Marine Park in the event of the permittee failing to do so pursuant to paragraph (a)(iii); and
 - (e) to clean up the Marine Park as directed in writing from time to time by the Managing Agency where such clean up is a result of:
 - (i) a sudden, identifiable, unintended and unexpected event which takes place in its entirety at a specific time and place which results in the discharge, dispersal or escape of wastes, materials, oils, pollution or other contaminants which are produced directly or indirectly or arise from or in connection with the works or any activities associated with the works or any activities of the permittee, its officers, employees and agents carried out within the Marine Park whether permitted by the permit or otherwise; and
 - (ii) causes other than from a sudden, identifiable, unintended and unexpected event which results in the discharge dispersal or escape of wastes, materials, oils, pollution or other contaminants which are produced directly or indirectly or arise from or in connection with the works or any activities associated with the works or any activities of the permittee, its officers, employees and agents carried out within the Marine Park whether permitted by the permit or otherwise; and
 - (f) to indemnify the Managing Agency against any and all loss or damage arising out of, or costs, charges or expenses reasonably incurred by the Managing Agency for or in relation to, the clean up of the Marine Park in the event of the permittee failing to do so pursuant to paragraph (e)(i); and
 - (g) to indemnify the Managing Agency against any and all loss or damage arising out of, or costs, charges or expenses reasonably incurred by the Managing Agency for or in relation to, the clean up of the Marine Park in the event of the permittee failing to do so pursuant to paragraph (e)(ii); and
 - (h) to rehabilitate the Marine Park as directed from time to time to a standard set by the Managing Agency but in any case not exceeding the standard existing at the time of commencement of activities in connection with the permit, in order to repair damage to the Marine Park (whether direct or indirect, cumulative or immediate) arising out of the activities permitted, or the wrecking, abandonment, sinking, stranding (including such events during placement or removal from the Marine Park) of the works, or any of them being damaged by any cause whatsoever (including Acts of God, negligence or the deliberate or accidental act of any person not party to this Deed); and

DEED OF AGREEMENT ANNEXED TO PERMIT G14/33314.1

GBRMPA.....*ML*

Permittee.....*GB*

- (i) to indemnify the Managing Agency against any and all loss or damage, costs, charges or expenses reasonably incurred by the Managing Agency in rehabilitating the Marine Park in accordance with paragraph (h) if the permittee fails to do so pursuant to paragraph (h); and
- (j) to take preventative action, in relation to the works and/or the Marine Park, as directed by the Managing Agency where (in the sole unfettered opinion of the Managing Agency) the works are unsafe or pose a hazard to persons or property or are causing or likely to cause damage to the Marine Park; and
- (k) to indemnify the Managing Agency against any or all loss or damage, costs, charges or expenses reasonably incurred by the Managing Agency in taking preventative action in accordance with paragraph (j) if the permittee fails to do so pursuant to paragraph (j); and
- (l) to indemnify and keep indemnified the Managing Agency, its officers, employees and agents from and against all actions, claims, demands, costs and expenses (including the costs of defending or settling any action, claim or demand) made, sustained, brought or prosecuted in any manner based upon, occasioned by or attributable to any injury (including death) or loss of or damage to property or financial loss to or suffered by any person (and whether that person is a servant, agent, independent contractor, licensee or invitee of the permittee or otherwise) which may arise from or in connection with the works or any activities associated with the works or any activities of the permittee, its officers, employees and agents carried out within the Marine Park whether permitted by the permit or otherwise other than arising out of or in connection with the acts or omissions of the Managing Agency involving fault on the part of the Managing Agency; and
- (m) if the permittee fails to carry out any such removal or clean up or rehabilitation or take preventative action or pay or meet the costs of such or pay to the Managing Agency the cost of the Monitoring Program or pay to the Managing Agency the total cost of environmental site supervision or fails to indemnify the Managing Agency (in each such case as required by the provisions of this clause) then the Managing Agency may deduct the amount of any loss, damage, costs, charges or expenses thereof and any costs of the Managing Agency thereby incurred from the bond referred to in clause 6.0 hereof or part of such or recover the same or any balance not met by such bond as a debt due and owing by the permittee to the Managing Agency; and
- (n) to indemnify the Managing Agency against any or all loss or damage, costs, charges or expenses incurred by the Managing Agency for or in relation to any action taken by the Managing Agency pursuant to clause 9.0 hereof.

4.0 INSURANCE

4.1. During the Operating term and unless the Managing Agency otherwise agrees for a further period of two (2) years thereafter the permittee shall, at its cost, take out, keep in full force and effect, comply with and not do or allow or suffer to be done anything which would prejudice the continuing cover provided by the following policies of insurance:

- (a) **REMOVAL and CLEAN UP**- Insurance covering the permittee's obligations pursuant to clauses 3.1(a)(i) (other than the obligation to remove a mooring) and 3.1(e)(i) to the extent of A\$500,000 per occurrence; and
- (b) **INDEMNITY (Removal and Clean Up)** - Insurance covering the permittee's obligations under clauses 3.1(b) (other than the obligation to indemnify the Managing Agency in respect of the removal of a mooring) and 3.1(f) to indemnify the Managing Agency, to the extent of A\$500,000 per occurrence; and

DEED OF AGREEMENT ANNEXED TO PERMIT G14/33314.1

GBRMPA.....*M*.....
 Permittee.....*P.B.*.....

- (c) INDEMNITY (Death, personal injury, property damage, etc.) - Insurance covering the permittee's obligation under clause 3.1(l) to indemnify the Managing Agency (other than an obligation to indemnify the Managing Agency in respect of a matter which is covered under any applicable law relating to workers' compensation insurance), to the extent of A\$10,000,000 per occurrence.
- 4.2. Every policy of insurance entered into pursuant to the provisions herein shall, apart from any insurances in which the Managing Agency has no insurable interest, name the Managing Agency and any person designated by the Managing Agency as an interested party.
- 4.3. In respect of each and every such policy of insurance the permittee shall make all payments necessary for the purpose of keeping the policies in force within at least 14 days of the day when payment shall have become due or such earlier time as may be necessary to ensure the continuation of the cover provided.
- 4.4. Where the nature of the works changes to the extent that the works are no longer covered by an existing policy of insurance referred to in this Deed and at least 14 days before the above changes are to occur the permittee shall take out further appropriate insurance so that the permittee's insurance obligations under this Deed continue to be met.
- 4.5. Where default in payment of monies due by the permittee is made in respect of any of the said policies pursuant to the provisions hereof or default in effecting or maintaining any of the said policies pursuant to the provisions hereof is made by the permittee, the Managing Agency may, at any time, and without prejudice to any of its other rights in respect of such default, pay the said monies or at its sole discretion effect or maintain any of the said policies and or upon the incurrence by the Managing Agency of any costs associated with effecting or maintaining any of the said policies and, upon such payment, the Managing Agency shall be entitled to deduct the amount of the said monies and or costs incurred (as the case may be) and any further reasonable costs of the Managing Agency thereby incurred from the bond referred to in clause 6 hereof.
- 4.6. During the operating term and for a period of two (2) years thereafter, the permittee shall make available and produce to the Managing Agency for inspection at any time upon request:
- (a) each and every policy of insurance (and any and all amendments, endorsements and replacements thereto) referred to in this clause;
 - (b) written evidence of the currency of any such policy of insurance; and
 - (c) any notices, premium accounts, premium receipts, correspondence or documentation of any other kind whatsoever concerning the same as the Managing Agency may require.
- 4.7. No action taken by the Managing Agency under clause 4.6 (including, without limitation, the review of any policy of insurance) relieves the permittee of its obligations under this clause 4.0. The permittee retains sole and exclusive responsibility to ensure that the insurance it procures is fully compliant with those obligations and with the terms, nature and level of cover required by this Deed.

DEED OF AGREEMENT ANNEXED TO PERMIT G14/33314.1

GBRMPA.....
 Permittee.....

5.0 COST RECOVERY

- 5.1. The permittee agrees to pay to the Managing Agency within 30 days of an invoice being submitted to the permittee the reasonable costs of transport, accommodation and food incurred by the Managing Agency in carrying out environmental site supervision associated with the supervision or inspection of works within the Marine Park pursuant to Permit G14/33314.1; and
- 5.2. The permittee agrees to pay to the Managing Agency all reasonable costs of and incidental to the following:
- (a) the selection of and ongoing costs of the Environmental Site Supervisor; and
 - (b) any expert panel or reviewers required under this Deed or under the Environmental Management Plan.

6.0 BOND

- 6.1. The permittee shall lodge with the Managing Agency a bond ('the bond') in favour of the Managing Agency in the sum of not less than A\$500,000 (hereinafter referred to as 'the original amount') to cover the liability of the permittee under the permit and this Deed.
- 6.2. The bond shall be:
- (a) maintained and callable during the Operating term and unless the Managing Agency otherwise agrees for a further period of two years thereafter;
 - (b) unconditionally payable to the Managing Agency upon demand by the Managing Agency;
 - (c) otherwise in terms approved by the Managing Agency;
 - (d) lodged with the Managing Agency prior to the commencement of the Operating term OR lodged with the Managing Agency within 20 business days of the date of issue of Permit G14/33314.1;
 - (e) issued by a party or parties acceptable to the Managing Agency; and
 - (f) irrevocable.
- 6.3. All monies received by the Managing Agency under or by virtue of the bond shall be applied by the Managing Agency only towards the satisfaction of any right to deduction from the bond under the permit and this Deed and the Managing Agency shall at the expiry of the period referred to in clause 6.2(a) hereof and after the satisfaction of any such right pay to the permittee the surplus monies (if any).

7.0 TERM

- 7.1. The parties agree that this Deed shall remain in force until, the expiration of two (2) years after the expiry of the Operating term, or the satisfaction by the permittee of all its obligations pursuant to the permit and this Deed, whichever is the later.

DEED OF AGREEMENT ANNEXED TO PERMIT G14/33314.1

GBRMPA.....*M*
Permittee.....*GB*

8.0 NON-ASSIGNABILITY

8.1. Neither the benefit nor the burden of this Deed (in either case whether wholly or in part) shall be assigned or assignable by the permittee to any other person.

9.0 DEFAULT

9.1. In the event of default (whether in whole or in part) by the permittee in the performance or observance of any of the conditions of the permit and this Deed the Managing Agency without prejudice to any of its other rights in respect of such default shall be empowered and entitled (but not obliged) after providing reasonable notice in writing to the permittee of its intention to do so, to take whether by itself, its servants, agents, independent contractors or otherwise such action as it considers (in its sole unfettered discretion) necessary to remedy such default in such a manner as it considers (in its sole unfettered discretion) appropriate.

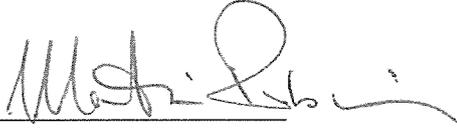
10.0 GOVERNING LAW

10.1. This Deed shall be interpreted in accordance with, and governed by, the laws in force in the State of Queensland.

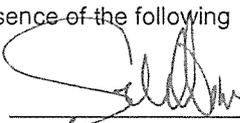
GBRMPA.....
Permittee.....

IN WITNESS WHEREOF the parties hereto have duly executed this Deed on the date first written above.

Signed and Delivered for and on behalf of the GREAT BARRIER REEF MARINE PARK MANAGING AGENCY, by its delegate,

Signature 
Print Name Martin Robinson
Manager
Permits

in the presence of the following witness:

Signature 
Print Name S. Williams

Signed, Sealed and Delivered for and on behalf of HAMILTON WEST PTY LTD (ACN 010 254 207) by Managing Agency of the directors

Director/Secretary 
Print Name ANDREW OATLEY

in the presence of the following witness:

Director/Secretary 
Print Name GLENN BOURKE

CURRENT STATE TENURE SEARCH

DEPT OF NATURAL RESOURCES AND MINES, QUEENSLAND

Request No: 19787017

Search Date: 13/11/2014 12:23

Title Reference: 40059018

Date Created: 11/08/2009

DESCRIPTION OF LAND

Tenure Reference: TL 0/233549

Lease Type: TERM

LOT 7 SURVEY PLAN 220416
 County of HERBERT Parish of WHITSUNDAY
 Local Government: WHITSUNDAY

Area: 0.144000 Ha. (ABOUT)

No Land Description

No Forestry Entitlement Area

No Future Conservation Area

Purpose for which granted:
 MARINE FACILITY

TERM OF LEASE

Term and day of beginning of lease

Term: 10 years commencing on 05/02/2009

Expiring on 04/02/2019

REGISTERED LESSEE

HAMILTON WEST PTY LTD A.C.N. 010 254 207

CONDITIONS

CURRENT STATE TENURE SEARCH

DEPT OF NATURAL RESOURCES AND MINES, QUEENSLAND

Request No: 19787017

Search Date: 13/11/2014 12:23

Title Reference: 40059018

Date Created: 11/08/2009

CONDITIONS

- A78
- (1) The lessee must use the leased land for marine facility purposes namely a jetty .
 - (2) This lease may be forfeited if not used for the purpose stated above.
 - (3) The annual rent must be paid in accordance with the Land Act 1994.
 - (4) The Parties acknowledge that GST may be payable in respect of a supply made under this lease. Where GST becomes payable in respect of a supply made under this lease, the State (lessor) may recover the GST from the lessee by increasing the consideration payable by the lessee to the State by an amount equal to that which the State is obliged to remit to the Commonwealth as GST on the supply and that amount may be recovered from the lessee as part of the money payable to the State under this lease. The State will upon request by the lessee, issue to the lessee a valid GST tax invoice in respect of any taxable supply made under this lease. (NOTE: For the purposes of this condition "GST" means the goods and services tax which results from the enactment of A New Tax System (Goods and Services Tax) Act 1999 and the related Acts which constitute the Commonwealth taxation reform (as amended from time to time)).
 - (5) The lessee must pay the cost of any required survey or re-survey of the leased land.
 - (6) The lessee must control pest plants and animals, on the leased land, in accordance with the Land Protection (Pest and Stock Route Management) Act 2002 and the Local Laws and requirements of the Whitsunday Regional Council.
 - (7) The lessee has the responsibility for a duty of care, to take all reasonable and practicable measures to sustainably manage the leased land by conserving the physical, biological, productive and cultural values, either on the leased land or in areas affected by the management of the leased land.
 - (8) The lessee must ensure that the use and development of the leased land conforms to the Planning Scheme, Local Laws and requirements of the Whitsunday Regional Council, binding on the lessee.
 - (9) The lessee must give the Minister administering the Land Act 1994, information about the lease, when requested.
 - (10) The lessee must not clear any vegetation on the leased land, unless in accordance with the Integrated Planning Act 1997.
 - (11) No compensation for improvements or developmental work is payable by the State at the forfeiture, surrender or expiry of the lease, but the lessee has the right to remove the lessees moveable improvements within a period of three (3) months from the forfeiture, surrender or expiry of the lease, provided all money due by the lessee to the State on any account whatsoever has been paid, or be required to remove those improvements as specified in any further condition of lease.

CURRENT STATE TENURE SEARCH

DEPT OF NATURAL RESOURCES AND MINES, QUEENSLAND

Request No: 19787017

Search Date: 13/11/2014 12:23

Title Reference: 40059018

Date Created: 11/08/2009

CONDITIONS

- (12) This lease is subject to the Land Act 1994 and all other relevant State and Commonwealth Acts.
- A89 (1) The lessee must allow any person authorised under the Forestry Act 1959 access to the leased land for the purpose of cutting and removing timber or removing other forest products, or quarry material, or other material from the leased land.
- (2) Except as hereinafter provided the lessee must not interfere with any forest products or remove any quarry material (including any stone, gravel, sand, earth, soil, rock, guano or clay which is not a mineral within the meaning of the Mineral Resources Act 1989) or other material upon the leased land without the permission of the Minister administering the Land Act 1994 except under the authority of and in compliance in every respect with the requirements or a permit, licence, agreement or contract granted or made under the Forestry Act 1959.
- A90 Further to Condition A78, the lessee must remove the lessees improvements and rehabilitate the area to the satisfaction of the Minister administering the Land Act 1994 from the date of expiry or forfeiture of the lease.
- A91 If the lessee fails to remove the improvements and rehabilitate the area as detailed in Condition A90 above, the Minister administering the Land Act 1994, can remove the improvements and rehabilitate the area and is hereby authorised to do whatever is necessary to effect the said removal and rehabilitation. The said Minister may recover from the lessee the total cost incurred in the said removal and rehabilitation.
- C343 The lessee must within 5 (five) years from the commencement of the lease and to the satisfaction of the Minister administering the Land Act 1994, Department of Employment, Economic Development and Innovation, Great Barrier Reef Marine Park Authority, and the Department of Environment and Resource Management, construct a jetty, refer Concept Master plan drawing No 1979M01 Rev A, Proposed Jetty Landing area Drawing Number 1979J01 Rev A, Drawings 9305-BR-01, 9305-BJ-02 and 9305-04-14..
- G61 The lessee of this lease is not allowed to make an application for conversion in terms of the Land Act 1994.

CURRENT STATE TENURE SEARCH

DEPT OF NATURAL RESOURCES AND MINES, QUEENSLAND

Request No: 19787017

Search Date: 13/11/2014 12:23

Title Reference: 40059018

Date Created: 11/08/2009

CONDITIONS

H126 The lessee must, at all times during currency of the lease, allow the lessee, servants and guests of lot 3 HR2019 and Lot 4 CP855596 free and unrestricted access to those lease areas for the purpose of embarking and disembarking.

I59 The lessee must within (3) three months provide to the Minister administering the Land Act 1994 a Performance Guarantee Bond issued by a Trading Bank or other institution approved by the said Minister \$500,000 and in a form approved by the said Minister unconditionally guaranteeing to pay the amount of the Bond to the said Minister on demand as surety for rehabilitation and restoration as may occur or be required by the terms and conditions thereof. The amount of the Bond may be reviewed at any time at the discretion of the said Minister, or upon application being made to the Department of Environment and Resource Management by the lessee. Assessment of the Bond amount must be undertaken by an independent Quantity Surveyor or Consulting Engineer and all costs leading to the establishment of the Bond and any review of the Bond must be borne by the lessee. Notwithstanding the above, the said Minister has the discretion to approve any other form of security offered by the lessee in substitution for the Bond. If the said Minister approves any other form of security offered by the lessee (the substituted security), then the said Minister will determine, in the Minister's absolute discretion, the amount of, the form of, and the terms upon which the substituted security must be provided.

I60 In the event that any transfer of the leased land is approved, the purchaser will be required to furnish to the Minister administering the Land Act 1994, a performance guarantee bond as required by condition I59, effective from the date of transfer, upon such terms and conditions as the said Minister may at that time determine, in substitution for the current bond which will be released.

CURRENT STATE TENURE SEARCH

DEPT OF NATURAL RESOURCES AND MINES, QUEENSLAND

Request No: 19787017

Search Date: 13/11/2014 12:23

Title Reference: 40059018

Date Created: 11/08/2009

CONDITIONS

I66 The lessee indemnifies and agrees to keep indemnified the Minister administering the Land Act 1994, and the State of Queensland, Whitsunday Regional Council (the "Indemnified parties") against all actions, suits, proceedings, claims, demands, costs, losses, damages and expenses ("Claim") arising out of or in any way connected to or resulting from the granting of this lease to the lessee or which is connected to or resulting from the lessees' use and occupation of the leased land (all of which are referred to as "the indemnified acts or omissions") save to the extent that the Claim arises as a result of any negligent act or omission of the Indemnified parties, however, any negligent act or omission of one of the Indemnified parties does not negate the indemnity to any of the other Indemnified party/ies. The lessee hereby releases and discharges the Indemnified parties from any Claim relating to the indemnified acts or omissions which may be made against the Indemnified parties.

CURRENT STATE TENURE SEARCH

DEPT OF NATURAL RESOURCES AND MINES, QUEENSLAND

Request No: 19787017

Search Date: 13/11/2014 12:23

Title Reference: 40059018

Date Created: 11/08/2009

CONDITIONS

- I69 (1) The lessee must effect a public liability insurance policy with an insurer authorised under the Insurance Act 1973 (Commonwealth) or, in any other case, to the satisfaction of the Minister administering the Land Act 1994, naming the lessee as the insured covering legal liability for any loss of, or damage to any property and for the injury (including death) to any person arising out of anything done or omitted on or about the leased land or any improvements thereon and against all claims, demands, proceedings, costs, charges and expenses whatsoever in respect thereof subject to the terms and conditions of the insurance policy. Such policy must:
- (a) be for an amount of not less than at least \$20 million dollars in respect of all claims arising out of a single event or such higher amounts as the Minister may reasonably require;
 - (b) be effected on a "claims occurring" basis so that any claim made by the lessee under the policy after expiration of the period of policy cover but relating to an event occurring during the currency of the policy will be covered by the policy subject to the claim meeting the policy's other terms and conditions;
 - (c) be effected on such other reasonable terms and conditions as may be required by the Minister; and
 - (d) be maintained at all times during the currency of the lease .
- (2) The lessee must, as soon as practicable, inform the Minister , in writing, of the occurrence of any event that the lessee considers is likely to give rise to a claim under the policy of insurance effected and must ensure that the Minister is kept fully informed of subsequent actions and developments concerning the claim.
- (3) The lessee must renew such policy, at the lessees' expense, each year during the currency of this lease and forward a certificate of currency to the Minister within 14 days of the commencement of each respective renewal period.
- (4) Upon receipt of a Notice of Cancellation, the lessee must immediately effect another public liability policy in accordance with the provisions of this condition.
- (5) Clause (1) of this condition will be satisfied if the lessee is the State of Queensland or a statutory authority eligible for cover under the Queensland Government Insurance Fund and is insured and continues to be insured by the Queensland Government Insurance Fund.
- (6) Clause (1) of this condition will be satisfied if the lessee is the Commonwealth of Australia or a statutory authority eligible for cover under the Comcover Insurance Fund and is insured and continues to be insured by Comcover.

CURRENT STATE TENURE SEARCH

DEPT OF NATURAL RESOURCES AND MINES, QUEENSLAND

Request No: 19787017

Search Date: 13/11/2014 12:23

Title Reference: 40059018

Date Created: 11/08/2009

CONDITIONS

- I73 The lessee hereby covenants and agrees with the Minister administering the Land Act 1994, that by virtue of the execution of this lease, no liability is stated or implied or will attach to the said Minister and the State in respect of any loss or damage to the leased land or to any improvements thereon caused by the effects of erosion, flooding, inundation by seawater through storm surge or other result or consequence caused by global climatic change.
- L110 The lessee must, to the satisfaction of the Minister administering the Land Act 1994, construct and maintain the improvements on the leased land in a good and substantial state of repair.
- M546 This lease is issued in accordance with the provisions of Section 24HA of the Native Title Act 1993 (Cth). In accordance with Section 24HA of the Native Title Act 1993 (Cth), the non-extinguishment principle applies.
- M549 The lease is not transferable, including changes in ownership structure occasioned by transfer of shares in the lessee company, Hamilton West Pty Ltd A.C.N 010 254 207 of the lessee company without the prior consent of the Minister.
- T31 The lessee must not in any way interfere with any navigation mark or light erected on the leased land.
- T32 The lessee must, to the satisfaction of the Department of Transport and Main Roads, keep the sight line of any navigation leads which cross the leased land clear of obstructions. However, with the prior approval of the Department of Transport and Main Roads, the lessee may make alternative arrangements for relocating any of the said leads.
- T33 The lessee must not allow any vessel moored within the leased land to be used as a permanent place for human habitation without the prior approval of Department of Environment and Resource Management and the Whitsunday Regional Council and the Great Barrier Reef Marine Park Authority.
- T34 The lessee must supply, install and maintain, at the lessees' expense, any navigation lights, buoys, marks and warning signs which the Department of Transport and Main Roads considers necessary.

CURRENT STATE TENURE SEARCH

DEPT OF NATURAL RESOURCES AND MINES, QUEENSLAND

Request No: 19787017

Search Date: 13/11/2014 12:23

Title Reference: 40059018

Date Created: 11/08/2009

CONDITIONS

T38 The lessee must, to the satisfaction of the Minister administering the Land Act 1994 take all reasonable action to ensure that all vessels attached to moorings within the boundaries of the leased land must be moored wholly within such boundaries and that such vessels or any part/s thereof must not encroach beyond the boundaries of the leased land.

U46 The lease is tied to Term Lease over lot 5 CP855596 and separate transfers are not allowed.

ENCUMBRANCES AND INTERESTS

1. Rights and interests reserved to the Crown by Lease No. 40059018
2. MORTGAGE No 715938126 06/08/2014 at 14:19
WESTPAC BANKING CORPORATION A.B.N. 33 007 457 141

ADMINISTRATIVE ADVICES - NIL

UNREGISTERED DEALINGS - NIL

Caution - Charges do not necessarily appear in order of priority

** End of Current State Tenure Search **

Information provided under section 34 Land Title Act(1994) or section 281 Land Act(1994)

COPYRIGHT THE STATE OF QUEENSLAND (DEPT OF NATURAL RESOURCES AND MINES) [2014]
Requested By: D APPLICATIONS CITEC CONFIRM

D. H. S.
EPBC

COMMONWEALTH OF AUSTRALIA

ENVIRONMENT PROTECTION AND BIODIVERSITY CONSERVATION ACT 1999

DECISION TO APPROVE THE TAKING OF AN ACTION

Pursuant to section 133 of the *Environment Protection and Biodiversity Conservation Act 1999*, I, GERARD PATRICK EARLY, First Assistant Secretary, Approvals and Wildlife Division, a delegate for the purposes of section 133, approve the taking of the following action:

to construct and operate an integrated tourist and residential development on Dent Island, including related infrastructure and servicing such as a pipeline across Dent Passage (EPBC 2001/259).

by Hamilton West Pty Ltd subject to the conditions set out in ANNEXURE 1.

This approval has effect for:

sections 12 and 15A (World Heritage) of the *Environment Protection and Biodiversity Conservation Act 1999*

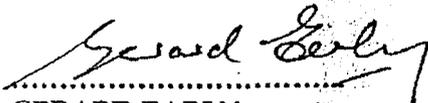
sections 18 and 18A (Listed threatened species and communities) of the *Environment Protection and Biodiversity Conservation Act 1999*

sections 20 and 20A (Listed migratory species) of the *Environment Protection and Biodiversity Conservation Act 1999*

sections 26 and 27A (Protection of the environment from actions involving Commonwealth land) of the *Environment Protection and Biodiversity Conservation Act 1999*

This approval has effect until 31 December 2079

Dated this 23rd day of December 2004


.....
GERARD EARLY

ANNEXURE 1

1. To avoid impacts on the values of the Great Barrier Reef World Heritage Area, construction of the Marine Landing Facility and Service Pipeline must not occur during the coral spawning events in October and November.
2. Prior to commencement of construction, the person taking the action must submit for the Minister's approval a plan to manage the impacts of marine construction on the values of the Great Barrier Reef World Heritage Area, listed threatened species and listed migratory species. The plan must include measures to:
 - a) survey benthic communities at the marine landing facility site and service pipeline site and three similar control sites in Dent Passage prior to construction;
 - b) repeat these surveys at the end of construction and again 6 months after all construction activity has ceased;
 - c) minimise the impacts of the installation of the service pipeline; and
 - d) manage the impacts of the construction of the marine landing facility.

The approved action must not commence until the plan has been approved. The approved plan must be implemented.

3. Prior to commencement of construction, the person taking the action must submit for the Minister's approval a plan to manage the impacts of construction on the values of the Great Barrier Reef World Heritage Area, listed threatened species and listed migratory species and the environment on Commonwealth land. The plan must include:
 - a) measures to minimise impacts on scenic and cultural landscape values;
 - b) measures for acid sulphate soil management;
 - c) measures for erosion and sediment control;
 - d) measures for sewage control and disposal;
 - e) measures to minimise impacts on water quality in Dent Passage;
 - f) pre-construction surveys to identify suitable habitat for the Striped-tailed Legless Lizard (*Delma labialis*);
 - g) measures to minimise vegetation clearance, particularly in areas of suitable habitat for the Striped-tailed Legless Lizard (*Delma labialis*);
 - h) landscaping, rehabilitation, and revegetation measures that include the use of local provenance species;
 - i) measures to manage pest plants and animals;
 - j) measures to minimise impacts on Indigenous Heritage, including the presence of Traditional Owners on-site during construction; and
 - k) consultation with site owners to ensure the above measures can be implemented.

The approved action must not commence until the plan has been approved.
The approved plan must be implemented.

4. The person taking the action must submit for the Minister's approval a plan to manage the impacts of operations on the values of the Great Barrier Reef World Heritage Area, listed threatened species, listed migratory species, and the environment on Commonwealth land. The plan must include:
 - a) measures for erosion and sediment control;
 - b) measures to control irrigation, stormwater and nutrient runoff;
 - c) measures to minimise and monitor impacts on water quality in Dent Passage;
 - d) measures to control the incidence and intensity of fires;
 - e) measures to manage pest plants and animals; and
 - f) consultation with site owners to ensure the above measures can be implemented.

Operations must not commence until the plan has been approved. The approved plan must be implemented.

5. The person taking the action must submit for the Minister's approval a plan for the conservation and management of the Commonwealth Heritage listed Dent Island Lightstation (Lighthouse and Surrounding Facilities) that includes measures to manage the impacts of increased visitation and consultation with site owners to ensure these measures can be implemented. Operations must not commence until the plan has been approved. The approved plan must be implemented.
6. Within one year of the commencement of operations, the person taking the action must ensure that an independent audit of compliance with the conditions of approval is conducted and a report submitted to the Minister. The independent auditor must be approved by the Minister prior to the commencement of the audit. Audit criteria must be agreed to by the Minister and the audit report must address the criteria to the satisfaction of the Minister.
7. On 1 July of each year after the date of this approval, the person taking the action must provide a certificate stating that Hamilton West Pty Ltd has complied with the conditions of this Approval.
8. If the person taking the action wishes to carry out any activity otherwise than in accordance with the plans referred to in paragraphs 2, 3, 4 or 5, the person taking the action may submit for the Minister's approval a revised version of any such plans. If the Minister approves such a revised plan, that plan must be implemented in place of the plan originally approved.

9. If the Minister believes that it is necessary or desirable for the better protection of the values of the Great Barrier Reef World Heritage Area, listed threatened species, listed migratory species, or the environment on Commonwealth land to do so, the Minister may request the person taking the action to make specified revisions to the plans approved pursuant to paragraphs 2, 3, 4 or 5 and submit the revised plan for the Minister's approval. The person taking the action must comply with any such request. The revised approved plan must be implemented.
10. Within seven years of the date of this approval, the person taking the action must provide to the satisfaction of the Minister evidence that the proposal has been substantially commenced. If the Minister is not satisfied that there has been substantial commencement of the action, the Dent Island Integrated Tourist and Residential development must not thereafter be commenced.

Dealing Number

715741756



OFFICE USE ONLY

Privacy Statement

Collection of this information is authorised by the Land Title Act 1994 the Land Act 1994 and the Water Act 2000 and is used to maintain the publicly searchable registers in the land registry and the water register. For more information about privacy in DNRM see the department's website.

1. Lessor GREAT BARRIER REEF MARINE PARK AUTHORITY	Lodger (Name, address, E-mail & phone number) Great Barrier Reef Marine Park Authority 2-68 Flinders Street Townsville Q 4810 Ph: 4750 0700	Lodger Code
--	---	--------------------

2. Lot on Plan Description	County	Parish	Title Reference
LOT 2 ON CROWN PLAN HR2019	HERBERT	WHITSUNDAY	18791025
LOT 4 ON CROWN PLAN HR2019	HERBERT	WHITSUNDAY	18791031

3. Lessee Given names	Surname/Company name and number	(include tenancy if more than one)
	HAMILTON WEST PTY LTD ACN 010 254 207	

Interest being leased
FEE SIMPLE

5. Description of premises being leased
THE WHOLE OF LOT 4 ON CROWN PLAN HR2019 AND LEASE B IN LOT 2 ON CROWN PLAN HR2019 ON SP150037

6. Term of lease Commencement date/event: 1/2/2014 Expiry date: 31/1/2029 and/or Event: <i>M</i> #Options: Page 32 2 X 15 years <i>M</i> #Insert nil if no option or insert option period (eg 3 years or 2 x 3 years)	7. Rental/Consideration See Form 20 Schedule
---	--

8. Grant/Execution
The Lessor leases the premises described in item 5 to the Lessee for the term stated in item 6 subject to the covenants and conditions contained in the attached schedule.
* delete if not applicable

Witnessing officer must be aware of his/her obligations under section 162 of the Land Title Act 1994

A Wilkinson signature
LOIS WILKINSON full name
JP QUALIFIED qualification
Witnessing Officer



27103114
Execution Date

Richard

Lessor's Signature
 Great Barrier Reef Marine Park Authority
 ABN 12 949 356 885
 By its Chairman

(Witnessing officer must be in accordance with Schedule 1 of Land Title Act 1994 eg Legal Practitioner, JP, C Dec)

9. Acceptance
The Lessee accepts the lease and acknowledges the amount payable or other considerations for the lease.

..... signature
 full name
 qualification
Witnessing Officer

05103114
Execution Date

Glenn Bourke
GLENN BOURKE
Lessee's Signature
 Director
 Hamilton West Pty Ltd
 ACN 010 254 207

(Witnessing officer must be in accordance with Schedule 1 of Land Title Act 1994 eg Legal Practitioner, JP, C Dec)

Title Reference 18791025 and 18791031

(Witnessing officer must be in accordance with Schedule 1
of Land Title Act 1994 eg Legal Practitioner, JP, C Dec)

..... signature

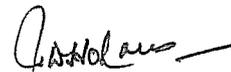
..... full name

..... qualification

Witnessing Officer

11 03/14
Execution Date

PATRICK HOLMES



Lessee's Signature
Director/Secretary
Hamilton West Pty Ltd
ACN 010 254 207

(Witnessing officer must be in accordance with Schedule 1
of Land Title Act 1994 eg Legal Practitioner, JP, C Dec)

18791025 and 18791031

Title Reference 18791025 and 18791031

1. DEFINITIONS AND INTERPRETATION

1.1. In this Agreement (including the recitals) unless the context otherwise requires:

- a. 'Asbestos' means mineral silicates belonging to the serpentine and amphibole groups of rock forming minerals. It includes actinolite, amosite (brown asbestos), crocidolite (blue asbestos), chrysolite (white asbestos), tremolite, or any mixture containing one or more of these;
- b. 'Asbestos Management Register and Plan' means the register and plan prepared by or for the Lessor contained in the First Schedule and varied from time to time by the Lessor by giving notice to the Lessee.
- c. 'Australian Heritage Council' or 'Council' means the body established by the *Australian Heritage Council Act 2003 (Cth)*;
- d. 'Buildings' mean all buildings, improvements and structures on the Demised Premises from time to time, including all fixtures and fittings, and including all additions and variations thereto;
- e. 'Commencement Date' means the Commencement Date in Item 6 of the Form 7;
- f. 'Commonwealth Heritage values' means the same as 'Commonwealth Heritage value' in the *Environment Protection and Biodiversity Conservation Act 1999 (Cth)*;
- g. 'CPI' means the Consumer Price Index (All Groups) for the city of Brisbane kept by the Australian Statistician and published by the Australian Bureau of Statistics ("the Index") and in the event of the Index being discontinued or abolished then such price index as the Australian Statistician substitutes for it;
- h. 'Contamination' means the presence on, in or under land or Buildings of a substance at a concentration above the concentration at which the substance is normally or naturally present on, in, or under the land, being a presence that presents a risk of harm to human health or any other aspect of the Environment, and 'Contaminant' and 'Contaminate' each have a corresponding meaning;
- i. 'Deed of Agreement' means the deed of agreement between the Lessor and the Lessee, the execution of which is a condition of the Permit;
- j. 'Demised Premises' means the land described in Item 5 of the Form 7;
- k. 'Dent Island Lightstation' means the Dent Island Lightstation listed as a Commonwealth Heritage place pursuant to the *Environment Protection and Biodiversity Conservation Act 1999 (Cth)*;
- l. 'Dent Island Lightstation Heritage Management Plan' means the Plan made in accordance with section 341S of the *Environment Protection and Biodiversity Conservation Act 1999 (Cth)* and includes any amendment to, or replacement thereof, in accordance with subclause 11.4;
- m. 'Department' means the Commonwealth of Australia through the Department of the Environment, or such other department or agency as may from time to time administer the *Environment Protection and Biodiversity Conservation Act 1999 (Cth)*;

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- n. 'Environment' has the same meaning as in the *Environment Protection and Biodiversity Conservation Act 1999 (Cth)* and 'Environmental' has a corresponding meaning;
- o. 'Environmental Management Plan' means the Interim Environmental Management Plan and any variations thereto approved in accordance with the Permit;
- p. 'Expiry Date' means the expiry date in Item 6 of the Form 7;
- q. 'First Further Term' means the period of fifteen (15) years commencing upon the expiration of the Term granted by this Lease;
- r. 'Second Further Term' means the period of fifteen (15) years commencing upon the expiration of the First Further Term granted by this Lease;
- s. 'General Maintenance Plan' means the plan prepared by the Lessor contained in the Second Schedule and varied in accordance with subclause 15.3.
- t. 'Hazardous Disease' means any disease, bacteria, virus, or foreign matter which may create a risk to the health or safety of the Lessee and its employees, contractors, agents, guests, or others (with or without invitation) who may be on the Demised Premises or in the Buildings;
- u. 'Hazardous Substance' includes anything, which may create a risk to health or safety and is known to be hazardous and which is listed on the National Occupational Health and Safety Commission's List of Dangerous Hazardous Substances (NOHSC 1005 (1999)). The criteria for identifying whether a thing is a Hazardous Substance are those set out in the National Health and Safety Commission "Approval Criteria for Classifying Hazardous Substances (NOHSC): 1008 (1999)" published by the Australian Government Publishing Service, Canberra;
- v. 'Institute' means the Australian Property Institute incorporated in Queensland or if that body no longer exists then its successors or equivalent body;
- w. 'Interim Environmental Management Plan' means the document contained in the Third Schedule.
- x. 'Jurisdiction' means the State or Territory in which the Demised Premises is located;
- y. 'Lessor' means the Lessor named in Item 1 of the Form 7 and its successors and assigns;
- z. 'Lessee' means the Lessee named in Item 3 of the Form 7 and its permitted successors and assigns;
- aa. 'Lessee's Employees' means each of the Lessee's employees, contractors, agents, customers, sublessees, licensees or others (with or without invitation) who may be on the Demised Premises or in the Buildings;
- bb. 'the Lease' or 'this Lease' means this agreement and includes any properly executed amendment, or any schedule, annexure or exhibit hereto;
- cc. 'National Heritage values' means the same as 'National Heritage value' in the *Environment Protection and Biodiversity Conservation Act 1999 (Cth)*;

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- dd. 'Official Requirements' means all statutes, ordinances, and by-laws and any requirement, notice, order or direction of any competent authority including any representative of the Queensland Parks and Wildlife Service acting with the authority of the Lessor;
- ee. 'Permit' means the permit/s in respect of the Demised Premises and the associated activities of the Lessee issued from time to time by the Lessor to the Lessee under the *Great Barrier Reef Marine Park Regulations 1983 (Cth)* and includes the Deed of Agreement and the Environmental Management Plan;
- ff. 'Permitted Use' means the use in subclause 5.3;
- gg. 'Rent' means the sum determined in accordance with clause 2.
- hh. 'Rent Period' means:
 - (i) for the first Rent Period, the period commencing on the Commencement Date and ending on the day before the first Review Date; and
 - (ii) for each subsequent Rent Period, the period commencing on a Review Date and ending on the earlier of the day before the next Review Date and the end of the Term.
- ii. 'Review Date' for the Term, means on each anniversary of the Commencement Date and for the First Further Term means on each anniversary of the Commencement Date of the First Further Term and for the Second Further Term means on each anniversary of the Commencement of the Second Further Term;
- jj. 'Term' means the term in Item 6 of the Form 7 and where the context permits any extension, renewal or holding over;
- kk. 'Valuer' means a member of the Queensland Division of the Institute with not less than 5 years experience as a valuer.
- ll. 'Working Day' means each day except Saturdays, Sundays and public holidays in the Jurisdiction.

1.2. Severability

If any term covenant or condition of this Lease or the application thereof to any person or circumstance shall be or become invalid or unenforceable the remaining terms covenants and conditions shall not be affected thereby and each term covenant and condition of this Lease shall be valid and enforceable to the fullest extent permitted by law.

1.3. Statutes and Regulations

Reference to statutes regulations ordinances or by-laws shall be deemed to extend to all statutes regulations ordinances or by-laws amending consolidating or replacing the same.

1.4. Bodies and Associations

References to authorities associations and bodies whether statutory or otherwise shall in the event of any such authority association or body ceasing to exist or being reconstituted renamed or replaced or the powers or functions thereof being transferred to any other authority association or body be deemed to refer respectively to the authority association or body established or constituted in lieu thereof and/or as nearly as any be succeeding to the powers or functions thereof.

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1.5. Headings

Clause and subclause headings have been included for ease of reference and none of the terms covenants conditions or restrictions herein appearing shall be construed or interpreted by reference to those headings or sub-headings.

1.6. Lessor's Statutory Obligations

Nothing in this Lease will be construed so as to restrict or prevent the exercise by the Lessor of its rights, powers, obligations or functions under the *Great Barrier Reef Marine Park Act 1975 (Cth)* or the *Environment Protection and Biodiversity Conservation Act 1999 (Cth)* or any associated legislative instrument.

1.7. Lessee to Comply with the Permit

The Lessee must comply with the Permit.

2. TERM AND RENT

2.1. Term

The Lessor hereby grants the Lessee a lease of the Demised Premises for a term commencing on the Commencement Date and expiring on the Expiry Date subject to the covenants and conditions contained herein.

2.2. Rent for first Rent Period

The Lessee shall pay to the Lessor annual Rent of One Hundred Thousand Dollars [\$100,000.00] (GST exclusive) for the first Rent Period.

2.3. Rent for second and subsequent Rent Periods

Subject to subclause 2.5 the Rent payable from the commencement of the second and each subsequent Rent Period will be the Rent calculated in accordance with the following formula:

$$A = \frac{B \times C}{D}$$

where:

A is the Rent payable on and from the Review Date;

B is the Rent payable immediately before the Review Date;

C is the CPI current at the relevant Review Date; and

D is the CPI current at the last Review Date (which for the first Review Date is the Commencement Date).

2.4. Payment and Adjustment of Rent following Review

a. The Rent fixed under this clause 2 is payable from the commencement of the relevant Rent Period.

b. Until the Lessor notifies the Lessee of a change in Rent, the Lessee must pay the Rent which applies immediately prior to the Review Date.

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- c. If the Rent changes by the operation of subclause 2.3, the parties must make any necessary adjustment by payment or repayment within 30 days after the Lessor gives the Lessee notice under paragraph 2.4.b.

2.5. Rent must not be reduced

Despite anything to the contrary contained or implied in this Lease, the Rent for the second and each subsequent Rent Period will not be less than the Rent payable in respect of the immediately preceding Rent Period.

2.6. Rental Payable in Advance

The annual Rent which is agreed or determined as aforesaid for each Rent Period shall be payable monthly in advance by calendar monthly instalments each being one-twelfth of the annual Rent (to the nearest whole cent), the first of those instalments to be paid on the Commencement Date and thereafter on the first day of each and every month in advance.

2.7. Apportionment for Broken Periods

In the event of the Term hereof commencing on a day other than the first day of a month or determining on a day other than the last day of a month the Lessee shall pay to the Lessor in respect of the broken periods prior to the first complete month of the Term hereof and subsequent to the last complete month of the Term hereof on the first day of each of those broken periods, a proportionate part of the monthly instalments payable on account of the annual Rent.

2.8. Rent to Continue

Should the annual Rent not be known at a time when payment of Rent is due to be paid then and in that event the Lessee shall on or before the date on which the Rent payment for that month is due pay to the Lessor the same amount as the amount which was payable hereunder as Rent for the last preceding calendar month in which the Rent was known and the Lessor and the Lessee shall effect any necessary adjustment within twenty-eight (28) days after the Rent is determined.

3. LESSEE'S PERFORMANCE

- 3.1 As security for the due and proper performance by the Lessee of its obligations and duties under this Lease, the Lessee shall on or before the Commencement Date provide the Lessor with a security deposit of not less than FOUR HUNDRED AND THREE THOUSAND FOUR HUNDRED AND NINETY THREE DOLLARS (\$ 403,493.00) excluding GST ("the Secured Sum") in the form of an unconditional undertaking by a bank to pay the Secured Sum to the Lessor on demand ("the Security") The Security will not be limited by any expiry date.
- 3.2 The Lessor may apply the Secured Sum to cover loss or damage suffered by it, or any costs or expenses incurred, as a result of any breach of this Lease by the Lessee. The consent or agreement of the Lessee to such application shall not be required.
- 3.3 The Lessee must provide a replacement Security if any part of the Secured Sum is applied by the Lessor in accordance with subclause 3.2.
- 3.4 Where the Lease is renewed for the First Further Term in accordance with clause 23, the Secured Sum will be increased on the date that the First Further Term commences and thereafter on each anniversary of that date ("Secured Sum Review Date"), the Secured Sum will be increased in accordance with the following formula:

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$$A = B \times C \\ D$$

where:

A is the Secured Sum applicable on and from the Secured Sum Review Date;

B is the Secured Sum applicable immediately before the Secured Sum Review Date;

C is the CPI current at the Secured Sum Review Date; and

D is the CPI current at the last Secured Sum Review Date (which for the first Secured Sum Review Date is the Commencement Date).

- 3.5 The Lessor must release the Security at the end of the Term or any further term once the Lessor is satisfied the Lessee has discharged its obligations under this Lease.

4. RATES TAXES AND CHARGES

4.1. Electricity Gas and Water

The Lessee shall pay or cause to be paid to the assessing authority or to the Lessor if so required on or before the due date therefor all charges for electricity gas water and all other services consumed on or used in respect of the Demised Premises (including meter rentals) and shall indemnify and hold indemnified the Lessor in respect thereof.

4.2. Rates and Taxes

The Lessee shall pay or cause to be paid and discharged on or before the due date therefor all rates taxes charges assessments cleansing rates water rates sewerage rates and other charges duties and impositions or fees paid or payable to any government local government public or other competent body department institution or authority in respect of the Demised Premises or any part thereof and shall indemnify and hold indemnified the Lessor in respect thereof. If any rates taxes charges assessments duties impositions or fees are not leviable or payable because the Demised Premises is not rateable or taxable or because either the Lessor or the Lessee is immune from and not subject to the payment of rates taxes charges assessments duties impositions or fees the Lessee shall pay or cause to be paid such amounts as may from time to time be notified to the Lessee by any government, local government, public or other competent body or the Lessor as being equivalent to the amounts which would be payable in respect of the Demised Premises or any part thereof to any of those bodies for rates taxes charges assessments duties impositions or fees if the Demised Premises were rateable and taxable and in the event of any failure of the Lessee to pay or cause to be paid any such amount on being so notified the Lessor may as an act of grace pay the amount thereof to the appropriate body whereupon the Lessee shall pay or cause to be paid that amount to the Lessor upon demand as additional Rent.

4.3. Future Rates and Taxes

The Lessee shall pay and discharge or cause to be paid and discharged without exception all rates taxes charges assessments outgoings and impositions whatsoever (whether parliamentary municipal or otherwise and whether assessed charged or imposed by or under Federal or State Law or by Federal State or local authorities and whether on a capital or revenue value or any other basis and even though of a novel character) which may at any time during the Term hereof be assessed charged or imposed upon or in respect of the Demised Premises or any part thereof or in respect of any use conducted therein or occupancy thereof and whether assessed against the Lessor or directly against the Lessee. Any sums so payable by the Lessee if assessed directly against the Lessee shall be paid by the Lessee

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to the assessing authority not later than the due date for the payment thereof and if assessed against the Lessor shall be paid to the Lessor upon demand. If any rates taxes charges assessments duties impositions or fees are not leviable or payable because the Demised Premises is not rateable or taxable or because either the Lessor or the Lessee is immune from and not subject to the payment of rates taxes charges assessments duties impositions or fees the Lessee shall pay or cause to be paid such amounts as may from time to time be notified to the Lessee by any government, local government public or other competent body or the Lessor as being equivalent to the amounts which would be payable in respect of the Demised Premises or any part thereof to any of those bodies for rates taxes charges assessments duties impositions or fees if the Demised Premises were rateable and taxable and in the event of any failure of the Lessee to pay or cause to be paid any such amount on being so notified the Lessor may as an act of grace pay the amount thereof to the appropriate body whereupon the Lessee shall pay or cause to be paid that amount to the Lessor upon demand as additional Rent.

4.4. Special Services

The Lessee shall pay to the Lessor upon demand by the Lessor, the amount of any costs, charges and expenses incurred by the Lessor at the written request of the Lessee and subject to the Lessor's absolute consent as to whether such services should be provided, in having any alterations, repairs or maintenance to the Demised Premises or to the appurtenances thereof effected or in providing any services for the Lessee.

4.5. Costs of Lease

The Lessee shall pay the Lessor's costs for the preparation, execution and stamping of the Lease. The Lessee shall pay all stamp duties and registration fees relating to this Lease, together with the cost of any survey plan or any other document or report necessary in the preparation of this Lease and for which the Lessor is required to pay any third party.

4.6. Costs of Breach

The Lessee shall pay to the Lessor upon demand by the Lessor all costs charges and expenses which may be incurred by the Lessor in relation to or in consequence of any breach of covenant or default by the Lessee whether proceedings for re-entry or forfeiture are taken by the Lessor or not and whether or not the Lessee disputes the circumstances that gave rise to the cost, charge or expense.

4.7. Legal Fees

If the Lessor shall without fault on its part be made a party to any litigation commenced by or against the Lessee (other than litigation between the Lessor and the Lessee) and arising directly or indirectly out of the Lessee's occupancy of the Demised Premises, the Lessee shall pay to the Lessor on demand by the Lessor all legal fees and disbursements (as between Solicitor and client) incurred by the Lessor in connection therewith.

4.8. Costs of Re-entry and Consents

The Lessee shall upon demand by the Lessor pay all costs (as between Solicitor and client) and expenses incurred by the Lessor in relation to any lawful determination of this Lease, the re-entry by the Lessor into the Demised Premises, the surrender of this Lease (including any stamp duties fees thereon) and the granting or obtaining of any consents by the Lessor.

4.9. GST

All payments to be made by the Lessee under the Lease (including but not limited to Rent) are calculated without regard to a goods and services tax or any similar tax (GST). If a payment by the Lessee to the Lessor under the Lease is for a supply by the Lessor under the Lease on which the Lessor

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must pay GST and the Lessor gives the Lessee a tax invoice for the amount increased by the GST, the Lessee must pay the increased amount.

5. USE OF DEMISED PREMISES

5.1. Assumption of Risk by Lessee

The Lessee shall take and be subject to the same responsibilities to persons and property to which the Lessee would be subject if during the Term hereof the Lessee was the owner of the freehold of the Demised Premises and the Lessee agrees to occupy use and keep the Demised Premises at the risk of the Lessee and hereby releases to the full extent permitted by law, the Lessor its agents servants contractors and employees from all claims and demands of every kind in respect of or resulting from any accident damage or injury occurring in or upon the Demised Premises and the Lessee expressly agrees that the Lessor shall have no responsibility or liability for any loss damage or injury suffered by the Lessee its servants agents employees contractors invitees or licensees which arises out of or is in any way connected with the occupation or use of the Demised Premises.

5.2. No warranty as to Use

The Lessor does not warrant that at the Commencement Date or at any other time the Demised Premises:

- a. are suitable for any purpose;
- b. may be used for the Permitted Use;
- c. are free from Contaminants, Asbestos, Hazardous Disease or Hazardous Substances; or
- d. complies with Official Requirements.

5.3. Permitted Use

The Lessee shall not:

- a. use the Demised Premises or any part thereof or permit the same to be used for any purpose other than the maintenance and operation of a golf course (including ancillary services associated with the operation of the golf course), accommodation for caretakers of the Demised Premises, and education and interpretative services, and any other purpose approved in writing by the Lessor, such approval not to be unnecessarily withheld; or
- b. use the Demised Premises nor make any improvement or alteration to the Demised Premises whether of structural, artificial, vegetative or landscaping nature, that in the absolute discretion of the Lessor, has the effect of altering or detracting from the historical character or ambience of the Demised Premises when viewed from any vessel passing on the Western side of the Demised Premises.

5.4. Conduct of Business

The Lessee shall at all times conduct its trade or business as is customary for that trade or business in a quiet orderly and businesslike manner.

5.5. Lessee to Provide Particulars of Business or Trade and Trading Hours

The Lessee shall at all times give to the Lessor a faithful and true account of the nature of the business or trade carried on by the Lessee and times during which the Demised Premises has been kept open for

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business and in any proceedings in relation to the Demised Premises the onus shall be upon the Lessee to prove that the Demised Premises were used in accordance with this covenant and not otherwise.

5.6. Lessee must provide Services

The Lessee must

- a. provide educational and interpretative services and facilities for visitors to the Demised Premises and accommodation only for caretakers of the Demised Premises, in accordance with the Permit and the requirements of the Lessor; and
- b. maintain on the Demised Premises, a level of medical assistance, fire fighting services and security appropriate for the Permitted Use.

5.7. Statutes Regulations Ordinances and By-laws

The Lessee shall observe perform and fulfil or cause to be observed performed or fulfilled all the requirements of any statutes regulations ordinances and by-laws so far as the same may apply to the Demised Premises or to any use or business from time to time being conducted thereon and in particular but without limiting the generality of the foregoing shall comply with or cause to be complied with the requirements of all such statutes regulations ordinances and by-laws relating to health water supply sewerage and fire and shall not do or permit to be done anything which may conflict with any statute regulation ordinance or by-law or which may render the Lessor liable to pay any penalty damages compensation fees costs charges or expenses and provided further that the Lessee shall observe comply with and perform the requirements of all statutes regulations ordinances and by-laws which would otherwise apply to the Demised Premises if the freehold therein were vested in the Lessee and the Lessee shall indemnify the Lessor against all liability in respect thereto.

5.8. Annoying or Injurious Conduct

The Lessee shall not carry on or permit to be carried on in any part of the Demised Premises any annoying, noxious, offensive or illegal business, occupation or practice nor shall the Lessee do or permit to be done therein any act or thing or use or permit to be used, any plant or machinery which through noise, odours, vibrations or otherwise shall or may be or grow to the annoyance, nuisance, grievance, damage or disturbance of the Lessor or any under-tenant or persons having rights over or in connection with the Demised Premises or of the occupiers of neighbouring premises.

5.9. Rules

The Lessee its servants agents invitees and licensees shall at all times observe and perform any rules which may be made from time to time by the Lessor for the management safety care or cleanliness of the Demised Premises or for the preservation of good order. All such rules shall bind the Lessee within fourteen (14) days of notice being given to the Lessee by the Lessor provided that such rules are not inconsistent with the Terms of this Lease. The Lessor shall not be liable for any loss or damage howsoever caused arising out of any breach or non-enforcement of any rule that may from time to time be made by the Lessor.

5.10. Interruption of Services

Notwithstanding any implication or rule of law to the contrary the Lessor shall not in any circumstances be liable to the Lessee or to any under-tenant for any loss or damage suffered by the Lessee or any under-tenant for any malfunction failure to function or interruption of or to the water gas or electricity services (if any) to the Demised Premises or any part thereof or for the blockage of any sewers wastes drains gutters downpipes or storm water drains from any cause whatsoever.

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5.11. Indemnity by Lessee

The Lessee shall indemnify and hold indemnified the Lessor from and against all actions claims demands losses damages costs and expenses which the Lessor may sustain or incur or for which the Lessor may become liable whether during or after the Term hereof in respect of or arising from:

- a. Breach of Covenant -Loss damage or injury from any cause whatsoever to property or person when entering leaving or within the Demised Premises occasioned or contributed to by the neglect or default of the Lessee or any servant agent under-tenant or other person claiming through or under the Lessee to observe or perform any of the covenants conditions or restrictions on the part of the Lessee hereunder whether positive or negative expressed or implied;
- b. Misuse -The negligent use or misuse waste or abuse by the Lessee or any servant agent under-tenant or any other person claiming through or under the Lessee of any water gas or electricity or other services to or within the Demised Premises;
- c. Escape of Harmful Agent -The overflow leakage or escape of water fire gas electricity or any other harmful agent whatsoever in or from the Demised Premises or any part thereof;
- d. Use of Demised Premises -Loss damage or injury from any cause whatsoever to property or person caused or contributed to by the use of the Demised Premises by the Lessee or any servant agent under-tenant or other person aforesaid; or
- e. Personal Injury -Any personal injury to or death of any person in or about the Demised Premises.

5.12. Condition Precedent

Notwithstanding anything herein contained or any implication or rule of law to the contrary the Lessor shall not be liable for any damage or loss the Lessee may suffer by reason of the neglect or omission of the Lessor to do any act or thing to or in respect of the Demised Premises and which (as between the Lessor and the Lessee) the Lessor might be legally liable to do unless the Lessee shall have given to the Lessor notice of such act or omission and the Lessor has without reasonable cause failed within a reasonable time thereafter to take proper steps to rectify such act or omission.

5.13. Hazardous Disease

In the event of any Hazardous Disease happening upon the Demised Premises which may require notification by virtue of any statute, regulation or ordinance, the Lessee shall give all the necessary notices and any other information which may be required in respect thereof to the proper authorities and shall give notice to the Lessor and shall at its own expense thoroughly fumigate and disinfect the Demised Premises and thereafter shall continue to keep the Lessor, its servants and agents, free and safe from any such harm.

5.14. Indemnity

The Lessee shall indemnify and hold indemnified the Lessor from and against all losses claims actions suits and demands of any nature whatsoever which the Lessor may sustain or incur or for which the Lessor may become liable in respect of or arising from any loss damage accident or injury of whatsoever nature or kind and howsoever sustained or occasioned whether to property or persons and which occurs upon or in connection with the Demised Premises or incidental to the use or occupation of the Demised Premises by the Lessee its servants agents employees contractors invitees licensees or under-tenants and against all costs charges and expenses which may be incurred by the Lessor in defending or settling or otherwise dealing with any such loss claim action suit or demand.

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5.15. Auction Sales

The Lessee shall not in any circumstances hold or permit to be held any auction sale in or about the Demised Premises.

5.16. Rodents and Vermin

The Lessee shall at its own cost and expense keep the Demised Premises free and clear of goats, rodents, termites and cockroaches and other vermin.

6. ALTERATIONS

6.1. Alterations Required by Law

If at any time any alterations or additions to the Demised Premises are required by reason of any statute regulation ordinance or by-law having jurisdiction in that behalf the same shall be effected by the Lessee at the cost of the Lessee under the supervision of an architect approved of by the Lessor provided always that before undertaking any such works the Lessee shall submit full detailed drawings and other specifications of the proposed works and particulars of the materials proposed to be used therein to the Lessor and obtain the approval of the Lessor thereto.

6.2. Alterations Required by Lessee

The Lessee shall not carry out any excavations, earthworks or constructions or make or permit to be made any structural or other alterations or additions to the Demised Premises without first submitting full detailed drawings and other specifications of the proposed works and particulars of materials proposed to be used therein and obtaining the Lessor's consent in writing thereto which consent may be granted or refused or granted subject to conditions in the discretion of the Lessor. The Lessee shall indemnify and hold indemnified the Lessor from and against all injury or damage to persons or property caused in or about the execution of such works. The cost of effecting all such alterations or additions as are referred to in this clause shall be borne and paid by the Lessee unless the Lessor shall consent in writing to bear all or any part of such costs in which case the Lessor shall pay such costs or reimburse the Lessee therefor in terms of such consent.

7. MAINTENANCE, REPAIR AND IMPROVEMENT

7.1. Fair Wear and Tear

The Lessee shall at its own cost and expense keep and maintain the Demised Premises and all alterations and additions thereto in good and tenantable repair and condition as at the Commencement Date fair wear and tear and damage by fire storm flood tempest aircraft or articles dropped from aircraft or otherwise by inevitable accident or act of God and without any neglect or default on the part of the Lessee alone excepted provided always that the exception in respect of fair wear and tear shall apply only if the Lessee shall have taken all reasonable measures and precautions to ensure that any damage defect or dilapidation which at any time shall be occasioned by fair wear and tear shall not give rise to or cause or contribute to any injury to the Demised Premises.

7.2. Lessee to Keep Clean

The Lessee shall keep the Demised Premises in a thorough state of cleanliness and of good appearance and shall not allow any accumulation of useless property or rubbish thereon (including golf balls or related equipment) and shall take all necessary sanitary precautions.

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7.3. Compliance with the General Maintenance Plan

- a. The Lessee must
 - i. comply with the General Maintenance Plan; and
 - ii. where the General Maintenance Plan contains tasks relating to Asbestos management, refer to the Asbestos Management Register and Plan to assist in the Lessee's interpretation of the General Maintenance Plan.
- b. If requested by the Lessor the Lessee must provide to the Lessor evidence of the Lessee's compliance with the General Maintenance Plan.
- c. Compliance with the General Maintenance Plan by the Lessee is not evidence that the Lessee has complied with its other maintenance obligations under this Lease.

7.4. Inspection by Lessor

Except in an emergency, upon at least 48 hours prior notice, the Lessor its servants agents and consultants may with or without workmen and others at all times enter upon and view the state of repair of the Demised Premises and give notice to the Lessee requiring the Lessee to repair within a reasonable time to be therein prescribed any defects and wants of repair which are the obligation of the Lessee.

7.5. Notice of Damage

The Lessee shall advise the Lessor promptly in writing of any damage sustained to the Demised Premises or any part thereof.

7.6. Holing of Walls

The Lessee shall not cut, make holes in, mark, deface, drill, damage or suffer to be cut, holed, marked, defaced, drilled or damaged any of the walls, ceilings or other parts of the Buildings except so far as may be reasonably necessary for the erection of approved signs, blinds, awnings or shopfittings as aforesaid and on the removal of any such signs, blinds or awnings the Lessee shall reinstate, repair and make good any damage caused in or about the erection or removal thereof notwithstanding that the Lessor may have consented thereto.

7.7. Overloading of Floors

The Lessee shall observe the maximum floor loading weights nominated by the Lessor and shall not permit the floors of the Building to be broken, strained or damaged by overloading the same in any manner howsoever. In particular the Lessee shall not install any safes or other heavy equipment except in such positions and subject to such conditions as the Lessor may in writing approve.

7.8. Drains and Wastes

All blockages and any build-up of waste materials which may occur in any waste pipes, drains and conduits originating within the Demised Premises shall be cleared by licensed tradesmen employed by and at the cost of the Lessee.

7.9. Interference with Services

The Lessee shall not interfere with any drains, water supply, gas, electrical, plumbing or other services contained in or about the Demised Premises or any of the appurtenances therein without the consent in writing of the Lessor first had and obtained.

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7.10. Erection of Signs

The Lessee shall not paint, erect or affix or permit to be painted, erected or affixed any signs, notices or advertisements to any part of the Demised Premises without the consent in writing of the Lessor first had and obtained, which consent may be granted or refused or granted subject to conditions in the absolute discretion of the Lessor.

7.11. Public Address Systems

The Lessee shall not erect or place or permit to be erected or placed on any part of the Demised Premises any radio or television receiver, loud speakers, amplifier or other similar device without the consent in writing of the Lessor first had and obtained, which consent may be granted or refused or granted subject to conditions in the absolute discretion of the Lessor and which consent may be withdrawn by the Lessor at any time.

8. TOWN PLANNING

8.1. Objection to Rezoning

In the event of:

- a. any proposal to rezone any adjacent or neighbouring land; or
- b. any application for consent to use any adjacent or neighbouring land in any manner which in the opinion of the Lessor may adversely affect the Demised Premises;

the Lessor may at its discretion raise all such objections and prosecute all such appeals as it may think fit.

9. LESSOR'S TITLE AND RESERVATIONS

9.1. Quiet Enjoyment

The Lessor covenants that the Lessee paying the Rent hereby reserved and observing and performing the covenants conditions and restrictions on its part herein contained shall and may (subject to the conditions herein agreed to) peaceably hold and enjoy the Demised Premises during the Term hereby granted without any interruption by the Lessor or by any person rightfully claiming through under or in trust for it.

9.2. Right of Entry to Effect Works

The Lessor expressly reserves the right and the Lessee shall permit the Lessor its agents architects surveyors contractors and workmen and with all necessary materials, machinery and appliances at all times to enter upon the Demised Premises for the purpose of effecting any alterations or repairs whether of a structural nature or otherwise which are the obligation of the Lessee hereunder but which the Lessee has failed to effect or for the purpose of exercising the powers remedies and authorities of the Lessor hereunder provided that the Lessor shall use its best endeavours to carry out any such entry alterations or repairs without undue interference to the occupation and use of the Demised Premises by the Lessee and its under-tenants.

9.3. Right of Entry to View Demised Premises

The Lessor reserves the right and the Lessee will permit all persons bearing the written authority of the Lessor or its agents to view the Demised Premises at all reasonable hours in the day time without interruption.

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9.4. AMSA Right of Access

The Lessor and Lessee acknowledge that Easement No. 705673375 is registered on Lot 2 on Crown Plan HR 2019 which benefits Lot 1 on Crown Plan HR2019, which grants the Australian Maritime Safety Authority ('AMSA') pedestrian and vehicle access to and from Lot 1 on Crown Plan HR 2019 by means of Lot 2 on Crown Plan HR2019.

9.5. AMSA Licence

- a. The Lessee consents to AMSA and its employees, servants, agents, contractors, invitees and permitted assigns having access to and egress from that part of the Demised Premises described as Lease B in Lot 2 on Plan HR2019 on SP 150037 at all times and by any means and in any manner reasonably necessary for the efficient use of Lease A in Lot 2 on Plan HR2019 on SP 150037.
- b. The Lessee agrees to provide to AMSA all necessary access facilities and transportation, including ferry transfers and vehicles to enable the access and egress referred to in this subclause 9.5 by AMSA.
- c. In the event of an emergency, access by AMSA in accordance with this subclause 9.5 may be at any time of the day or night without prior notice to the Lessee and the Lessee will use its best endeavours to make available to the Lessor and AMSA, any assets, staff or services at the Lessee's disposal to assist the Lessor and AMSA with any such emergency.

9.6. Reservations

This grant of lease is subject to the several conditions and reservations contained in and declared by the *Land Act 1994 (Qld)* the *Mineral Resources Act 1989 (Qld)* and the *Petroleum Act 1923 (Qld)* which conditions and reservations shall at all times remain vested in the Lessor and shall not form part of the Lessee's estate hereunder AND the Lessor does hereby reserve unto itself and its successors all gold and minerals (the term 'minerals' to have the same meaning as in the *Mineral Resources Act 1989 (Qld)*) on and below the surface of the Demised Premises and all mines of gold and minerals on and below the surface of the Demised Premises AND the Lessor does hereby also reserve unto itself and its successors and to such persons as shall from time to time be duly authorised by the Lessor in that behalf the free right and privilege of access including ingress egress and regress into upon over and out of the Demised Premises for the purpose of searching for or working gold and minerals or any of them or mines of gold and minerals or any of them in any part of the Demised Premises AND the Lessor does hereby also reserve unto itself and its successors all Petroleum (the term 'Petroleum' to have the same meaning as in the *Petroleum Act 1923 (Qld)*) on or below the surface of the Demised Premises and also all rights of way for access and for pipe lines and other purposes requisite for obtaining and conveying Petroleum in the event of Petroleum being obtained in any part of the Demised Premises AND the Lessor does also further reserve unto itself and its successors all Helium found in association with Petroleum in any part of the Demised Premises.

9.7. Native Title

Despite anything to the contrary contained or implied in this Lease, the Lessee acknowledges that if the Permitted Use of the Demised Premises or any other right of the Lessee under this Lease is affected by a right or interest capable of recognition as a native title right or interest under the *Native Title Act 1993 (Cth)* ('Native Title Interest') or any claim is made in respect of a Native Title Interest, the Lessee will:

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- a. have no right to an abatement of Rent, no entitlement to damages from the Lessor or to make any claim against the Lessor in respect of the Native Title Interest or the affect of that interest on this Lease; and
- b. indemnify the Lessor from and against all loss and expense incurred by the Lessor (including legal costs and expenses on a solicitor/client basis and the costs of time spent, resources used and disbursements paid by the Lessor) in dealing with any claim in respect of a Native Title Interest;

PROVIDED HOWEVER if the Native Title Interest is recognised in an approved determination of native title under the *Native Title Act 1993 (Cth)* ("the Recognised Native Title Interest") and the Recognised Native Title Interest prevents the continuation of the Permitted Use of the Demised Premises, this Lease will terminate on the day four (4) weeks following the receipt by the Lessor of a notice from the Lessee that the Recognised Native Title Interest prevents the continuation of the Permitted Use and in that event the terms of this Lease which apply in the event of the expiry of this Lease will also apply in relation to a termination under this clause.

10. MUTUAL COVENANTS

10.1. It is mutually agreed by and between the Lessor and the Lessee as follows:

- a. the Demised Premises is part of a National Heritage place in the National Heritage list established pursuant to section 324C of the *Environment Protection and Biodiversity Conservation Act 1999 (Cth)* and is subject to the provisions of that Act about managing National Heritage places;
- b. part of the Demised Premises comprising part of the Dent Island Lightstation is a Commonwealth Heritage place in the Commonwealth Heritage List established pursuant to section 341C of the *Environment Protection and Biodiversity Conservation Act 1999 (Cth)* and is subject to the provisions of that Act about managing Commonwealth Heritage places;
- c. the Demised Premises are part of the Great Barrier Reef Marine Park established by the *Great Barrier Reef Marine Park Act 1975 (Cth)* and this Lease is subject to that Act;
- d. the Lessee acknowledges and agrees that any right or approval given or purported to be given under the terms of this Lease (including, but not limited to subclause 5.3 does not constitute permission or approval under the *Great Barrier Reef Marine Park Act 1975 (Cth)* or any other law under which the Lessor has responsibility or delegation and does not obviate the requirement for the Lessee to obtain permission or approval under the *Great Barrier Reef Marine Park Act 1975 (Cth)* where such permission or approval is required or to otherwise comply with any other law;
- e. the Lessee shall give to the Australian Heritage Council, the Department, and the Lessor such assistance in the carrying out of their respective functions as is reasonably practicable and shall comply with all reasonable requests for information made by either the Council, the Department, or the Lessor;
- f. the Lessee shall not construct any building or modify an existing Building, nor shall the Lessee establish or operate a recreational or other facility without the prior approval of the Lessor and without first obtaining from the Lessor any permit which may be required under the provisions of the *Great Barrier Reef Marine Park Act 1975 (Cth)* for the construction, establishment or operation of the facilities within the Demised Premises;
- g. the Lessor, the Department, the Council, and their respective servants and agents may at all reasonable times enter upon and inspect the Demised Premises;

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- h. the Lessee shall at the Lessee's expense remove from the Demised Premises all rubbish, for disposal outside the Great Barrier Reef Marine Park;
- i. subject to the provisions of this Lease, the Lessee shall apply to the Demised Premises and observe the fire and health regulations, including those for sewerage and waste water disposal, current from time to time within the local authority area of the Whitsunday Regional Council;
- j. the Lessee shall control all declared pests, both plants and animals, on the Demised Premises, in accordance with Official Requirements.

11. ENVIRONMENTAL AND HERITAGE MANAGEMENT

11.1. Special definitions for this clause

In this clause:

- a. 'Pollute' includes to cause or fail to prevent the discharge, emission, depositing, disturbance or escape of anything which may cause harm to the Environment and "Pollution" has a corresponding meaning; and
- b. 'Environmental Law' means any law relating to the Environment.

11.2. Preparation of the Dent Island Lightstation Heritage Management Plan

- a. Pursuant to section 341S of the *Environment Protection and Biodiversity Conservation Act 1999 (Cth)*, the Dent Island Lightstation Heritage Management Plan must be made to protect and manage the Commonwealth Heritage values of the Dent Island Lightstation.
- b. The Lessee agrees that it will provide such assistance as is reasonably necessary to facilitate the Lessor's compliance with the requirements of section 341S of the *Environment Protection and Biodiversity Conservation Act 1999 (Cth)* and any requirements of the Department.
- c. The Lessor must notify the Lessee of the making of the Dent Island Lightstation Heritage Management Plan once it has been made.

11.3. Compliance with the Dent Island Lightstation Heritage Management Plan

- a. The Lessee must implement and comply with the Dent Island Lightstation Heritage Management Plan, and must not contravene this Plan.
- b. The Lessee must assist the Lessor to comply with its obligations under the Dent Island Lightstation Heritage Management Plan including (but not limited to):
 - i. maintaining the heritage management register (including photographic records) that was established by the Lessee prior to entering into the Lease on an annual basis and upon any repairs or maintenance being carried out by the Lessee to the Dent Island Lightstation; and
 - ii. complying with any directions given by the Lessor necessary to meet the Lessor's obligations under the Dent Island Lightstation Heritage Management Plan.
- c. The Lessee must not do, permit to be done, or omit to do anything that has, will have, or is likely to have an adverse impact on the Commonwealth Heritage values of the Dent Island Lightstation, except to the extent permitted by the *Environment Protection and Biodiversity Conservation Act 1999 (Cth)*.

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11.4. Amendment or Replacement – Dent Island Lightstation Heritage Management Plan

- a. If the Lessor believes amendments to the Dent Island Lightstation Heritage Management Plan are necessary, or the Plan requires amendment or revocation and replacement under section 341S of the *Environment Protection and Biodiversity Conservation Act 1999 (Cth)*, the Lessor will make an amended or new Dent Island Lightstation Heritage Management Plan having regard to the requirements of the Department and the *Environment Protection and Biodiversity Conservation Act 1999 (Cth)*.
- b. The amended or new Dent Island Lightstation Heritage Management Plan, which the Lessor must notify to the Lessee, will replace the former Plan.
- c. The Lessee agrees that it will, if requested by the Lessor, do all things as are reasonably necessary to amend or prepare a new Dent Island Lightstation Heritage Management Plan to facilitate the Lessor's compliance with the requirements of the Department and section 341S of the *Environment Protection and Biodiversity Conservation Act 1999 (Cth)* and within such timeframe as is required by the Lessor or the Department.

11.5. Protection of National Heritage values

- a. The Lessee agrees that it will provide such assistance as is reasonably necessary to facilitate the Lessor's compliance with its obligation to assist the Australian Government Minister for Environment, Heritage and Water and the Australian Heritage Council in the identification, assessment and monitoring of the National Heritage values under section 324Z of the *Environment Protection and Biodiversity Conservation Act 1999 (Cth)*.
- b. The Lessee must not do, permit to be done, or omit to do anything that has, will have, or is likely to have an adverse impact on the National Heritage values of the Demised Premises, except to the extent permitted by the *Environment Protection and Biodiversity Conservation Act 1999 (Cth)*.

11.6. Lessee to Remediate

- a. If, as a result of the use and occupation by the Lessee or the Lessee's Employees, whether before or during the Term of the Lease, the Demised Premises is affected by Contamination, Pollution, Asbestos or a Hazardous Substance, the Lessee must immediately advise the Lessor and complete to the satisfaction of the Lessor and in accordance with all Official Requirements, a comprehensive restoration and detoxification program so that the Contamination, Pollution, Asbestos or Hazardous Substance is removed and the Demised Premises are restored to their condition prior to that Contamination, Pollution, Asbestos or Hazardous Substance affecting the Demised Premises.
- b. In this clause, 'Pollution' includes any discharge, emission, depositing, disturbance, or escape of anything which may cause harm to the Environment.
- c. In this clause the Demised Premises being affected by Asbestos means that the condition of the Asbestos on the Demised Premises changes from its condition as it was at the date of the Lessee's entry into possession of the premises.

11.7. What happens if Lessee Fails to Remediate

If the Lessee fails to comply with its obligations under subclause 11.6 to the satisfaction of the Lessor, the Lessor may at the Lessee's expense cause the works to be carried out and may call on any bond or

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guarantee lodged by the Lessee in favour of the Lessor whether in the form of cash bond, bank guarantee or otherwise.

11.8. Lessee to provide Copies of Licences etc.

If requested by the Lessor, the Lessee must:

- a. give the Lessor copies of all licences and consents, which the Lessee obtains from any relevant authority pursuant to any Environmental Law; and
- b. advise the Lessor immediately of any Contamination or Pollution which is reportable to any relevant authority pursuant to any Environmental Law.

12. ASSIGNING MORTGAGING AND SUBLETTING

12.1. Prohibition on Assignment

The Lessee shall not without the written consent of the Lessor which shall not be unreasonably withheld assign this Lease or underlet (which expression shall be deemed to extend to and include permitting any licensee or concessionaire to conduct business on its own account in any part of the Demised Premises) or in any manner part with possession of the Demised Premises or any part thereof.

12.2. Payment of Consideration

As a condition of granting its consent to an assignment of this Lease or to parting with possession of the Demised Premises the Lessor may require from the Lessee an amount not exceeding five (5) per centum of the consideration payable by the assignee or the under-lessee to the Lessee for the assignment or parting with possession.

12.3. Restriction on Mortgaging

The Lessee shall not mortgage charge or in any way give any security either at law or in equity over this Lease without the consent in writing of the Lessor first had and obtained and the Lessee shall pay to the Lessor the costs of dealing with the Lessee's application for consent. The Lessor's consent referred to in this subclause shall be at the Lessor's sole and unfettered discretion and not subject to any test as to reasonableness.

12.4. Production of Documents

The Lessee shall whenever requested so to do by the Lessor or its duly authorised officer produce and submit to the Lessor for perusal and inspection and for the taking thereof or therefrom such copies or extracts as the Lessor thinks fit, the Lessee's copies of all sub-leases, tenancy agreements, licences and concessions or any other arrangements or benefit to or with or affecting the Lessee as relate to or be connected with the Demised Premises or any part or parts thereof together with the Lessee's copies of all correspondence documents papers and paper writings affecting or as between the Lessee and any sub-lessee, licensee, concessionaire or any party to any arrangement or benefit as aforesaid.

13. DEFAULT OF LESSEE

13.1. Lessor may Rectify

If the Lessee shall fail to pay any moneys or charges as required hereunder to any person other than the Lessor or if the Lessee shall fail to perform any affirmative covenant on the part of the Lessee hereunder the Lessor may at its option as the agent of the Lessee make any such payment or do all such acts and things and incur such expenses as may be necessary to perform such covenants and the full amount of

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any payments made or expenses incurred (not being payments or expenses which are by the terms of this Lease payable by the Lessor) shall constitute a liquidated debt due and owing by the Lessee to the Lessor and shall be payable by the Lessee to the Lessor on demand by the Lessor.

13.2. Definition of Default

In any of the following circumstances namely:

- a. Rent in arrears if the Rent hereby reserved or any part thereof shall be unpaid and in arrears for the space of fourteen (14) days after the same shall have become due; or
- b. failure to pay monies if any moneys payable by the Lessee to the Lessor hereunder on demand shall not have been paid within fourteen (14) days of the making of demand therefor or if any other moneys payable by the Lessee to the Lessor shall not have been paid by the due date therefor; or
- c. failure to effect repairs if the Lessee shall not have effected the repairs required by any notice given pursuant to this Lease within the reasonable time therein prescribed; or
- d. breach of covenants if the Lessee shall fail to observe perform or fulfil any of the other terms covenants conditions or restrictions herein contained on the part of the Lessee (whether positive or negative) and such failure shall continue for a period of fourteen (14) days; or
- e. liquidation of company if the Lessee being a corporation shall enter into liquidation (except for the purpose of reconstruction or amalgamation) or if an order be made for the winding up of the Lessee or if it shall be placed under official management pursuant to Part 5.4 of the *Corporations Act 2001 (Cth)* or any similar provision of any Act of any State or the Commonwealth of Australia or a receiver be appointed of the assets or any of the assets of the Lessee; or
- f. execution against Lessee if the interest of the Lessee under this Lease is attached or taken in execution under any legal process; or
- g. any Permit expires, is surrendered, or revoked prior to the expiry of the Term of this Lease;

then the Lessee shall be in default.

13.3. Forfeiture of Lease

If the Lessee shall be in default in any of the modes described in subclause 13.2 and that default shall continue for a period of fourteen (14) days after the Lessor shall have given notice to the Lessee requiring the Lessee to rectify that default or if the Lessee shall have made default in either of the modes described in paragraphs 13.2.e, 13.2.f or 13.2.g, the Lessor may at its option:

- a. Determination by re-entry: without any further or prior notice or demand re-enter into and take possession of the Demised Premises or any part or parts thereof in the name of the whole (by force if necessary) and eject the Lessee and all other persons therefrom and repossess and enjoy the same as of its first and former estate therein and thereupon this Lease shall be absolutely determined; or
- b. Determination by notice: by notice to the Lessee determine this Lease and from the date of giving that notice this Lease shall be absolutely determined,

provided that any such determination shall be without prejudice to any right or remedy of the Lessor in respect of any arrears in Rent or any antecedent breach failure or default by the Lessee.

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13.4. Waiver of Default

No waiver by the Lessor of one breach of any covenant obligation or provision in this Lease contained or implied shall operate as a waiver of another breach of the same or any other covenant obligation or provision in this Lease contained or implied.

13.5. Interest on Late Payments

If the Lessee fails to pay the Lessor any amount as and when payment falls due, the Lessee shall pay the Lessor interest thereon or on so much as shall remain unpaid from the due date or dates for payment thereof until payment of the amount shall actually be paid and also upon any judgement which the Lessor may obtain against the Lessee from the date of any such judgement until the judgement is satisfied, at the rate equal to the Commonwealth Bank Indicator Lending Rate as published from time to time plus two (2) percent (or if such rates ceases to be published then such like rate as the Lessor may from time to time reasonably determine plus two (2) percent) during which any such payment shall be overdue.

13.6. Concurrent Remedies

All the remedies available to or exercised by the Lessor consequent upon any default by the Lessee shall be without prejudice to any other remedies which might otherwise be used and the Lessee shall not be released from liability in respect of the breach or non-observance of any covenant condition or stipulation by reason of the exercise by the Lessor of any such remedy.

14. DETERMINATION OF TERM

14.1. Lessee to yield up

The Lessee shall at the expiration or sooner determination of the Term hereof quietly yield up the Demised Premises and all property of the Lessor in or about the Demised Premises in good and tenantable and substantial repair and condition and so painted treated washed repaired maintained rebuilt reinstated cleansed and kept as aforesaid and all additions replacements and improvements thereto and all fittings and fixtures which during the said Term may be affixed or fastened to or upon the Demised Premises (excepting only tenants' or trade fixtures belonging to the Lessee or any under-tenant and of a moveable nature and being only those either installed on the Demised Premises at the Commencement Date or those added by the Lessee or any under-tenant as Lessees' or trade fixtures otherwise than by way of renewal or substitution or replacement of fixtures or installations existing at the Commencement Date) and shall return to the Lessor all keys other than those in the possession of any under-tenant who may have been granted a Lease of any part of the Demised Premises by the Lessor.

14.2. Lessee to remove Fittings

- a. Subject to the limitations of paragraph 14.2.b hereof, and provided that the Lessee shall not be in breach of its obligation hereunder the Lessee may at or immediately prior to the expiration of the Term hereof remove from the Demised Premises all fittings and other articles the property of the Lessee contained in or about the Demised Premises but the Lessee shall in such removal do no damage to the Demised Premises or shall forthwith make good all damage which it may occasion thereto provided always that if the Lessor should so require, the Lessee shall at or immediately prior to the expiration of the Term hereof remove from the Demised Premises all fittings and other articles the property of the Lessee contained in or about the Demised Premises and shall forthwith make good all damage which it may occasion thereto.
- b. The Lessee may not remove any fittings or other articles that the Lessee has acquired and or placed on the Demised Premises for the purposes of complying with the Dent Island Lightstation Heritage

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Management Plan, clause 20 or any other requirement of the Lessor intended to preserve, maintain or extend the artificial or natural attributes of the Demised Premises.

14.3. Removal of Signs

The Lessee shall upon yielding up the Demised Premises and if requested by the Lessor so to do remove any signs, names, advertisements or notices erected painted displayed affixed or exhibited upon to or within the Demised Premises and make good to the reasonable satisfaction of the Lessor any damage or disfigurement caused by reason of such erection painting displaying affixing or the removal thereof.

14.4. Abandoned fittings belong to Lessor

Any fittings or improvements that the Lessee may remove as aforesaid and that are not removed by the Lessee shall be deemed abandoned by the Lessee and shall be and become the property of the Lessor.

14.5. Power of Attorney

The Lessee does hereby irrevocably make nominate constitute and appoint the Lessor to be the true and lawful attorney of the Lessee for it and in its name and as its act and deed if and when the said attorney shall think fit for the purpose of giving full effect to the powers of re-entry and forfeiture contained in this Lease to execute a surrender of this Lease in favour of the Lessor and (if applicable) to procure the registration of that surrender under the provisions of the *Land Title Act 1994 (Qld)* and the Lessee hereby ratifies and confirms and agrees to ratify and confirm whatsoever the said attorney shall do or purport to do by virtue of these presents and the Lessee hereby authorises and empowers its said attorney to acknowledge in its name and as its act and deed this power of attorney and to register and record the same in any office in the State of Queensland and to procure to be done any and every act matter and thing whatsoever which may be in any wise required or proper for authenticating and giving full effect to this power of attorney according to the provisions of the *Land Title Act 1994 (Qld)* or any law or usage for the time being in force in the said State provided always that the powers conferred by this clause shall not be exercised unless and until the power of re-entry herein contained shall have become exercisable or shall have been exercised sufficient proof whereof shall be a statutory declaration by an officer of the Lessor.

14.6. Holding Over

If the Lessee shall with the consent of the Lessor remain in occupation of the Demised Premises after the expiration of the Term hereof the Lessee shall (in the absence of any express agreement to the contrary) be deemed to hold the Demised Premises as Lessee from month to month on the terms and conditions of this Lease so far as they can be applied to a monthly tenancy provided however that the Rent payable for such Holding Over period will be the Rent payable immediately before the Holding Over period commenced increased by ten (10) per cent.

15. REPORTING AND REVIEW OF THE LESSEE'S MAINTENANCE OBLIGATIONS

15.1. Lessee must Report on Compliance

- a. On or before 31 July in each year for the duration of the Term, the Lessee must provide the Lessor with a report ("the Audit Report") prepared and signed by a person or persons approved by the Lessor. The Audit Report must contain supporting documentation and must report against each of the following for the previous financial year:
 - i. the condition of the Demised Premises, the Buildings and any other improvements (including reference to any Asbestos or Hazardous Substance);

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- ii. compliance by the Lessee with Official Requirements;
 - iii. all Pollution, Contamination and any adverse Environmental consequence which have arisen or are likely to arise;
 - iv. an assessment of the Lessee's compliance with this Lease, the Permit and the Dent Island Lightstation Heritage Management Plan including a report on those obligations which the Lessee has failed to satisfy;
 - v. the inspection of the boulders undertaken under clause 20.4 (other than an inspection in respect of which a report has been provided under clause 20.5); and
 - vi. tasks completed pursuant to the General Maintenance Plan.
- b. The Lessor may appoint, in its absolute discretion and at the expense of the Lessee, a suitably qualified independent person or persons to consider any one or more of the matters the subject of the Audit Report and provide the Lessor with an assessment of the accuracy of the Audit Report.

15.2. Operations Committee

- a. The Lessor and the Lessee must establish an operations committee ('the Committee') to consider and make decisions in respect of any matter relating to this Lease except for those matters the Lessor notifies the Lessee will not be considered by the Committee.
- b. The Committee will comprise at least 2 representatives of each party.
- c. The Committee must meet annually no later than 30 days after the due date for the Lessee to have submitted the Audit Report in accordance with subclause 15.1, and at such other times as the Lessor notifies the Lessee. A quorum for meetings of the Committee will comprise no less than 2 representatives from each party.
- d. Meetings of the Committee will take place at a location specified by the Lessor by providing no less than 30 days' notice to the Lessee and will be convened and chaired by a representative of the Lessor. The Lessor must record the minutes of the meetings of the Committee and deliver in accordance with subclause 16.3 a copy of those minutes to the Lessee within 14 days after each meeting. The minutes will be deemed to be an accurate record of the meeting if the Lessee does not notify the Lessor of a correction to the minutes within 7 days after receiving the minutes.
- e. At each meeting of the Committee, the Lessee must present a verbal summary of the Audit Report.
- f. All decisions of the Committee must be unanimous. Decisions of the Committee which do not constitute a variation of this Lease will be binding on the parties.

15.3. Variations to the General Maintenance Plan

- a. No later than 30 days after a Committee meeting held in accordance with subclause 15.2, the Lessor must give to the Lessee a notice containing any proposed variations to the General Maintenance Plan in order to comprehensively address the maintenance, repair and improvement of ~~the Demised Premises for the current financial year and which will progressively result in the~~ Demised Premises being in good repair and condition at the expiry of the Term.
- b. Within 30 days of the Lessee receiving the proposed variations to the General Maintenance Plan in

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accordance with paragraph 15.3.a the Lessee may provide comments on the General Maintenance Plan.

- c. Within 30 days after the period mentioned in paragraph 15.3.b, the Lessor must finalise any variations to be made to the General Maintenance Plan and provide the Lessee with a notice containing the varied General Maintenance Plan, which may or may not take into account the Lessee's comments provided in accordance with paragraph 15.3.b in the Lessor's discretion.
- d. Any variations to the General Maintenance Plan by the Lessor must not include a requirement for the Lessee to remove all materials containing Asbestos from all of the Buildings and structures on the Demised Premises (unless such a requirement is necessary to comply with clause 6.1 or 11.6).

16. GENERAL PROVISIONS

16.1. Payment of Moneys

All Rents and other moneys payable by the Lessee to the Lessor shall be paid free of exchange and without any deduction whatever to the Lessor or such other place in Australia as the Lessor may from time to time in writing direct. Any moneys payable hereunder may be made either in legal tender or by a cheque issued by any bank carrying on business in Queensland under the laws of the Commonwealth of Australia or the State of Queensland and no objection shall be taken to the quality of any tender so made.

16.2. Lessor's Consent

Wherever by this Lease any consent or approval is required to be given by the Lessor the consent or permission shall be deemed not to be given unless given in writing and signed by the Lessor. Such consent or permission may be given or withheld by the Lessor in its absolute uncontrolled discretion (unless otherwise herein provided) and upon or subject to such terms, conditions, requirements or stipulations as the Lessor may think fit. The Lessee shall in any event reimburse the Lessor upon demand any fees paid by the Lessor to consultants engaged by the Lessor to examine or advise upon any application made by the Lessee (including any plans specifications or other material submitted therewith) for the consent or approval of the Lessor where any such consent or permission is required pursuant to this Lease and also any other moneys outlaid or expenses incurred by the Lessor in connection therewith.

16.3. Notices

- a. A notice under this Lease is only effective if it is in writing, and dealt with as follows:
 - i. *if given by the Lessee to the Lessor* - addressed to the Lessor at 2-68 Flinders Street Townsville Queensland 4810 or as otherwise notified by the Lessor; or
 - ii. *if given by the Lessor to the Lessee* - given by an officer of the Lessor and addressed (and marked for attention) to the Lessee's registered office or as otherwise notified by the Lessee.
- b. A notice is to be:
 - i. signed by the person giving the notice and delivered by hand; or
 - ii. signed by the person giving the notice and sent by pre-paid post; or
 - iii. transmitted electronically by the person giving the notice by electronic mail or facsimile transmission.
- c. A notice is deemed to be effected:

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- i. if delivered by hand – upon delivery to the relevant address;
 - ii. if sent by post – upon delivery to the relevant address;
 - iii. if transmitted electronically – upon actual receipt by the addressee.
- d. A notice received after 5.00 pm, or on a day that is not a business day in the place of receipt, is deemed to be effected on the next business day in that place.

16.4. Process to Resolve Disputes

- a. In case any question difference or dispute arises between the parties about any matter arising under this Lease and such question difference or dispute has not been resolved within 15 Working Days after notice by one party to the other of the nature of the question difference or dispute either party may refer the dispute for determination by an appropriate practising professional appointed at the request of either party by the President of the Queensland Law Society.
- b. The person appointed under this clause:
 - i. acts as an expert and not as an arbitrator;
 - ii. will consider any submissions made to it by a party; and
 - iii. will provide reasons for the determination.
- c. The costs of the expert will be shared equally between the parties unless the expert determines otherwise.
- d. The determination of the expert is final and binding on the parties.

17. INSURANCE

17.1. Lessee to Insure the Buildings

The Lessee shall forthwith at its own expense insure and keep insured in the name of the Lessor and the Lessee for their respective rights and interests all parts of the Buildings and every addition or substitution made thereto from time to time of that nature for the full insurable value thereof with a public insurance office approved by the Lessor against loss or damage by cyclone, landslip, fire storm tempest aircraft and articles dropped therefrom and such other risks as the Lessor may from time to time specify in writing under a policy and a certified true copy of every cover note policy and certificate of renewal or receipt for premium relative to the insurance to be effected pursuant to this clause shall immediately upon the issue thereof be handed over to the Lessor.

17.2. Lessee to Insure Plate Glass

The Lessee shall forthwith at its own expense insure and keep insured in the joint names of the Lessor and the Lessee all plate glass in the Buildings.

17.3. Lessee to Insure Against Liability at Law

The Lessee shall forthwith at its own expense insure and keep insured in the name of the Lessor and the Lessee for their respective rights interests and liabilities and also for the benefit of the servants, agents, invitees and employees of the Lessor and the Lessee whereby the aforesaid are indemnified against liability at law for any loss of or damage to property and for injury (including death) to any person arising

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out of any act or omission on or about the Demised Premises (including but not limited to the movement of boulders) and against all claims, demands, proceedings, costs, charges and expenses whatsoever in respect thereof or in relation thereto and that insurance shall be effected for such amount (being not less than the sum of \$20,000,000 (Twenty Million Dollars) in any one occurrence unlimited in all during the period of that insurance) as may from time to time be required by the Lessor. The Insurance shall be effected with a public insurance office approved by the Lessor and a certified copy of every cover note policy and certificate of renewal or receipt for premium shall immediately upon the issue thereof be handed to the Lessor.

17.4. Conduct Voiding Insurance

The Lessee will not at any time do permit or suffer to be done or omit to do any act, matter or thing upon the Demised Premises whereby any insurances may be vitiated or rendered void or voidable or (except with the approval in writing of the Lessor) whereby the rate of premium on any such insurance policies shall be liable to be increased and the Lessee shall do permit or suffer to be done immediately upon the request of the Lessor all things necessary to continue in force any insurances which have been effected by the Lessee or the Lessor.

17.5. Evidence of Insurance

The Lessee shall if required by the Lessor so to do produce for inspection by the Lessor reasonable proof of the existence of any insurance policy to be effected by the Lessee pursuant to this Lease.

18. DAMAGE OR DESTRUCTION

18.1. No Abatement of Rent

The Rent hereby reserved or any part thereof shall not abate in case of total or partial destruction of or damage to any Improvements on the Demised Premises by tsunami, cyclone, landslip, fire, storm, tempest, aircraft or articles dropped from aircraft or otherwise by inevitable accident or act of God whereby the Demised Premises shall be rendered wholly or partially unfit for occupation or use by the Lessee provided however that the covenant to repair hereinbefore contained so far as it has relation to any such destruction or damage shall be suspended until the demised premises shall have been restored and again put in proper condition fit for use by the Lessee for the purpose of its business.

18.2. Lessee May Determine with Lessor's Consent

If the Demised Premises shall be destroyed or so damaged by any of the causes or agencies aforesaid so that the Demised Premises are wholly for occupation or use for the purposes for which they were demised, the Lessee may with the consent in writing of the Lessor determine this lease but without prejudice to any claim by the Lessor against the Lessee in respect of any antecedent breach of any of the provisions or agreements herein contained or implied.

18.3. Lessor May Determine if no Reinstatement

If the Demised Premises shall be destroyed or so damaged by any of the causes or agencies aforesaid and without any neglect or default on the part of the Lessor so as to be wholly or partially unfit for occupation or use for the purposes for which the premises were demised and the Lessee shall not have substantially commenced to restore the same within a reasonable time from the date of such destruction or damage it shall be lawful for the Lessor at any time thereafter to cancel this Lease by giving to the Lessee notice of its intention in that behalf and this Lease shall thereupon be determined but without prejudice to any claim by either party against the other in respect of any antecedent breach of any of the provisions or agreements herein contained or implied.

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18.4. Arbitration of Disputes

If any dispute, question or difference shall arise between the parties as to the meaning, operation or effect of the preceding subclauses of this clause 18 or as to the rights or liabilities of either of the parties hereto under those subclauses, that dispute, question or difference shall be referred to the arbitration of an independent arbitrator to be appointed by the President or a person for the time being fulfilling the office of the President of the Queensland Law Society Incorporated, whose decision or award shall be conclusive and binding on the parties and any submission to arbitration shall be deemed to be a submission to arbitration within the meaning of the *Commercial Arbitration Act 2013 (Qld)* and subject to the provisions of that Act an award pursuant to a reference to arbitration in accordance with the provisions hereof shall be a condition precedent to any action or other legal proceedings between the parties relating to such dispute question or difference. The arbitrator shall have the power to award costs and either party may make such award a rule of Court.

19. ESSENTIAL TERMS

19.1. Essential Terms

Without limiting or derogating from the essentiality of any other term of this Lease each and every obligation expressed or implied herein to pay Rent, to give the security deposit, to pay rates and taxes and like expenses and to make any other payments or reimbursements, the covenants against assignment, subletting, mortgaging and the like, the covenants to maintain and repair and to comply with statutes and orders, the covenants in clauses 10 and 11 hereof, and the covenant in subclause 1.7 requiring the Lessee to comply with the Permit, are essential terms of this Lease.

20. LESSEE'S WORKS

- 20.1.** Prior to the Commencement Date the parties acknowledge that remedial works have been undertaken by the Lessee to stabilise the boulders located on the Demised Premises at the Dent Island Lightstation;
- 20.2.** All costs and expenses of, and incidental to, the remedial works and all associated reports, monitoring, monitoring plans, inspections and other matters provided for in this clause 20, or otherwise required by the Lessor, are the responsibility of the Lessee.
- 20.3.** All remedial works undertaken by the Lessee to stabilise the boulders located at the Dent Island Lightstation site are to be monitored and maintained by the Lessee for the duration of this Lease and any future lease.
- 20.4.** The Lessee is to arrange for an appropriately qualified and independent professional to inspect all boulders above the Dent Island Lightstation and all other Buildings or structures annually and immediately following any trigger event or reported failure of the boulders. For the purposes of this clause 20, 'trigger event' means any natural or artificial event that is likely to trigger any instability in the boulders including, but not limited to, above average rainfall, a tsunami, a seismic event, a cyclone, a bushfire, or human development of the area.
- 20.5.** A written report following an inspection under subclause 20.4 in respect of any trigger event or reported failure of the boulders or the remedial works is to be obtained, maintained and provided by the Lessee to the Lessor immediately upon its receipt but no later than three months after the trigger event.
- 20.6.** In the event of an identified or reported failure of the remedial works of the boulders, or a site inspection indicating that boulders have moved or there is an imminent or likely risk of boulders moving, the Lessee is to immediately take whatever measures are reasonably necessary to ensure human safety. Where

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appropriate, these measures should include ensuring that any residences are vacated, that the site is secured from entry, that appropriate signage is placed at the site to advise of the risk, and that as soon as practicable, appropriate remedial works are undertaken to address the risk or failure. The Lessee is to notify the Lessor in writing within 24 hours of an identified or reported or likely failure of the remedial works, or an adverse inspection report, and advise the Lessor of the action taken or the further actions proposed to stabilise the boulders.

20.7. Immediately upon completion of works required under subclause 20.6, the Lessee is to arrange for a suitably qualified and independent professional who is acceptable to the Lessor to inspect the works and provide a written report to the Lessor certifying that the works have been undertaken in the required manner and are effective for stabilising the boulders over the longer term.

20.8. The Lessee and/or its consultants are to obtain all relevant permits and other approvals prior to undertaking any work, monitoring or other action required under this clause 20.

20.9. All remedial works, monitoring and other action required under this clause 20 must be undertaken:

- a. in accordance with all applicable Australian standards or guidelines including, but not necessarily limited to, "Landslide Risk Management Concept and Guidelines" of the Australian Geomechanics Society;
- b. in a proper and workmanlike manner;
- c. by an appropriately qualified and insured expert; and
- d. using new and good quality materials which are suitable for the relevant purpose.

21. WORK BY THE LESSEE IN LIEU OF RENT

21.1. Repairs to the Dent Island Lightstation

- a. On the Commencement Date the Lessee must commence carrying out:
 - i. structural repairs to the winch house and derrick crane located on the Demised Premises in accordance with the requirements in the Structural Inspection Report in the Fourth Schedule; and
 - ii. the building works to the generator shed, water tank, workshop shed and pathways located on the Demised Premises detailed in option 1 of the Dent Island Lighthouse Building Works Proposal in the Fifth Schedule.
- b. In performing its obligations pursuant to paragraph 21.1.a, the Lessee must:
 - i. comply with all Official Requirements;
 - ii. prior to the commencement of the structural repairs and building works, obtain such other permits and approvals that are required in order to lawfully carry out the structural repairs and building works;

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- iii. ensure the structural repairs and building works are carried out in a proper and workmanlike manner;
 - iv. ensure the structural repairs and building works are carried out by an appropriately qualified and insured expert; and
 - v. ensure the structural repairs and building works are carried out using only new and good quality materials which are suitable for the relevant purpose.
- c. The Lessee must ensure the structural repairs and building works are completed no later than twelve (12) calendar months after the Commencement Date.
- d. Immediately upon completion of the structural repairs and building works the Lessee must arrange for a suitably qualified and independent professional who is acceptable to the Lessor to inspect the structural repairs and building works and provide a written report to the Lessor certifying that the structural repairs and building works have been undertaken and comply with the requirements of paragraphs 21.1.a and 21.1.b.
- e. All costs and expenses of, and incidental to, the structural repairs and building works and all associated inspections, reports and other matters provided for in this subclause 21.1, or otherwise required by the Lessor, are the responsibility of the Lessee.
- f. Upon the Lessor providing notice to the Lessee advising that the Lessor is satisfied the Lessee has met the requirements of paragraphs 21.1.a, 21.1.b, 21.1.c and 21.1.d, the Lessee is entitled to offset the cost of the structural repairs and building works against the payment of rent for 40 months and after such time the Lessee must recommence payment of Rent in accordance with clause 2.
- g. To remove any doubt, the Lessee has an obligation to maintain the winch house, derrick crane, generator shed, water tank, workshop shed and pathways located on the Demised Premises at its own cost pursuant to subclause 7.1 and that obligation will continue for the duration of the Lease despite this subclause 21.1.

21.2. Other Work in Lieu of Rent

- a. The Lessor may from time to time during the Term request, by giving a notice to the Lessee, that the Lessee carry out such other work to the Demised Premises as is specified by the Lessor within the timeframe specified in the notice (other than work that the Lessee is otherwise required to perform under any other provision of this Lease).
- b. Upon receiving a request from the Lessor pursuant to paragraph 21.2.a, the Lessee must within 28 days provide to the Lessor a notice containing a written quotation detailing the specifications for and cost of the works.
- c. Upon receiving the quotation from the Lessee pursuant to paragraph 21.2.b, the Lessor will within 28 business days provide a notice to the Lessee:
 - i. advising that the Lessor accepts the quotation and notifying the Lessee of the timeframe within which the works must be carried out ; or
 - ii. advising that the Lessee is no longer required to carry out the works.

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- d. If the Lessee receives written notice from the Lessor under subparagraph 21.2.c.i, the Lessee must arrange for the works to be carried out within the specified timeframe.
- e. Immediately upon completion of works carried out by the Lessee pursuant to paragraph 21.2.d, the Lessee must arrange for a suitably qualified and independent professional who is acceptable to the Lessor to inspect such works and provide a written report to the Lessor certifying that the works have been undertaken and comply with the specifications for the works as set out in the notice given under paragraph 21.2.b.
- f. All costs and expenses of, and incidental to, works carried out by the Lessee pursuant to paragraph 21.2.d and all associated inspections, reports and other matters provided for in this subclause 21.2, or otherwise required by the Lessor, are the responsibility of the Lessee.
- g. Upon the Lessor notifying the Lessee that the Lessor is satisfied the Lessee has met the requirements of paragraphs 21.2.d and 21.2.e, the Lessee is entitled to offset the payment of Rent against the amount specified in the quotation given pursuant to paragraph 21.2.b until such time as the equivalent amount of Rent has been offset at which point the Lessee must resume payment of Rent in accordance with clause 2.

22. LESSEE'S COMPLIANCE WITH THE BUILDING CODE 2013

22.1 For the purposes of this clause 22:

- a. 'Building Code' means the *Building Code 2013 (Cth)*;
- b. 'Building Work' has the same meaning as the definition of building work contained in Schedule 1 of the Building Code;
- c. 'Related Entity' of the Lessee has the same meaning as a related entity of a tenderer described in subsection 3(2) of the Building Code and 'Related Entities' has a corresponding meaning.

22.2 Where any work that is required to be carried out by the Lessee pursuant to this Lease is Building Work, the Lessee must comply with the requirements of the Building Code in addition to any other requirements specified in this Lease.

22.3 Compliance with the Building Code shall not relieve the Lessee from responsibility to perform this Lease, or from liability for any defect in Building Work arising from compliance with the Building Code.

22.4 Where a change in this Lease is proposed and that change would affect compliance with the Building Code, the Lessee must submit a report to the Lessor specifying the extent to which the Lessee's compliance with the Building Code will be affected.

22.5 The Lessee must maintain adequate records of the compliance with the Building Code by the Lessee, its contractors, consultants and Related Entities.

22.6 The Lessee must not appoint a contractor or consultant to assist the Lessee in the performance of obligations under this Lease where:

- a. the appointment would breach a sanction imposed by the Minister for Employment and Workplace Relations; or

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- b. the contractor or consultant has had an adverse court or tribunal decision (not including decisions under appeal) for a breach of workplace relations law, work health and safety law, or workers' compensation law; or
- c. the contractor or consultant is subject to an order of a court or tribunal (not including orders under appeal) relating to a workplace relations law, work health and safety law, or workers' compensation law matter and the contractor or consultant is not complying with the order.

22.7 The Lessee agrees to require that it and its contractors or consultants and its Related Entities provide the Lessor or any person authorised by the Lessor, including a person occupying a position in the Fair Work Building Industry Inspectorate, with access to:

- a. inspect any Building Work, material, machinery, appliance, article or facility;
- b. inspect and copy any record relevant to Building Work carried out pursuant to this Lease; and
- c. interview any person

as is necessary to demonstrate the Lessee's compliance with the Building Code in the performance of Building Work obligations under this Lease.

22.8 Additionally, the Lessee agrees that the Lessee and its Related Entities will agree to a request from the Lessor or any person authorised by the Lessor, including a person occupying a position in the Fair Work Building Industry Inspectorate, to produce a specified document within a specified period, in person, by fax or by post.

22.9 The Lessor must ensure that all contracts entered into to assist the Lessee with the performance of Building Work obligations under this Lease impose obligations on contractors equivalent to the obligations under this clause 22.

23. OPTION TO RENEW

23.1. If:

- a. the Lessee wishes to lease the Demised Premises for the First Further Term; and
- b. the Lessee gives notice to the Lessor of that wish not less than 12 months prior to the expiration of the Term and not more than 18 months prior to the expiration of the Term; and
- c. any breach or default by the Lessee under this Lease prior to that notice which has been notified to the Lessee by the Lessor has been either waived or rectified or in the case of a negative covenant, has been discontinued;
- d. the Permit is still current and the Lessee is not in default under any term of the Permit;

then the Lessor must grant to the Lessee a new lease of the Demised Premises for the First Further Term at an initial Rent for the first Rent Period which is agreed between the parties or failing agreement within 3 months after the Commencement Date of the First Further Term as determined in accordance with the procedure set out in the Sixth Schedule; and

otherwise, on the same terms contained in this Lease except that:

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- i. Subclause 3.1 will be amended to delete the Secured Sum and to substitute an amount calculated in accordance with subclause 3.4;
- ii. This subclause 23.1 will be omitted;
- iii. The Lessor may as it sees fit, amend the requirements and obligations of the Lessee under the Permit, the Dent Island Lightstation Heritage Management Plan or the requirements to monitor and maintain the stability of boulders under clause 20;
- iv. The Review Dates for the First Further Term will be as set out in paragraph 1.1.hh; and
- v. The definition of 'Commencement Date' in paragraph 1.1.e and the definition of 'Expiry Date' in paragraph 1.1.p will be amended to reflect the Commencement Date and the Expiry Date of the First Further Term, respectively.

3.2. If:

- a. the Lessee wishes to lease the Demised Premises for the Second Further Term; and
- b. the Lessee gives notice to the Lessor of that wish not less than 12 months prior to the expiration of the First Further Term and not more than 18 months prior to the expiration of the First Further Term; and
- c. any breach or default by the Lessee under this Lease prior to that notice which has been notified to the Lessee by the Lessor has been either waived or rectified or in the case of a negative covenant, has been discontinued;
- d. the Permit is still current and the Lessee is not in default under any term of the Permit;

then the Lessor must grant to the Lessee a new lease of the Demised Premises for the Second Further Term at an initial Rent for the first Rent Period which is agreed between the parties or failing agreement within 3 months after the Commencement Date of the Second Further Term as determined in accordance with the procedure set out in the Sixth Schedule; and

otherwise, on the same terms contained in this Lease except that:

- i. Subclause 3.1 will be amended to delete the Secured Sum and to substitute an amount calculated in accordance with subclause 3.4;
- ii. This subclause 23.2 will be omitted;
- iii. The Lessor may as it sees fit, amend the requirements and obligations of the Lessee under the Permit, the Dent Island Lightstation Heritage Management Plan or the requirements to monitor and maintain the stability of boulders under clause 20;
- iv. The Review Dates for the Second Further Term will be as set out in paragraph 1.1.hh;
- v. The definition of 'Commencement Date' in paragraph 1.1.e and the definition of 'Expiry Date' in paragraph 1.1.p will be amended to reflect the Commencement Date and the Expiry Date of the Second Further Term, respectively;
- vi. Subclause 3.4 and the Sixth Schedule will be amended to delete all references to the 'First Further Term' and substitute with the 'Second Further Term'; and

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- vii. Paragraph A.1.1 of the Sixth Schedule will be amended to delete the reference to paragraph 23.1.d and substitute with 23.2.d.

24. RESOLUTION OF DISPUTES

- 24.1. Subject to any provision of this Lease to the contrary any difference or dispute between the parties which is not resolved within 20 Working Days after notice by one party to the other of the nature of the dispute may be referred by either party for determination by an Expert who is an appropriate practising professional appointed at the request of either party, by:
- a. the President of the professional body most appropriate to determine the dispute or, if the parties are unable to agree on the appropriate body, the President for the time being of the Law Society of the Jurisdiction; or
 - b. if there is no such body in existence at the time of the request, the President for the time being of an equivalent body.
- 24.2. Each party may make a submission either orally or in writing to the Expert within 10 Working Days after that appointment.
- 24.3. In making a determination the Expert must:
- a. act as an expert and not as an arbitrator;
 - b. consider any submission made to it by a party; and
 - c. provide the parties with a written statement of reasons for the determination.
- 24.4. The determination of the Expert is conclusive and binding on the parties.
- 24.5. The costs of the Expert will be shared equally between the parties.
- 24.6. If the Expert fails to deliver a determination within 15 Working Days after the last day on which the Parties are entitled to make submissions, either party may require the appointment of a further Expert under subclause 23.1 to determine the dispute.

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FIRST SCHEDULE (SUBCLAUSE 1.1)
Asbestos Management Register and Plan

Title Reference 18791025 and 18791031



Report OH96671 F2

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Client Contact

ASBESTOS REGISTER

Dent Island

Queensland Parks and Wildlife Service

Ross Courtenay
Central Old Marine
Queensland Parks and Wildlife Services
Department of Environment and Resource Management
PO Box 623
MACKAY QLD 4740

Client Reference

Dent Island Asbestos Audit

Investigation Period

26 May 2011

Simtars Investigator

Robin Greenfield (07 3810 6341)

Reviewed By

Kevin Arnold (07 3810 6314)

Approved Signatory

Kevin Arnold
Special Projects Officer – Asbestos

Report Date

7 July 2011

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SIMTARS Report OH96671F2

Executive Summary

This asbestos audit covers selected buildings within Dent Island. The audit was conducted on the 26 May 2011.

The following is a suggested Management Plan for the Friable / Loosely-Bonded Asbestos-Containing Materials identified on site.

Winch House:

The ACM identified as remnant pipe lagging inside the winch house was in poor unsealed condition at the time of the inspection. It is recommended to limit access to the inside of this building until the removal of this material has been conducted.

An accredited "A Class" asbestos removalist shall be contracted to undertake the removal of the remnant pipe lagging material due to its friable nature.

The following is a suggested Management Plan for the Bonded Asbestos-Containing Materials identified on site.

House 1, Workshop Shed, Generator Shed, Winch House and House 2:

ACM identified throughout these buildings and installed as roof air vent sections, roofing sheets, roof ridge and edge capping, flat and corner cover strips, eave soffits and veranda ceiling cladding and a switchboard backing board.

House 1: ACM was identified under as stored materials and debris located under this building were in fair / poor condition at the time of the inspection.

It is recommended that all these stored ACM should be scheduled for removal as soon as practicable.

It is recommended that additional inspections should be conducted under House 1 using a 'nail rake' to unearth any additional debris materials which may be present within the soil. These materials should then be disposed of as asbestos waste.

ACM identified as internal lining to the switchbox door was in poor condition and was not sealed at the time of the inspection. It is recommended that this door lining should be removed sealed with paint.

Generator Shed: A small hole in a section of ceiling cladding requires painting and the removal of a piece of broken sheet hanging from the ceiling.

All remaining ACM identified within buildings were in good sealed condition at the time of the inspection.

Generator Shed: there may be ACM gaskets installed on the generators. If in-situ these materials would be well sealed and do not pose a risk unless the generator motors are stripped down for maintenance.

Winch House: there may be ACM gaskets and brakes fitted to the winch motor. If in-situ these materials would be well sealed and do not pose a risk unless the motors and brakes are stripped down for maintenance.

It is recommended that the condition of these materials should be visually monitored every 12 months for signs of deterioration. This inspection could be conducted by a competent member of staff.

If an Annual Asbestos Review is to be conducted 'in-house' it is recommended to; print a copy of this report, check these items off against the register, sign and date the pages and file away with this report.

This Executive Summary was supplied in good faith as a common-language review, for the convenience of our clients. It must be read in conjunction with the full report.

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SIMTARS Report OH96671F2

1 Objectives

The purpose of this project was to conduct Asbestos-Containing Materials Audits for selected buildings on Dent Island, in accordance with the Queensland's Workplace Health & Safety Regulation 2008¹, and to issue an "Asbestos-Containing Materials Register and Management Plan" for the site.

2 Scope of Work

The scope of this asbestos-containing material audit on which this Asbestos Register is based covers "House 1, Workshop Shed, Generator Shed, Winch Shed and House 2" only, located within the old Lighthouse area on Dent Island.

3 Methodology

3.1 Sampling and Analysis

The audit involved visually inspecting the buildings/structures on-site to determine the presence, or otherwise, of in-situ asbestos-containing materials.

Samples were analysed using polarised light microscopy techniques².

To assist in the identification of sampled areas, photographs were taken and are included in this report.

Additional information from the BEMIR report used in compiling this report appears in "Appendix C" and should be used in conjunction with Simtars report.

3.2 Limitations

Simtars has made every effort to identify all asbestos-containing materials contained within the listed building, but no warrant, expressed or implied, is made to the completeness of this audit.

Areas Not Accessed

During the course of a normal non-destructive asbestos audit it may not be possible to identify the presence of all asbestos-containing materials. In many instances, asbestos-containing materials may be present in areas that cannot be accessed without implementing destructive sampling techniques. Such areas may include:

- penetrations in solid walls and concrete floor slabs;
- integral parts of machinery, plant & pipework;
- wall cavities & internal pipework.

Specific Areas Not Accessed

- Underground water/sewerage pipes, if present;
- Lighthouse.

Similar Materials

In some instances rooms within a building may appear to be constructed of identical materials to those sampled elsewhere. Where this is the case, Simtars may not sample all the materials, but refer to the results of analysis of a representative sample.

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SIMTARS Report OH96671F2

4 Background

At the request of Mr Ross Courtenay of Central Qld Marine Mackay, Robin Greenfield of Simtars' Occupational Hygiene, Environment and Chemistry Centre conducted an 'Asbestos-Containing Materials' audit of identified buildings on Dent Island on 26 May 2011.

The co-operation and assistance of Ross Courtenay of Central Qld Marine and Stephanie Lemm of Great Barrier Reef Marine Parks Authority during the inspection were most appreciated.

4.1 Regulatory Requirements

Part 13 of the *Queensland Workplace Health and Safety Regulation 2008*¹ outlines the requirements for the treatment and management of asbestos in workplaces. The regulation specifically refers to NOHSC's national asbestos management code entitled *Code of Practice for the Management and Control of Asbestos in Workplaces*². This code of practice refers to "asbestos-containing materials" or "ACM" installed in the building, including in essential plant in or on the building.

The current legislation clearly states the requirement for building owners to ensure that all ACM is managed in accordance with the national standard. In doing so, a requirement exists, for the owner of a building to identify all asbestos containing materials on, or installed in the building. This requirement only applies to buildings that were approved for construction, on or before 1 January 1990, and should have been met prior to 1 January 2008.

Asbestos-containing materials may be in various forms; e.g. friable, loosely bonded or bonded.

Examples of friable asbestos-containing materials (ACM's) would be: -

- Asbestos lagging on steam/hot water pipes and
- Asbestos material sprayed on steel beams.

Examples of loosely bonded asbestos-containing materials (ACM's) would be: -

- Asbestos millboard installed in air-conditioning ductwork and electrical components and
- Thermal insulation installed inside switchbox's.

Examples of bonded asbestos-containing materials (ACM's) would be: -

- Asbestos-cement sheeting of walls and ceilings,
- Asbestos-containing vinyl flooring and
- Asbestos-containing brake-shoes.

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SIMTARS Report OH96671F2

5 Results

The results of the asbestos audit are provided in tabular format, which is designed to provide readily available information about the presence of asbestos hazards in the workplace.

Tables 1 and 2 form the 'Asbestos Register'.

Friable/Loosely-Bonded Asbestos-Containing Materials Register	Table 1	Page 6
Bonded Asbestos-Containing Materials Register	Table 2	Page 7
Non-Asbestos-Containing Materials	Table 3	Page 16
Management of Asbestos-Containing Materials	Section 6	Page 17
Certificate of Analysis	Appendix A	Page 20
Photographs	Appendix B	Page 24

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SIMTARS Report CH96671F2

Table 1. Friable/Loosely-Bonded Asbestos-Containing Materials Register

Sample No	Location	Material	Application	Condition	Sealed	Friability	Asbestos Type	Risk	Photo
S-7515	Winch House: remnant lagging on pipe inside building	Lagging	Thermal insulation	Poor	No	Loosely bonded	CHR AMO	High	S-7515
Comments: Date Removed:									

Legend – CHR - Chrysotile (White) Asbestos; AMO – Amosite (Brown) Asbestos

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Title Reference 18791025 and 18791031

SIMTARS Report CH96671F2

Table 2. **Bonded Asbestos-Containing Materials Register**

Sample No	Location	Material	Application	Condition	Sealed	Friability	Asbestos Type	Risk	Photo
S-7497	House 1: roofing on Hot Water System box	Fibre-cement	Cladding	Good	Yes	Bonded	CHR	Low	S-7497 A
Comments: Box located on the Eastern side of building									
S-7498	House 1: edge capping on Hot Water System box	Fibre-cement	Cladding	Good	Yes	Bonded	CHR AMO UMF	Low	S-7498 A
Comments: Date Removed:									
S-7499	House 1: roofing on House	Fibre-cement	Cladding	Good	Yes	Bonded	CHR AMO	Low	S-7499
Comments: Date Removed:									
Refer S-7498	House 1: edge capping on roof	Fibre-cement	Cladding	Good	Yes	Bonded	CHR AMO UMF	Low	S-7498 B
Comments: Date Removed:									
Refer S-7507	House 1: ridge capping on roof	Fibre-cement	Cladding	Good	Yes	Bonded	CHR	Low	S-7507 B
Comments: Date Removed:									
S-7500	House 1: eave soffits on house	Fibre-cement sheet	Cladding	Good	Yes	Bonded	CHR	Low	S-7500
Comments: Date Removed:									

Legend – CHR - Chrysotile (White) Asbestos; AMO – Amosite (Brown) Asbestos; UMF – Unidentified Mineral Fibre

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Title Reference 18791025 and 18791031

SIMTARS Report CH06671F2

Table 2. **Bonded** Asbestos-Containing Materials Register (cont.)

Sample No	Location	Material	Application	Condition	Sealed	Friability	Asbestos Type	Risk	Photo
S-7501	House 1: veranda ceiling cladding	Fibre-cement sheet	Cladding	Good	Yes	Bonded	CHR UMF	Low	S-7501
Comments: Date Removed:									
S-7502	House 1: veranda, switchbox backing board	Zelemite	Backing board	Good	Yes	Bonded	CHR	Low	S-7502
Comments: Date Removed:									
S-7503	House 1: veranda, switchbox, internal door lining	Fibre-cement sheet	Cladding	Poor	No	Bonded	CHR UMF	Low	S-7503
Comments: Date Removed:									
S-7504	House 1: bathroom, wall cladding in bath / shower area only	Fibre-cement sheet	Cladding	Good	Yes	Bonded	CHR	Low	S-7504
Comments: Remaining walls & ceilings are masonite. Walls & ceilings throughout house are Masonite									
Refer S-7508	House 1: bathroom, flat cover strips in bath / shower	Fibre-cement	Moulding	Good	Yes	Bonded	CHR	Low	S-7508 B
Comments: Date Removed:									
S-7505	House 1: roof air vent pipe sections, 3 pieces	Fibre-cement	Stored	Good	No	Bonded	CHR AMO	Low	S-7505 A
Comments: Located under house, Northern end									

Legend – CHR - Chrysotile (White) Asbestos; AMO – Amosite (Brown) Asbestos; UMF – Unidentified Mineral Fibre

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SIMTARS Report OH96671F2

Table 2. Bonded Asbestos-Containing Materials Register (cont.)

Sample No	Location	Material	Application	Condition	Sealed	Friability	Asbestos Type	Risk	Photo
S-7506	House 1: debris in soil under house, to right via gate	Fibre-cement sheet	Debris	Poor	No	Bonded	CHR	Low	S-7506
Comments: Located under house, Northern end. May be more present in soil.									
S-7507	House 1: ridge capping, 24 pieces	Fibre-cement	Stored	Good	No	Bonded	CHR	Low	S-7507 A
Comments: Located under house, South & S/E end									
S-7508	House 1: flat & corner cover strip mouldings, several pieces	Fibre-cement	Stored	Good	No	Bonded	CHR	Low	S-7508
Comments: Located under house, Southern end									
Refer S-7497	House 1: roofing sheets, 3 pieces	Fibre-cement	Stored	Good	Yes *	Bonded	CHR	Low	S-7497 B
Comments: Painted on one side. Located under house, Southern end									
Refer S-7498	House 1: edge capping, 1 piece	Fibre-cement	Stored	Good	No	Bonded	CHR AMO UMF	Low	S-7498 C
Comments: Located under house, South/ East side									

Legend – CHR - Chrysotile (White) Asbestos; AMO – Amosite (Brown) Asbestos; UMF – Unidentified Mineral Fibre

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SMTARS Report CH96671F2

Table 2. Bonded Asbestos-Containing Materials Register (cont.)

Sample No	Location	Material	Application	Condition	Sealed	Friability	Asbestos Type	Risk	Photo
S-7509	Workshop Shed: external flat cover strips	Fibre-cement	Moulding	Good	Yes	Bonded	CHR UMF	Low	S-7509
Comments: Also installed on internal walls									
S-7510	Workshop Shed: external corner cover strips	Fibre-cement	Moulding	Good	Yes	Bonded	CHR AMO	Low	S-7510
Comments:									
S-7511	Workshop Shed: external walls	Fibre-cement	Cladding	Good	Yes	Bonded	CHR UMF	Low	S-7511 A
Comments: Also installed as internal walls									
Refer S-7497	Workshop Shed: roofing sheets	Fibre-cement	Cladding	Good	Yes	Bonded	CHR	Low	S-7497 C
Comments:									
Refer S-7498	Workshop Shed: edge capping on roof	Fibre-cement	Cladding	Good	Yes	Bonded	CHR AMO UMF	Low	S-7498 D
Comments:									
Refer S-7507	Workshop Shed: ridge capping on roof	Fibre-cement	Cladding	Good	Yes	Bonded	CHR	Low	S-7507 C
Comments:									

Legend – CHR - Chrysotile (White) Asbestos; AMO – Amosite (Brown) Asbestos; UMF – Unidentified Mineral Fibre

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SIMTARS Report CH96671F2

Table 2. Bonded Asbestos-Containing Materials Register (cont.)

Sample No	Location	Material	Application	Condition	Sealed	Friability	Asbestos Type	Risk	Photo
S-7512	Generator Shed: rainwater pipe	Fibre-cement	Pipe	Good	Yes	Bonded	CHR UMF	Low	S-7512
Comments: North East end of building. No rainwater pipe on Western side.									
S-7513	Generator Shed: gutters on East & West sides	Fibre-cement	Guttering	Good	Yes	Bonded	CHR AMO CRO	Low	S-7513
Comments: Some damage to gutter is sealed with paint									
Refer S-7597	Generator Shed: roofing sheets	Fibre-cement	Cladding	Good	Yes	Bonded	CHR	Low	S-7497 D
Comments:									
Refer S-7498	Generator Shed: edge capping on roof	Fibre-cement	Cladding	Good	Yes	Bonded	CHR AMO UMF	Low	S-7498 E
Comments:									
Refer S-7507	Generator Shed: ridge capping on roof	Fibre-cement	Cladding	Good	Yes	Bonded	CHR	Low	S-7507 D
Comments:									
Refer S-7505	Generator Shed: air vent on roof	Fibre-cement	Air vent	Good	Yes	Bonded	CHR AMO	Low	S-7505 B
Comments:									

Legend – CHR - Chrysotile (White) Asbestos; AMO – Amosite (Brown) Asbestos; CRO – Crocidolite (Blue) Asbestos; UMF – Unidentified Mineral Fibre

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SIMTARS Report OH96671F2

Table 2. Bonded Asbestos-Containing Materials Register (cont.)

Sample No	Location	Material	Application	Condition	Sealed	Friability	Asbestos Type	Risk	Photo
Refer S-7509 / 10	Generator Shed: external flat & corner cover strips	Fibre-cement	Moulding	Good	Yes	Bonded	CHR AMO	Low	Yes
Comments:									
Refer S-7511	Generator Shed: external wall cladding & internal ceiling cladding	Fibre-cement sheet	Cladding	Good *	Yes *	Bonded	CHR UMF	Low	S-7511 B
Comments: * Hole in ceiling, not sealed on edges									
Refer S-7511	Generator Shed: two (2) small wall panels to right at entry	Fibre-cement sheet	Cladding	Good	Yes	Bonded	CHR	Low	S-7511 C
Comments:									
Suspect	Generator Shed: gaskets on generator motors	-	Gaskets	-	-	-	SUS	Low	Yes
Comments:									

Legend – CHR - Chrysotile (White) Asbestos; AMO – Amosite (Brown) Asbestos; UMF – Unidentified Mineral Fibre; SUS – Suspected of possibly containing Asbestos

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SMTARS Report CH96671F2

Table 2. Bonded Asbestos-Containing Materials Register (cont.)

Sample No	Location	Material	Application	Condition	Sealed	Friability	Asbestos Type	Risk	Photo
S-7516	Winch House: edge capping on roof	Fibre-cement	Cladding	Good	Yes	Bonded	CHR AMO	Low	S-7516
Comments:									
Date Removed:									
S-7517	Winch House: roofing sheets	Fibre-cement	Cladding	Good	Yes	Bonded	CHR AMO UMF	Low	S-7517
Comments:									
Date Removed:									
Suspect	Winch House: gaskets on winch motor	-	Gaskets	-	-	-	SUS	Low	Yes
Comments:									
Date Removed:									
Suspect	Winch House: winch motor brakes	-	Brake	-	-	-	SUS	Low	Yes
Comments:									
Date Removed:									

Legend – CHR - Chrysotile (White) Asbestos; AMO – Amosite (Brown) Asbestos; UMF – Unidentified Mineral Fibre.; SUS – Suspected of possibly containing Asbestos

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SIMTARS Report OH96671F2

Table 2. Bonded Asbestos-Containing Materials Register (cont.)

Sample No	Location	Material	Application	Condition	Sealed	Friability	Asbestos Type	Risk	Photo
S-7518	House 2: storage shed, edge capping on roof peak	Fibre-cement	Cladding	Good	Yes	Bonded	CHR UMF	Low	S-7518
Comments: Storage Shed located on South side of house									
S-7519	House 2: storage shed, edge and corner capping on side of roof	Fibre-cement	Cladding	Good	Yes	Bonded	CHR UMF	Low	S-7519
Comments: Date Removed:									
S-7520	House 2: storage shed, roofing sheets	Fibre-cement	Cladding	Good	Yes	Bonded	CHR AMO UMF	Low	S-7520
Comments: Date Removed:									
S-7521	House 2: roofing on main sections of house	Fibre-cement	Cladding	Good	Yes	Bonded	CHR UMF	Low	S-7521
Comments: Three (3) sections of roof for house									
S-7522	House 2: edge capping on roof	Fibre-cement	Cladding	Good	Yes	Bonded	CHR UMF	Low	S-7522
Comments: Date Removed:									
Refer S-7507	House 2: ridge capping on roof	Fibre-cement	Cladding	Good	Yes	Bonded	CHR	Low	S-7507 E
Comments: Date Removed:									

Legend – CHR - Chrysotile (White) Asbestos; AMO – Amosite (Brown) Asbestos; UMF – Unidentified Mineral Fibre

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Table 2. Bonded Asbestos-Containing Materials Register (cont.)

Sample No	Location	Material	Application	Condition	Sealed	Friability	Asbestos Type	Risk	Photo
Refer S-7511	House 2: eave soffits cladding	Fibre-cement sheet	Cladding	Good	Yes	Bonded	CHR UMF	Low	S-7511 C
Comments: Date Removed:									

Legend – CHR - Chrysotile (White) Asbestos; UMF – Unidentified Mineral Fibre

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Table 3. Non-Asbestos-Containing Materials Register

Sample No.	Location	Material	Application	Photo
S-7514	Generator Shed: backing plate for light switch, inside left side of door	Fibrous moulding	Backing plate	S-7514
Not Sampled	Patch panel on external South wall, panel with large hole is non-asbestos sheet	Fibre-cement sheet	Patch	Yes
S-7523	House 2: Office, half ceiling only. Remainder is Masonite.	Fibre-cement sheet	Cladding	S-7523
S-7524	House 2: Laundry, one section of wall cladding, beside tubs	Fibre-cement sheet	Cladding	S-7524
S-7525	House 2: Bathroom, walls in bath / shower section only. Remainder is Masonite & throughout house as walls & ceilings.	Fibre-cement sheet	Cladding	S-7525
Not Sampled	House 2: Office, eave soffits. Suspect similar to internal ceiling sample.	Fibre-cement sheet	Cladding	-

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SIMTARS Report OH96871F2

6 Management Plan

6.1 Friable/Loosely-Bonded Asbestos-Containing Materials (ACMs)

The following is a suggested Management Plan for the Friable / Loosely Bonded Asbestos-Containing Materials identified on site.

Winch House:

The ACM identified as remnant pipe lagging inside the winch house was in poor unsealed condition at the time of the inspection.

It is recommended to limit access to the inside of this building until the removal of this material has been conducted.

Due to the friable nature of this material it is recommended that an accredited "A Class" asbestos removalist should be contracted to undertake the removal of the remnant pipe lagging material and conduct HEPA vacuuming of all floor, wall and roof beams inside this building. Additional sealing of these surfaces with watered down PVA glue type material is also recommended.

6.2 Bonded Asbestos-Containing Materials (ACMs)

The following is a suggested Management Plan for the Bonded Asbestos-Containing Materials identified on site.

House 1:

The ACM identified as stored materials and debris located under this building were in fair / poor condition at the time of the inspection. Items included: roof air vent sections, roof ridge capping, flat and corner cover strips, roof sheets and roof edge capping.

It is recommended that all stored ACM should be scheduled for removal as soon as practicable.

It is recommended that additional inspections be conducted under the building using a 'nail rake' to unearth any further debris materials which may be present within the soil. These materials should then be disposed of as asbestos waste.

The ACM identified as a switchboard backing board was in good condition at the time of the inspection. It is recommended that if additional equipment is required to be installed on this board then the entire switchbox should be removed intact and replaced with a new switchbox.

The ACM identified as the internal lining to the switchbox door was in good condition but was not sealed at the time of the inspection. It is recommended that this door lining sheet should be sealed with paint.

All remaining ACM identified within this building was in good, sealed condition at the time of the inspection. Items included: roofing, roof edge and ridge capping, eave soffits, veranda ceiling and wall cladding in the bath / shower.

Where asbestos materials are to be managed in-situ, it is recommended that they be inspected annually for signs of deterioration. This annual inspection can be completed by a competent member of staff.

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SIMTARS Report OH96671F2

Workshop Shed:

The ACM identified as flat and corner cover strips, wall cladding, roofing sheets and roof edge and ridge capping materials were in good, sealed condition at the time of the inspection.

Where asbestos materials are to be managed in-situ, it is recommended that they be inspected annually for signs of deterioration. This annual inspection can be completed by a competent member of staff.

Generator Shed:

The ACM identified as a rain water pipe, gutters, flat and corner cover strips, wall and ceiling cladding, roofing sheets and roof edge and ridge capping materials and a roof air vent were in good, sealed condition at the time of the inspection.

A small hole in a section of ceiling cladding requires painting and the removal of a piece hanging from the ceiling.

There may be ACM gaskets installed on the generators. If in-situ these materials would be well sealed and do not pose a risk unless the generator motors are stripped down for maintenance.

Where asbestos materials are to be managed in-situ, it is recommended that they be inspected annually for signs of deterioration. This annual inspection can be completed by a competent member of staff.

Winch House:

The ACM identified as roofing sheets and roof edge capping were in good, sealed condition at the time of the inspection.

There may be ACM gaskets and brakes fitted to the winch motor. If in-situ these materials would be well sealed and do not pose a risk unless the motors and brakes are stripped down for maintenance.

Where asbestos materials are to be managed in-situ, it is recommended that they be inspected annually for signs of deterioration. This annual inspection can be completed by a competent member of staff.

House 2:

The ACM identified as roofing, roof edge, corner and ridge capping, eave soffits, veranda ceiling were in good, sealed condition at the time of the inspection.

Where asbestos materials are to be managed in-situ, it is recommended that they be inspected annually for signs of deterioration. This annual inspection can be completed by a competent member of staff.

6.3 General Recommendations

1. Where asbestos-cement products located on site become damaged, all loose pieces should be removed and disposed of as asbestos waste. All exposed areas should be sealed with PVA paint to prevent the likelihood of asbestos fibres becoming airborne.
2. With regards to **signage**, reference should be made to the *National Code of Practice for the Management and Control of Asbestos in Workplaces [NOHSC: 2018 (2005)], Part 9.5 Warning Signs and Labels²*.

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3. The Queensland Health and Safety regulation specifies that all asbestos management and removal activities must be carried out in accordance with National Codes of Practice. Specifically, the following documents shall be consulted for a more complete guide in the control of asbestos in the workplace:
 - *National Code of Practice for the Management and Control of Asbestos in Workplaces [NOHSC:2018(2005)]³*
 - *National Code of Practice for the Safe Removal of Asbestos, 2nd Edition [NOHSC:2002(2005)]⁴*
4. It is essential that all persons/tradespeople who are required to work on the building be notified about the presence of the asbestos-containing materials in the identified areas. Where these asbestos-containing materials are likely to be affected during renovations or maintenance work, then their removal should be considered prior to any work commencing. All removal works should be conducted by an accredited asbestos removalist, ensuring that the contractor has in place, and can document, their 'Asbestos Removal Control Plan' to safeguard against the release of asbestos fibres into the workplace.
5. A copy of this Register should be kept at the first point of entry to the building, where possible.
6. A copy of this Register should remain on-site and in the event of the site being sold, a copy of this report, including documentation of all asbestos removal works conducted should be supplied to the new property owner.
7. This Register and Management Plan should be reviewed annually. While this annual review could be conducted by a competent member of staff, it is suggested that an independent organisation be employed to update both the Register and Management Plan every 4 or 5 years or sooner if there has been major changes to the buildings.
8. If an Annual Asbestos Review is to be conducted 'in-house' it is recommended to: print a copy of this report, check these items off against the register, sign and date the pages and file away with this report.

References

1. Department of Employment, Training and Industrial Relations (Qld), *Workplace Health and Safety Regulation 2008*, GoPrint, Brisbane
2. Simtars Laboratory Procedure L.P0024 - "Procedure for Identification of Asbestos in Bulk Samples Using Polarised Light Microscopy, including Dispersion Staining".
3. National Code of Practice for the *Management and Control of Asbestos in Workplaces [NOHSC:2018(2005)]*
4. National Code of Practice for the *Safe Removal of Asbestos, 2nd Edition [NOHSC:2002(2005)]*

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Appendix A:

CERTIFICATE OF ANALYSIS

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SIMTARS Report OH96671F2

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and Chemistry Centre



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SIMTARS File 51/002/0009/6671

Lab No	Sample No.	Asbestos Detected	Crocidolite Asbestos	Amosite Asbestos	Chrysotile Asbestos	Organic Fibre	Synthetic Mineral Fibre	Particulate Matter	Notes
OH96671 / 38	S-7497	Yes	-	-	Present	-	-	Present	-
OH96671 / 39	S-7498	Yes	-	Present	Present	-	-	Present	'Unidentified Mineral Fibre' also present
OH96671 / 40	S-7499	Yes	-	Present	Present	-	-	Present	-
OH96671 / 41	S-7500	Yes	-	-	Present	-	-	Present	-
OH96671 / 42	S-7501	Yes	-	-	Present	-	-	Present	'Unidentified Mineral Fibre' also present
OH96671 / 43	S-7502	Yes	-	-	Present	-	-	Present	-
OH96671 / 44	S-7503	Yes	-	-	Present	-	-	Present	'Unidentified Mineral Fibre' also present
OH96671 / 45	S-7504	Yes	-	-	Present	-	-	Present	-
OH96671 / 46	S-7505	Yes	-	Present	Present	-	-	Present	-
OH96671 / 47	S-7506	Yes	-	-	Present	-	-	Present	-

Checked by: Robin Greenfield
Checked Date: 14 June 2011
Legend: Trace <2%; Present 2 to 99%; Total 100%

Approved signatory: Kevin Arnold

Samples analysed to Simtars Laboratory Procedure LP0024 - "Procedure for Identification of Asbestos in Bulk Samples, Using Polarised Light Microscopy, including Dispersion Staining"

Please note estimates of quantity are qualitative and are intended for information only. 'Unidentified Mineral Fibre' refers to material which shows the physical characteristics of Asbestos but is not one of the three common forms of asbestos.

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SIMTARS Report OH96671F2

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SIMTARS File 50002/0009/6671

Phone (07) 3810 6333
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Lab No	Sample No.	Asbestos Detected	Crocidolite Asbestos	Amosite Asbestos	Chrysotile Asbestos	Organic Fibre	Synthetic Mineral Fibre	Particulate Matter	Notes
OH96671 / 48	S-7507	Yes	-	-	Present	-	-	Present	-
OH96671 / 49	S-7508	Yes	-	-	Present	Present	-	Present	-
OH96671 / 50	S-7509	Yes	-	-	Present	-	-	Present	'Unidentified Mineral Fibre' also present
OH96671 / 51	S-7510	Yes	-	Present	Present	-	-	Present	-
OH96671 / 52	S-7511	Yes	-	-	Present	-	-	Present	'Unidentified Mineral Fibre' also present
OH96671 / 53	S-7512	Yes	-	-	Present	-	-	Present	'Unidentified Mineral Fibre' also present
OH96671 / 54	S-7513	Yes	Present	Present	Present	-	-	Present	-
OH96671 / 55	S-7514	No	-	-	-	Present	-	Present	-
OH96671 / 56	S-7515	Yes	-	Present	Present	-	-	-	-
OH96671 / 57	S-7516	Yes	-	Present	Present	-	-	Present	-

Checked Date: 14 June 2011

Legend: Trace <2%; Present 2 to 99%; Total 100%

Checked by: Robin Greenfield

Approved signatory: Kevin Arnold

Samples analysed to Simtars Laboratory Procedure LP0024 - "Procedure for Identification of Asbestos in Bulk Samples, Using Polarised Light Microscopy, including Dispersion Staining"

Please note estimates of quantity are qualitative and are intended for information only. 'Unidentified Mineral Fibre' refers to material which shows the physical characteristics of Asbestos but is not one of the three common forms of asbestos.

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SIMTARS Report OH96671F2

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Occupational Hygiene, Environment
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2 Smith Street, REDBANK, QLD 4301, Australia
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SIMTARS File S0/002/0009/6671

Phone (07) 3810 6333
Fax (07) 3810 6363

Lab No	Sample No.	Asbestos Detected	Crocidolite Asbestos	Amosite Asbestos	Chrysotile Asbestos	Organic Fibre	Synthetic Mineral Fibre	Particulate Matter	Notes
OH96671 / 58	S-7517	Yes	-	Present	Present	-	-	Present	-
OH96671 / 59	S-7518	Yes	-	-	Present	-	-	Present	Unidentified Mineral Fibre also present
OH96671 / 60	S-7519	Yes	-	-	Present	-	-	Present	Unidentified Mineral Fibre also present
OH96671 / 61	S-7520	Yes	-	Present	Present	-	-	Present	Unidentified Mineral Fibre also present
OH96671 / 62	S-7521	Yes	-	-	Present	-	-	Present	Unidentified Mineral Fibre also present
OH96671 / 63	S-7522	Yes	-	-	Present	-	-	Present	Unidentified Mineral Fibre also present
OH96671 / 64	S-7523	No	-	-	-	Present	-	Present	-
OH96671 / 65	S-7524	No	-	-	-	Present	-	Present	-
OH96671 / 66	S-7525	No	-	-	-	Present	-	Present	-

Checked by: Robin Greenfield
Checked Date: 14 June 2011

Legend: Trace <2%; Present 2 to 99%; Total 100%

Approved signatory: Kevin Arnold

Samples analysed to Simtars Laboratory Procedure LP0024 - "Procedure for Identification of Asbestos in Bulk Samples, Using Polarised Light Microscopy, including Dispersion Staining"

Please note estimates of quantity are qualitative and are intended for information only. 'Unidentified Mineral Fibre' refers to material which shows the physical characteristics of Asbestos but is not one of the three common forms of asbestos.

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SIMTARS Report OH96671F2

Appendix B:

PHOTOGRAPHS

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SIMTARS Report CH96671F2

FRIABLE/LOOSELY-BONDED ASBESTOS-CONTAINING MATERIALS



Photo S-7515: Winch House, remnant lagging on pipe



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Title Reference 18791025 and 18791031

SIMTARS Report OH96671F2

BONDED ASBESTOS-CONTAINING MATERIALS



Photo S-7497A: House 1, roofing on Hot Water System box
Photo S-7498A: Edge capping on roof of Hot Water System box

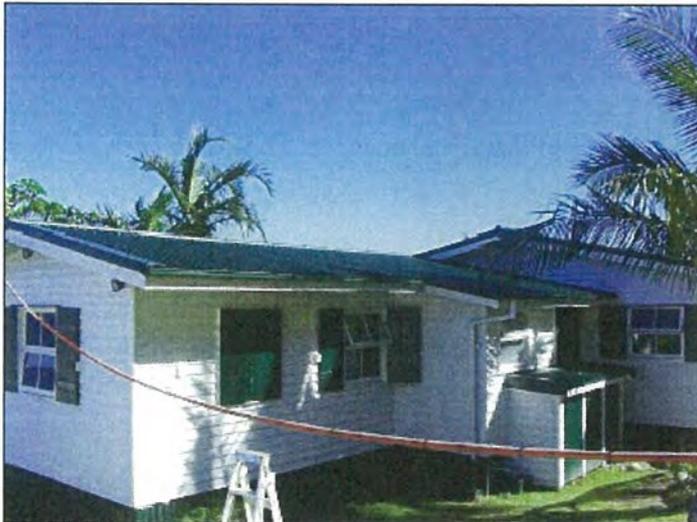


Photo S-7499: Roof cladding
Photo S-7498B: Edge capping on roof
Photo S-7507B: Ridge capping on roof

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Title Reference 18791025 and 18791031

BONDED ASBESTOS-CONTAINING MATERIALS (Cont.)

SIMTARS Report CH96671 F2



Photo S-7500: Eave soffits cladding

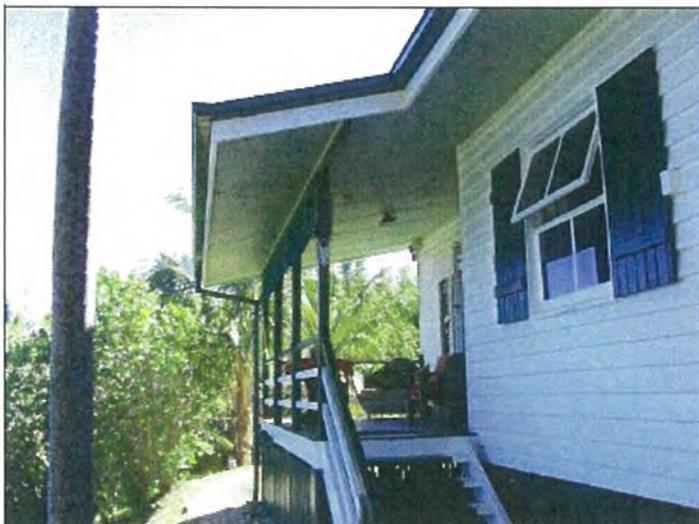


Photo S-7501: Veranda ceiling cladding

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BONDED ASBESTOS-CONTAINING MATERIALS (Cont.)

SMTARS Report OH96671F2



Photo S-7502: Veranda, switchbox, backing board
Photo S-7503: Veranda, switchbox, internal door lining



Photo S-7504: Bathroom, wall cladding in bath / shower area only
Photo S-7508B: Bathroom, flat cover strips

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BONDED ASBESTOS-CONTAINING MATERIALS (Cont.)

SMTARS Report OH96671F2



Photo S-7505A: Stored vent pipe pieces under House 1, Northern end



Photo S-7506: Debris in soil under House 1, Northern end

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BONDED ASBESTOS-CONTAINING MATERIALS (Cont.)

SIMTARS Report DH96871F2



Photo S-7507A: Stored ridge capping under House 1, Southern end



Photo S-7507A: Stored ridge capping under House 1, South East end

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BONDED ASBESTOS-CONTAINING MATERIALS (Cont.)

SMTARS Report OH96671F2



Photo S-7508: Flat & corner cover strip mouldings under House 1, Southern end



Photo S-7497B: Stored roof sheets under House 1, Southern end

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BONDED ASBESTOS-CONTAINING MATERIALS (Cont.)

SIMTARS Report CH96871F2



Photo S-7498C: Stored edge capping under House 1, S/E end



Photo S-7509: Workshop Shed, flat cover strips
Photo S-7510: corner cover strips
Photo S-7511: wall cladding

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BONDED ASBESTOS-CONTAINING MATERIALS (Cont.)

SMTARS Report OH96871F2



Photo S-7497C: Workshop Shed, roof cladding
Photo S-7498D: Edge capping
Photo S-7507C: Ridge capping



Photo: Internal wall & flat cover strips, Workshop Shed

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BONDED ASBESTOS-CONTAINING MATERIALS (Cont.)

SIMTARS Report OH06871F2



Photo S-7512: Generator Shed, rainwater pipe
Photo S-7497D: Roofing sheets; Photo S-7498E: Edge capping; Photo S-7507D: Ridge capping
Photo S-7505B: Air vent on roof; Photo S-7511B: External wall cladding;
Photo: External flat & corner cover strips



Photo S-7513: Guttering on East & West sides of Gen. Shed

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BONDED ASBESTOS-CONTAINING MATERIALS (Cont.)

SIMTARS Report OH96871F2



Photo S-7511B: Internal ceiling cladding in Gen. Shed



Photo S-7511C: Two (2) small wall panels at right upon entry to Gen. Shed

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BONDED ASBESTOS-CONTAINING MATERIALS (Cont.)

SIMTARS Report OH96871F2



Photo: Suspect gaskets installed to generator motors

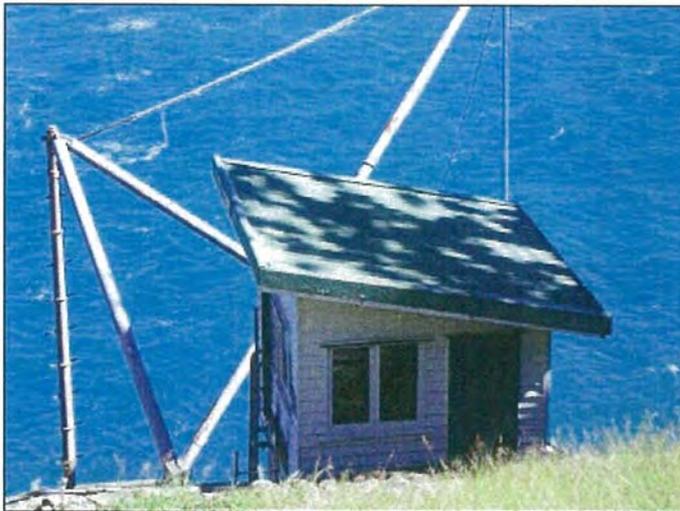


Photo S-7516: Winch House, edge capping on roof
Photo S-7517: Roof sheets

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BONDED ASBESTOS-CONTAINING MATERIALS (Cont.)

SIMTARS Report CH06871F2



Photo: Winch House Suspect gaskets & brakes on winch motor

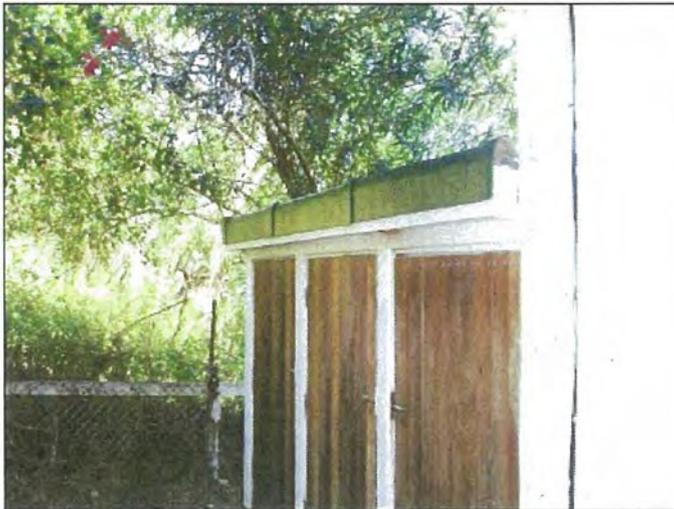


Photo S-7518: House 2: storage shed, edge capping on roof peak

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BONDED ASBESTOS-CONTAINING MATERIALS (Cont.)

SMTARS Report OH06671F2



Photo S-7519: Edge & corner capping on roof of storage shed



Photo S-7520: Roof sheets on storage shed

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BONDED ASBESTOS-CONTAINING MATERIALS (Cont.)

SMTARS Report OH96871F2



Photo S-7521: Roof sheets on House 2, Office section
Photo S-7522: Edge capping on Office section

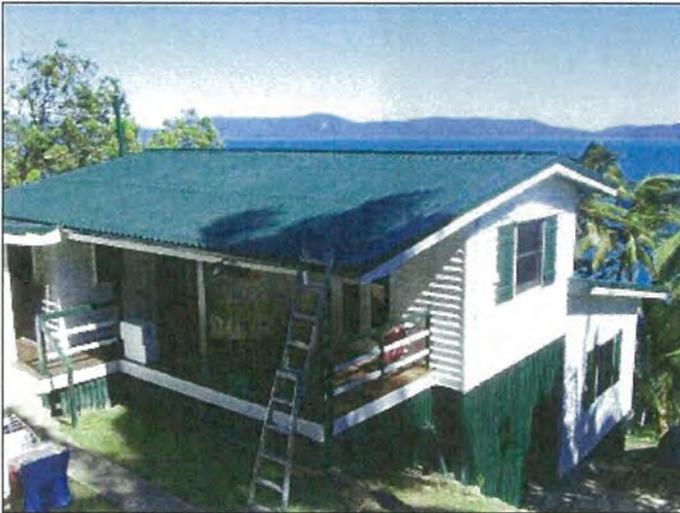


Photo S-7521: Roof sheets on House 2, House section
Photo S-7522: Edge capping on roof
Photo S-7507E: Ridge capping on roof

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Non-Asbestos Containing Materials



Photo S-7514: Gen. Shed, backing plate for light switch



Photo: Gen. Shed, external South wall, unpainted patch panel is non-asbestos material (tested)



Photo S-7523: House 2, half ceiling in Office



Photo S-7524: House 2, wall cladding beside Laundry tubs, one wall only



Photo S-7525: House 2, Bathroom, walls in bath / shower section only

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SCHEDULE

Title Reference 18791025 and 18791031

SECOND SCHEDULE (SUBCLAUSE 1.1)
General Maintenance Plan

Title Reference 18791025 and 18791031

All tasks listed under Strategic Asset Management System (SAMS) Asset ID and GISID
All tasks listed under either Strategic Asset Management System (SAMS) Funded or Lessee Funded
All tasks listed with who is responsible to ensure task is completed
Statutory tasks identified in red
Audit tasks identified in blue

TASKS - BUILT ASSETS		DETAILS OF TASK COMPLETION					
DEN ISLAND COMMONWEALTH ISLAND ZONE - THE HERITAGE PRECINCT							
GISID	TASK IDENTIFIER	PLN ID	Due	Tick	Date	Initials	Comments
Generator Shed							
GISID 38799	TASK Identifier	PLN ID					
	SAMS Funding	Annual condition audit inspection	92812	<input type="checkbox"/>	Aug-14		To be decommissioned after new power line to Heritage Precinct is installed approx March 2013
		Remove diesel tank attached to building	92832	<input type="checkbox"/>	Jun-14		To be completed by QPWS & Hamilton West
		6 month Pest control / Termite inspection / treatment	89623	<input type="checkbox"/>	Aug-13		Waiting project approval by GBRMPA as part of lease renewal & tank will be removed then
		Check/repair roof sheeting, tank, gutters & downpipes - Asbestos	92834	<input type="checkbox"/>	Jun-14		Waiting project approval by GBRMPA as part of lease renewal
Hamilton West Pty Ltd Funding	Repair door lock & replace side window frames	95147	<input type="checkbox"/>	Jun-14			Waiting project approval by GBRMPA as part of lease renewal
	Paint internally / externally - Asbestos	92833	<input type="checkbox"/>	Jun-14			Waiting project approval by GBRMPA as part of lease renewal
House 1							
GISID 38794	TASK Identifier	PLN ID					
	SAMS Funding	Annual condition audit inspection	92813	<input type="checkbox"/>	Aug-14		To be completed by QPWS & Hamilton West
		Annual basic inspection - rock formation above building	89866	<input type="checkbox"/>	Aug-14		To be completed by QPWS
		36 month independent building condition assessment	89947	<input type="checkbox"/>	May-15		To be completed by QPWS
		Annual inspection and report waste disposal system	89626	<input type="checkbox"/>	Aug-14		
		6 month Pest control / Termite inspection / treatment	89620	<input type="checkbox"/>	Aug-13		Due Aug 13 & Feb 14
		Upslope boulders management - after heavy rain event	92846	<input type="checkbox"/>	Ongoing		
Hamilton West Pty Ltd Funding	Annual engineering inspection / geotechnical - rock formation	89863	<input type="checkbox"/>	Jun-14			Annual inspection to be completed by Geotech engineer and Surveyor (after wet season)
	Install hard wired smoke detectors	89797	<input type="checkbox"/>	Aug-14			Battery type installed and will phase in HW smoke alarms x 2014
	Repair door latch hot water system box		<input type="checkbox"/>	Aug-14			
	Nail rake soil under house and remove debris - Asbestos		<input type="checkbox"/>	Aug-14			Asbestos Management Plan task
	Paint internally / externally - Asbestos	97223	<input type="checkbox"/>	Jun-18			
House 2							
GISID 38797	TASK Identifier	PLN ID					
	SAMS Funding	Annual condition audit inspection	92814	<input type="checkbox"/>	Aug-14		To be completed by QPWS & Hamilton West
		36 month Building condition assessment	89948	<input type="checkbox"/>	May-15		To be completed by QPWS

Signed by Lessee: Date:
National Parks Recreation Sports and Racing

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TASKS - BUILT ASSETS		Details of Task completion				
DENT ISLAND COMMONWEALTH ISLAND ZONE - THE HERITAGE PRECINCT		Due	Tick	Date	Initials	Comments
Hamilton West Pty Ltd Funding	6 month Pest control / Termite inspection / treatment	89619	<input type="checkbox"/>	Aug-13		Due Aug 13 & Feb 14
	Annual inspection and report waste disposal system	89630	<input type="checkbox"/>	Aug-14		
	Install railing on verandah		<input type="checkbox"/>	Aug-14		
	Repair opening system on all windows	95196	<input type="checkbox"/>	Aug-14		
	Remove all materials from under and around building	95184	<input type="checkbox"/>	Aug-14		
	Paint Hot Water shed/store doors green		<input type="checkbox"/>	Aug-14		
Hamilton West Pty Ltd Funding	Replace splash board above kitchen bench with white tiles	89798	<input type="checkbox"/>	Aug-14		Battery type installed and will phase in HW smoke alarms x 2014
	Install hard wired smoke detectors		<input type="checkbox"/>	Aug-14		
	Paint internally / externally - Asbestos	97224	<input type="checkbox"/>	Jun-18		
GISID 38795 SAMS Funding	Lightstation					
	TASK Identifier	PLN ID				
Hamilton West Pty Ltd Funding	Annual safety inspection	92814	<input type="checkbox"/>	Aug-14		To be completed by QPWS
	Stores Shed					
GISID 38801 SAMS Funding	TASK Identifier	PLN ID				
	Annual condition audit inspection	92819	<input type="checkbox"/>	Aug-14		To be completed by QPWS & Hamilton West
Hamilton West Pty Ltd Funding	Paint internally / externally - Asbestos	97225	<input checked="" type="checkbox"/>	Jun-14		Waiting project approval by GBRMPA as part of lease renewal to complete internal
	Install Aust Std Sld wiring and leave old power box		<input checked="" type="checkbox"/>	Jun-14		Waiting project approval by GBRMPA as part of lease renewal
	Patch hole in external wall sheet north side		<input type="checkbox"/>	Aug-14		
	Repair gutter down pipes		<input type="checkbox"/>	Aug-14		
	6 month Pest control / Termite inspection / treatment	89621	<input type="checkbox"/>	Aug-13		Due Aug 13 & Feb 14
	Water Tank					
GISID 38798 SAMS Funding	TASK Identifier	PLN ID				
	Annual condition audit inspection	92820	<input type="checkbox"/>	Aug-14		To be completed by QPWS & Hamilton West
Hamilton West Pty Ltd Funding	Paint externally	92822	<input type="checkbox"/>	Jun-18		
	Repair water level marker system on tank		<input type="checkbox"/>	Aug-14		
GISID 41084 SAMS Funding	Water Tank Stand					
	TASK Identifier	PLN ID				
	Annual condition audit inspection	92811	<input type="checkbox"/>	Aug-14		To be completed by QPWS & Hamilton West
Hamilton West Pty Ltd Funding	Basic B2 Inspection	92830	<input type="checkbox"/>	Aug-14		To be completed by QPWS
	Drain water tank, replace timber platform & secure tank via straps to platform, paint frame footings with ant rust.	92829	<input type="checkbox"/>	Jun-14		Waiting project approval by GBRMPA as part of lease renewal
GISID 38800 SAMS Funding	Winch House					
	TASK Identifier	PLN ID				
Hamilton West Pty Ltd Funding	Annual condition audit inspection	97230	<input type="checkbox"/>	Aug-14		To be completed by QPWS & Hamilton West

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Title Reference 18791025 and 18791031

TASKS - BUILT ASSETS		Details of Task completion				
DENT ISLAND COMMONWEALTH ISLAND ZONE - THE HERITAGE PRECINCT		Due	Tick	Date	Initials	Comments
Hamilton West Pty Ltd Funding	Building repairs & maintenance as per Structural Report	89862 Jun-14	<input type="checkbox"/>			Waiting project approval by GBRMPA as part of lease renewal
	Install SS handrails, gate and safety signage on stairs to Winch House	92856 Jun-14	<input type="checkbox"/>			Waiting project approval by GBRMPA as part of lease renewal
	6 month Pest control / Termite inspection / treatment	89622 Aug-13	<input type="checkbox"/>			Due Aug 13 & Feb 14
Leased Area						
GISID	TASK Identifier	PLN ID				
SAMS Funding	Annual condition audit inspection	97325 Aug-14	<input type="checkbox"/>			To be completed by QPWS & Hamilton West
	Spray weeds / vegetation	97324 Ongoing	<input type="checkbox"/>			Waiting on QPWS report
Hamilton West Pty Ltd Funding	Install SS handrails on stairs, Carpark, entrance House 2, Generator shed, ramp Water Tank		<input type="checkbox"/>	Jun-14		Waiting project approval by GBRMPA as part of lease renewal
Stat Maintenance - The Heritage Precinct						
GISID 41026	TASK Identifier	PLN ID				
SAMS Funding	Annual asbestos management plan compliance inspection	92852 Aug-14	<input type="checkbox"/>			To be completed by QPWS
	36 month asbestos inspection / audit	92853 Aug-14	<input type="checkbox"/>			To be completed by QPWS
	120 month electrical inspection of fixed wiring	92850 Apr-22	<input type="checkbox"/>			
	12 month statutory fire ext/fire blanket/hose reel inspections	92849 Jul-14	<input type="checkbox"/>			
Hamilton West Pty Ltd Funding	12 month statutory electrical inspection/test & tag/RCD/smoke detectors	92848 Jul-14	<input type="checkbox"/>			
	Gas installation inspection / service	97222 Jul-14	<input type="checkbox"/>			

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Title Reference 18791025 and 18791031

Interim Environmental Management Plan

Title Reference 18791025 and 18791031

HAMILTON ISLAND GOLF COURSE RESORT –
DENT ISLAND

Great Barrier Reef, Queensland, Australia

OPERATIONS
ENVIRONMENTAL MANAGEMENT PLAN
(EMP)

Prepared for

HAMILTON WEST PTY LTD

Prepared by

Hamilton Island Enterprises – January 2011

Operations EMP is a modified version of the Humphreys Reynolds
Perkins – Planning Consultants – North Queensland –
Construction & Operations EMP dated November 2006

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HAMILTON ISLAND GOLF COURSE RESORT - BENT ISLAND - COASTAL ENVIRONMENTAL MANAGEMENT PLAN (EMP)

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HAMILTON ISLAND GOLF COURSE RESORT - DENT ISLAND - Operations Environmental Management Plan (EMP)

Environmental Management & Monitoring

1 Environmental Management Outline

1.1 Introduction

This Environmental Management Plan (EMP) Operations has been prepared on behalf of Hamilton West Pty Ltd (HW) by Hamilton Island Enterprises in response to potential environmental issues requiring management and monitoring which have been identified during the impact assessment process. The EMP is based on Chapter 6 of the Dent Island Golf Course Resort Environmental Impact Statement (EIS) and integrates the environmental management commitments made throughout this EIS. The EMP deals with the impacts likely to arise during the operational phase.

1.2 Purpose

The purpose of the EMP is to identify appropriate mitigation measures for each potential environmental issue and to identify corrective actions to be undertaken if an undesirable impact or unforeseen level of impact occurs.

1.3 Aims

The aim of the EMP is:

- To provide evidence of practical and achievable plans for the management of the project to ensure that environmental requirements are complied with by producing an integrated framework for comprehensive monitoring and control of operational impacts. Specific commitments on strategies and design criteria to be employed are provided;
- To provide Local, State and Commonwealth authorities and Hamilton West Pty Ltd (HW) with a framework to confirm compliance with their policies and requirements; and
- To provide the community with evidence of management of the project in an environmentally sustainable manner.

The EMP will be refined in its implementation and enhanced as design details, manning schedules, equipment specifications and operational procedures are more clearly defined. All refinements and improvements will be undertaken in consultation with relevant regulatory authorities.

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HAMILTON ISLAND GOLF COURSE RESORT - DENT ISLAND - Conditions Environmental Management Plan (EMP)

1.4 Performance

Performance against the EMP will be assessed by way of an environmental audit on a regular and as required basis.

1.5 Monitoring

Monitoring requirements required during selected operational phases of the project are listed within individual EMP elements.

1.6 Responsibility & Reporting

Schedule 1 identifies the project and the parties responsible for the environmental management of the project.

1.6.1 General

All parties involved in the project are required to undertake their work and tasks in accordance with relevant Acts, Policies and Regulations. In particular, the parties are cognisant of their obligations under:

- The *Environmental Protection Act 1994* (EP Act) which states that, individuals and organisations must take "... all reasonable and practicable measures to prevent or minimise environmental harm." And
- The *Environment Protection and Biodiversity Conservation Act 1999* Section 391 with regard to the 'Precautionary Principle'.

All personnel involved in the project correspondingly have an obligation to show due diligence in the identification and management of potential environmental impacts, subject to the provisions of the EP Act.

Induction for all staff engaged on the project shall take place before work commences so that they are made aware of all potential environmental issues and correct compliance procedures. A copy of the Operations EMP will be kept on-site by the nominated Dent Island Manager/s and be easily obtainable by anyone on-site.

1.6.2 Principal

The roles and general responsibilities of the Principal will be to:

- Closely consult and maintain continuous contact with the nominated Dent Island Manager/s who will represent the Principal in reviewing the performance of the Contractor, issuing instructions and variations, and EMP implementation generally.

1.6.3 Nominated Dent Island Manager/s

The roles and general responsibilities of the nominated Dent Island Manager/s will be to:

- ensure on-site induction of the project team by the nominated Dent Island Manager/s of the provisions of the EMP and other environmental protection measures and responsibilities;
- issue instructions (for correction of non-compliance) to the Contractor, through the Site Representative, as soon as practicable after inspections and

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HAMILTON ISLAND GOLF COURSE RESORT - DENT ISLAND - Operations Environmental Management Plan (EMP)

- completion of required Checklist(s), and ensure the Contractor has complied with any instructions within the specified time frame;
- invite representatives of relevant regulatory authorities to on-site inspections of EMP implementation;
- report on EMP implementation and performance to Principal and relevant regulatory authorities on an as required basis;
- promptly notify the Principal and relevant regulatory authorities of any changes to the EMP and its implementation, reporting or monitoring, and any breach of approval conditions and proposed corrective action; and
- notify the Principal regarding Operations EMP performance and monitoring, environmental incidents, non-compliance and actions taken, and seek advice and attendance at on-site inspections when required.
- The nominated Dent Island Manager/s may at his discretion appoint a Site Representative or agent to act on his behalf in implementing and monitoring the Operations EMP. He will advise the Principal of his appointed person prior to this person commencing work on Dent Island.

1.6.4 Contractors

The roles and general responsibilities of the Contractor/s will be to:

- generally conform to relevant regulatory authority guidelines, requirements and environmental best management practices;
- immediately notify the nominated Dent Island Manager/s of any non-compliance or environmental incident that has the potential to cause environmental harm or environmental nuisance (e.g. erosion, spills, etc.) and provide written details within 24 hours of occurrence;
- correct any non-compliance as soon as possible;
- notify potentially affected resort guests and relevant organisations, of the project, its duration, its aims, environmental outcomes and the complaint procedure; promptly investigate any complaints received and implement control measures; and maintain an on-site Complaints Register;
- ensure all on-site employees and sub-contractors are fully briefed on the objectives and relevant detailed provisions of the EMP, supervise their implementation and issue instructions for non-compliance or environmental incidents to be rectified;

1.7 Elements & Structure

1.7.1 Elements

The EMP comprises a number of discrete elements, related to the operational phase activities across the site.

Consequently, it is likely that the construction phase of the EMP will apply until development is completed, and all maintenance stage periods have elapsed. Implementation and control of this EMP will therefore be the responsibility of the Principal, together with the nominated Dent Island Manager/s as outlined in Schedule 1.

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HAMILTON ISLAND GOLF COURSE REPORT - DEENT ISLAND - Operations Environmental Management Plan (EMP)

The EMP contains the following sub-EMPs:

Operations	
1. Erosion & Sediment Control	
2. Site Contamination	
3. Water Quality	
4. Tidal Flows & Storm Surge	
5. Flora Management	
6. Fauna Management	
7. Marine Landing Facility	
8. Pest Plant & Animal Control	
9. Landscaping & Rehabilitation/Regeneration	
10. Visual Amenity	
11. Transport	
12. Potable Water Management	
13. Sewage Disposal	
14. Service Pipeline	
15. Irrigation Management	
16. Emergency Response & Risk Management	
17. Visitor Management	

Each of these sub-EMPs is outlined on the following pages.

1.7.2 Structure

The structure of the sub-EMPs, for the operational phase comprises the following, so as to comply with the requirements of the EIS Final Terms of Reference, where relevant:

Element:	Operations requiring management consideration.
Potential Impacts:	Summary of why the matter requires management as identified in the EIS.
Aim:	The aim to be achieved through management of the particular element of the EMP.
Actions:	The tasks or strategies to be undertaken prior to or as part of the implementation of the EMP to achieve the aim, including any necessary approvals, applications, and consultation.
Performance Indicators:	The criteria or standard(s) against which the implementation of the actions and the level of achievement of the performance objectives will be measured.
Monitoring:	The details of how, where and when actual performance indicators will be measured, and by whom.
Responsibility & Reporting:	Nature, timing (or process) and responsibility for reporting and auditing or monitoring results, including the identification of the agency receiving such reports.
Corrective Action:	The action to be implemented in the case of non-compliance and the person/organisation responsible for the action.
Interfaces:	Connection with other EMPs or relevant contract documents.

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HAMILTON ISLAND GOLF COURSE RESORT-DENT ISLAND - Operations Environmental Management Plan (EMP)

2 Environmental Management Plans

The Sub - Environmental Management Plans (EMPs) specific to each of the relevant components of the project are outlined in the following tables.

2.1 Erosion & Sediment Control EMP - Operations

1. EROSION & SEDIMENT CONTROL EMP - OPERATIONS	
Element:	Erosion and sediment control during the operation of the resort and golf course.
Potential Impacts:	Ground-cover deterioration, including pedestrian traffic and golf buggy movements can increase the occurrence of erosion and sediment export from the site.
Aim:	To manage activities that exacerbate erosion and ensure that ground cover is maintained to reduce erosion.
Actions:	<ul style="list-style-type: none"> • Implement the Landscaping and Rehabilitation / Regeneration EMP to ensure all areas have adequate ground cover. • Manage / limit pedestrian traffic in areas susceptible to ground cover damage. Walking tracks incorporate stabilised surface over sections susceptible to erosion. • Close external areas to pedestrian and golf buggy traffic following heavy rain or fire damage until ground cover regenerates.
Performance Indicators:	<ul style="list-style-type: none"> • No areas exposed to erosion and no sources of sediment formation.
Monitoring:	<ul style="list-style-type: none"> • Monthly visual assessments of ground cover condition, erosion and areas likely for sediment deposition. • Limit pedestrian traffic and golf buggy movements across areas with susceptible ground cover. • Ground cover regeneration.
Responsibility & Reporting:	<ul style="list-style-type: none"> • Reporting of damage to ground cover, or areas exposed to erosion to nominated Dent Island Manager/s.
Corrective Action:	<ul style="list-style-type: none"> • Restore damaged ground cover. • Redirection, close or alternate pedestrian walking tracks or golf buggy tracks until groundcover regenerates.
Interfaces:	<ul style="list-style-type: none"> • Landscaping & Rehabilitation / Regeneration EMP (Section 2.9) • Water Quality EMP (Section 2.3) • Visitor Management EMP (Section 2.17) • EIS Section 4.3.2, 5.2.4, 5.4.5, 5.5.5, 5.9.3

Title Reference 18791025 and 18791031

HAMILTON ISLAND GOLF COURSE RESORT - DENT ISLAND - Operations Environmental Management Plan (EMP)

2.2 Site Contamination EMP - Operations

2. SITE CONTAMINATION EMP - OPERATIONS	
Element:	Avoidance of site contamination during operation of the resort and golf course.
Potential Impacts:	Site contamination can occur due to spillages of paints, fuels, oils and other substances and chemicals during transportation, storage and handling.
Aim:	To prevent site contamination caused by spillages of paints, fuels, oils and other substances and chemicals.
Actions:	<ul style="list-style-type: none"> Hazardous goods are stored in lockable storage areas. Ensure machinery is appropriately maintained to minimise spills and accidental release of contaminants. Key staff will be trained in the appropriate handling, storage, containment and emergency response practices for chemicals and dangerous goods, as is relevant to their jobs. All spills are to be cleaned up immediately. Contaminated runoff and contaminated soil will be collected and remediated or disposed of in an approved manner. Fuel is stored above ground in a bunded area within the 'Maintenance Compound'. Pesticides and other chemicals are stored in a secure area within the Maintenance Building.
Performance Indicators:	<ul style="list-style-type: none"> Compliance with relevant Australian Standards (e.g. Australian Standard 1940 - The Storage and Handling of Flammable and Combustible Liquids). No spills or releases of contaminants to the environment. Site Emergency Plan containing response procedures relating to chemicals and dangerous goods incidents.
Monitoring:	Chemical Storage areas are inspected regularly to ensure compliance with relevant Australian Standards.
Responsibility & Reporting:	Reporting of any spill or incidences of non-compliance to the nominated Dent Island Manager/s.
Corrective Action:	<ul style="list-style-type: none"> If a spill occurs on site, the source of the contamination will be identified and rectified, followed by appropriate clean-up of the contamination.
Interfaces:	<ul style="list-style-type: none"> Water Quality EMP (Section 2.3) Emergency Response & Risk Management EMP (Section 2.16) EIS Section 5.2.4

Title Reference 18791025 and 18791031

HAMILTON ISLAND GOLF COURSE RESORT - DENT ISLAND - Operations Environmental Management Plan (EMP)

2.3 Water Quality EMP - Operations

3. WATER QUALITY EMP - OPERATIONS	
Element:	Water quality management during the operation of the resort and golf course.
Potential impacts:	Management of stormwater disposal during the operational stage to minimise impacts on surface and ground water resources.
Aim:	To limit and prevent the release of contaminants that have the potential to affect the water quality of the dam and other water courses on Dent Island.
Actions:	<ul style="list-style-type: none"> • Implement the Irrigation Management EMP to ensure water used for irrigation of turf playing surfaces does not increase natural nutrient level of watercourses, groundwater and marine waters. • Use of low solubility pesticides and nitrogen sources and phosphorous to prevent contamination of stormwater runoff. • Implement the Site Contamination EMP to minimise the potential for contamination of stormwater runoff. • Rubbish bins will have lids and be emptied regularly.
Performance Indicators:	Water Quality is to comply with: <ul style="list-style-type: none"> • Environmental Protection Policy (Water) 1997, and • Australian and New Zealand Guidelines for Fresh and Marine Water Quality (2000).
Monitoring:	<ul style="list-style-type: none"> • The volume of water consumption and water supply will be monitored at weekly and monthly periods. • Monitoring of run-off during storm events • Monitoring of leaf tissue level, combined with periodic confirmation with soil testing to determine appropriate phosphorous management. • Litter in rubbish bins will be monitored to determine what maintenance frequency is required.
Responsibility & Reporting:	<ul style="list-style-type: none"> • Any water quality incidences of non-compliance are reported to the Environmental Auditor. Reporting procedures shall comply with the Australian Guidelines for Water Quality Monitoring and Reporting (2000). • Water supply and consumption are reported to the nominated Dent Island Manager/s. • Excessive contaminant or litter accumulation in sediment traps is reported to the nominated Dent Island Manager/s.
Corrective Action:	<ul style="list-style-type: none"> • Where an incident of non-compliance occurs, an investigation will take place and corrective action implemented. • Where water consumption monitoring indicates there has been an increase in water consumption an investigation will take place as to the cause and corrective action implemented.
Interfaces:	<ul style="list-style-type: none"> • Erosion & Sediment Control EMP (Section 2.1) • Site Contamination EMP (Section 2.2) • Sewage Disposal EMP (Section 2.13) • Irrigation Management EMP (Section 2.15) • EIS Section 4.3.2, 5.2.3, 5.2.4

Title Reference 18791025 and 18791031

HAMILTON ISLAND GOLF COURSE RESORT - DENT ISLAND - Operations Environmental Management Plan (EMP)

2.4 Tidal Flows & Storm Surge EMP - Operations

4. TIDAL FLOWS & STORM SURGE EMP - OPERATIONS	
Element:	Protection from wave, tide and storm surge conditions during the operation of the service pipeline and marine landing facility.
Potential Impacts:	Management of the marine landing facility and service pipeline is necessary to reduce the risk of damage and minimise the potential for service pipeline erosion.
Aim:	To minimise the risk of damage to marine landing facility and service pipeline.
Actions:	<ul style="list-style-type: none"> Land based development is not located within 30 metres of the high water mark. Development other than the marine landing facility is not located below Lowest Astronomical Tide (LAT). Design heights and forces for the marine landing facility will take into account predicted design waves and elevated water levels from the current Monitoring Model by GHD. Where intense erosion has previously occurred or has the potential to occur, foreshores are revegetated with indigenous grass or plant species.
Performance Indicators:	<ul style="list-style-type: none"> Erosion of foreshores has not exceeded its natural cycle. Foreshore vegetation has established. Frequencies of maintenance of marine landing facility and service pipeline.
Monitoring:	<ul style="list-style-type: none"> The structural stability of the marine landing facility is monitored following major storm events. Monthly Visual assessment of foreshore erosion.
Responsibility & Reporting:	Any incidences of non-compliance in terms of the instability of the marine landing facility or service pipeline are reported to the nominated Dent Island Manager/s.
Corrective Action:	<ul style="list-style-type: none"> Where any incidences of non-compliance occur, an investigation will take place and corrective action implemented. Where foreshore erosion has taken place corrective measures will be implemented.
Interfaces:	<ul style="list-style-type: none"> Service Pipeline EMP (Section 2.14) Marine Landing Facility EMP (Section 2.7) EIS Section 5.3

Title Reference 18791025 and 18791031

HAMILTON ISLAND GOLF COURSE RESORT - DENT ISLAND - Operations Environmental Management Plan (EMP)

2.5 Flora Management EMP - Operations

5. FLORA MANAGEMENT EMP - OPERATIONS	
Element:	Vegetation management throughout the operation of the resort and golf course.
Potential Impacts:	<p>The operations:</p> <ul style="list-style-type: none"> • may result in the introduction of weeds; • may result in the spread of existing weeds; • may result in pedestrian impact; and • may result in an altered fire regime.
Aim:	<ul style="list-style-type: none"> • Minimise impact on Of Concern Regional Ecosystems. • Maximise retention of treed vegetation. • Minimise spread of weeds onto and within subject site. • Disturbed surfaces revegetated. • Revegetate with only local provenance material as listed in attached Schedule 2 • Control and eradicate exotic species, where feasible within the vicinity of the operations, as listed in attached Schedule 3 along with their preferred management strategy. • Retain health of vegetation. • Manage the impacts of bushfire.
Actions:	<p><i>Minimise impact on Of Concern Regional Ecosystems</i></p> <ul style="list-style-type: none"> • Permit to clear on State land will be obtained as required under the provisions of the Land Act 1994. • Zones of disturbance will be clearly flagged. <p><i>Maximise retention of native vegetation</i></p> <ul style="list-style-type: none"> • Edges of forested areas will not be slashed. • Protection and active management, for conservation purposes, of areas of <i>Lophoclemon</i> forest and Grasslands on Dent Island. <p><i>Minimise spread of weeds onto and within subject site</i></p> <ul style="list-style-type: none"> • Mulch to be generated from trees to be chipped on site. • Only local provenance species or non-invasive species are to be planted in regeneration and landscapes. • Implement the Pest Plant and Animal Control EMP to ensure pest species are not introduced to the Island or are successfully eradicated. • The use of chemical control of weeds will not impact on existing vegetation. <p><i>Disturbed surfaces revegetated</i></p> <ul style="list-style-type: none"> • Disturbed areas are revegetated with local provenance species and where necessary with non-fertile season grasses. <p><i>Revegetate with local provenance material</i></p> <ul style="list-style-type: none"> • Establish nursery on site to propagate stock generally of local provenance. <p><i>Reuse of cleared vegetation</i></p> <ul style="list-style-type: none"> • All woody vegetation cleared from the site will be chipped for use (where possible) in landscaping and erosion control. <p><i>Control and eradicate exotic species</i></p> <ul style="list-style-type: none"> • Implement the actions of the Pest Plant & Animal Control EMP. <p><i>Retain health of vegetation</i></p> <ul style="list-style-type: none"> • Control movement of pedestrians by installing tracks.

Title Reference 18791025 and 18791031

HAMILTON ISLAND GOLF COURSE RESORT - DENT ISLAND - Operations Environmental Management Plan (EMP)

5. FLORA MANAGEMENT EMP - OPERATIONS	
	<ul style="list-style-type: none"> Minimise nutrient runoff into remnant vegetation. Minimise spray drift from herbicide/pesticide use on fairways. Controlled burns to be sensitive to ecological requirements (i.e. do not burn too often). <p><i>Manage the Impacts of bushfire</i></p> <ul style="list-style-type: none"> Comply with the requirements of the "Operations Plan for Dent Island" and "A Fire Management Framework for Ecological Burning on Hamilton and Dent Islands" (Brown and Root Services Asia Pty Ltd, August 2004).
Performance Indicators:	<ul style="list-style-type: none"> Vegetation structure surrounding each developed area remains intact. Species that require removal are successfully replanted during revegetation. Disturbed areas successfully planted with local provenance species. Healthy vegetation adjacent to development.
Monitoring:	<ul style="list-style-type: none"> Tree Management Plan including permits from relevant State and Federal authorities to be issued prior to vegetation removal commencing. Monitor the health of native vegetation adjacent to construction and fairways during the operational phase to determine any impact of nutrient run-off and spray drift.
Responsibility & Reporting:	<ul style="list-style-type: none"> Any non-compliance will be reported to the nominated Dent Island Manager/s. Any corrective action taken will be reported to the Principal.
Corrective Action:	<ul style="list-style-type: none"> In the event of any non-compliance, an investigation will take place and where necessary, corrective action implemented.
Interfaces:	<ul style="list-style-type: none"> Landscaping & Rehabilitation/ Regeneration EMP (Section 2.9) Pest Plant & Animal Control EMP (Section 2.8) Erosion & Sediment Control EMP (Section 2.1) EIS Section 4.3.2, 4.3.3, 5.4.1, 5.4.4

Title Reference 18791025 and 18791031

HAMILTON ISLAND GOLF COURSE RESORT - DENT ISLAND - Operations Environmental Management Plan (EMP)

2.6 Fauna Management EMP - Operations

c. FAUNA MANAGEMENT EMP - OPERATIONS	
Element:	Terrestrial Habitat Management during operational phase.
Potential Impacts:	<p>The operations:</p> <ul style="list-style-type: none"> • May result in the loss of some habitat; • May affect habitat of migratory species listed under JAMBA & CAMBA; and • May introduce feral animals.
Aim:	<ul style="list-style-type: none"> • Protect potential JAMBA & CAMBA sites. • Introduce compensatory habitat. • Pest management. • Maintain natural balances in fauna populations. • Protect listed threatened species.
Actions:	<p><i>Protect potential JAMBA & CAMBA sites</i></p> <ul style="list-style-type: none"> • Limit foreshore development to the proposed marine landing facility at the northeast of Dent Island, south of Titan Island. <p><i>Introduce compensatory habitat</i></p> <ul style="list-style-type: none"> • Include compensatory habitat in golf course design including complexity of microhabitat at fairway edges, including artificial bolder habitat. • Install fauna boxes. <p><i>Pest Management</i></p> <ul style="list-style-type: none"> • No exotic animals introduced (including cats, dogs and cane toads). • Goats eradicated from island. <p><i>Maintain natural balances in fauna populations</i></p> <ul style="list-style-type: none"> • Educate guests and visitors regarding fauna feeding. • Ensure disposed waste does not provide a feed source for crows. <p><i>Protect threatened species</i></p> <ul style="list-style-type: none"> • Continue to undertake surveys to identify suitable habitat for the Striped - Tailed Legless Lizard. • Minimise vegetation clearance, particularly in areas of suitable habitat for the Striped - Tailed Legless Lizard.
Performance Indicators:	<ul style="list-style-type: none"> • Minimal native species are removed, dislocated or injured during the operational phase of the project. • No increase in the number of pest species. • No fauna feeding by guests or visitors.
Monitoring:	<ul style="list-style-type: none"> • The nominated Dent Island Manager/s to monitor construction sites for any evidence of fauna injury or mortality. • The nominated Dent Island Manager/s to monitor the use of access and walking tracks by feral species. • The nominated Dent Island Manager/s to monitor any increase in pest species numbers. • The nominated Dent Island Manager/s to monitor any visitor non-compliance with access or feeding restrictions.
Responsibility & Reporting:	<ul style="list-style-type: none"> • Any non-compliance will be reported to the nominated Dent Island Manager/s. • Any corrective action taken will be reported to the Principal.
Corrective Action:	<ul style="list-style-type: none"> • In the event of any non-compliance, an investigation will take place and corrective action implemented.
Interfaces:	<ul style="list-style-type: none"> • Flora Management EMP (Section 2.5) • Pest Plant and Animal Control EMP (Section 2.8) • EIS Section 5.4.2, 5.4.4

Title Reference 18791025 and 18791031

HAMILTON ISLAND GOLF COURSE RESORT - DENT ISLAND - Operations Environmental Management Plan (EMP)

2.7 Marine Landing Facilities EMP - Operations

7. MARINE LANDING FACILITY EMP - OPERATIONS	
Element:	Management of the marine environment during the operational phase of the resort and golf course, in particular the marine landing facilities.
Potential Impacts:	Impacts on the marine environment may occur due to the potential for: <ul style="list-style-type: none"> • fuel and oil spills associated with vessel operations at the landing facilities; and • impacts from additional vessel movements.
Aim:	To minimise the risk of spillages (of fuel, oils and other substances) and vessel movements to impact upon the marine environment.
Actions:	<ul style="list-style-type: none"> • Comply with the requirements of any Marine Park permit. • Ensure barge and pedestrian vessels are appropriately maintained to minimise fuel leaks and accidental spills. • Provision and on-going maintenance of containment facilities (in the event of fuel or oil spills) to be available on Dent & Hamilton Islands. • Prevent any impact from boat strike to marine megafauna by surveying for animals prior to bringing vessels into the landing area. • Where appropriate the ANZECC Australian National Guidelines for Cetacean Observation will be adhered to for interactions with cetaceans. • Develop and enforce appropriate vessel movement procedures (e.g. reduce boat speed in designated areas in close proximity to landing facility and reef flat).
Performance Indicators:	<ul style="list-style-type: none"> • No identifiable oil or fuel spills. • In the event of a fuel or oil spill reef communities are not permanently affected. • Maintenance of healthy reef communities. • Counts of marine megafauna • Maximum boat speed in areas in and around reef flats to be 4 knots. Further voluntary reductions in speed encouraged.
Monitoring:	<ul style="list-style-type: none"> • Monthly maintenance checks of barge and pedestrian vessels. • Monitor speed of boats in close proximity to reef flat and landing facility. • 12 monthly visual assessment of reef communities.
Responsibility & Reporting:	<ul style="list-style-type: none"> • Non-compliance with maintenance schedules of barge and pedestrian vessels to be reported to the nominated Dent Island Manager/s. • Any incidences of oil or fuel spills to be reported to the nominated Dent Island Manager/s. • Report injured marine megafauna to the nominated Dent Island Manager/s and the Australian Department of the Environment and Heritage.
Corrective Action:	Where incidences of non-compliance occur, an investigation will take place and correction action implemented.
Interfaces:	<ul style="list-style-type: none"> • Transport EMP (Section 2.11) • Sewage Disposal EMP (Section 2.13) • Irrigation Management EMP (Section 2.15) • EIS Section 5.4.3, 5.4.5

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HAMILTON ISLAND GOLF COURSE RESORT - DENT ISLAND - Operations Enhancements Management Plan (EMP)

2.8 Pest Plant & Animal Control EMP - Operations

3. PEST PLANT & ANIMAL CONTROL EMP - OPERATIONS	
Element:	Pest plant and animal control during the operation of the resort and golf course.
Potential Impacts:	Management of pest species to ensure no impact upon local provenance flora and fauna.
Aim:	<ul style="list-style-type: none"> Ensure the protection of flora and fauna from degradation through weed invasion. Prevent weeds being introduced into and spreading through the area. Ensure that feral animal populations do not increase as a result of resort activities. Limit predation or competitive displacement of fauna. Prevent the introduction of plant pest species from visitors and staff. Prevent feral or domestic animals being kept as pets anywhere on the site (this includes daily visitations to the island).
Actions:	<ul style="list-style-type: none"> An on-going eradication and monitoring program is established to maintain the removal of pest species from the island. Schedule 4 details proposed weed eradication techniques. Existing pest plant species are removed and replaced with indigenous species within the development area. All equipment and containers to be transported to the island will be inspected to remove non-endemic pests such as spiders, rats and mice. Construction equipment and vehicles are cleaned and / or sterilised before being transported to the island. At all sites ensure that native animals are not being fed by visitors or employees. Rubbish is removed on a daily basis and secured to prevent scavenging. Feeding of native and pest animals will not be permitted. Domestic pets will not be permitted on the island.
Performance Indicators:	<ul style="list-style-type: none"> No increase in the number of plant pest species. Revegetation of sites occurs without competition from pest plant species. No increase in pest animal activity.
Monitoring:	<ul style="list-style-type: none"> Monitor pest plant outbreaks to determine success of pest plant eradication and management program. If densities of pest animal species increase, then the Environmental Auditor is to instigate a trapping and destruction program. Project Manager to monitor any visitor non-compliance with access or feeding restrictions.
Responsibility & Reporting:	<ul style="list-style-type: none"> Any increase in the establishment of pest plant species or pest animal activity during the operation of the resort, is reported to the nominated Dent Island Manager/s.
Corrective Action:	In the event that pest plant or animal species are introduced to the island, an investigation will take place and the activity failing is stopped and/or corrective action implemented.
Interfaces:	<ul style="list-style-type: none"> Landscaping & Rehabilitation/ Regeneration EMP (Section 2.9) Flora Management EMP (Section 2.5) Fauna Management EMP (Section 2.6) EIS Section 4.3.2, 5.2.4, 5.4.4

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HAMILTON ISLAND GOLF COURSE RESORT - BENT ISLAND - Operations Environmental Management Plan (EMP)

2.9 Landscaping & Rehabilitation/Regeneration EMP - Operations



9. LANDSCAPING & REHABILITATION/REGENERATION EMP - OPERATIONS	
Element:	Landscaping and rehabilitation of disturbed areas.
Potential Impacts:	Management of vegetation and landscaping is necessary to reinforce the natural visual amenity and minimise erosion and sediment run-off and maintain soil stability due to disturbance on the site.
Aim:	<p>Implement a landscaping and rehabilitation program/strategy, which:</p> <ul style="list-style-type: none"> • stabilises disturbed soil to reduce erosion and siltation; • attempts to regain the pre-settlement biodiversity of parts of the area; • retains and reinforces the existing visual amenity of the site; • limits areas of disturbance throughout the project; • maintains and increases the variety of fauna that can colonise and utilise the site.
Actions:	<ul style="list-style-type: none"> • Prepare a detailed landscaping plan specifying the following: <ul style="list-style-type: none"> - species mix and planting locations for each element of the resort and golf course; - short and long term programs for weed management, fertilising, irrigation, pruning, mowing, removal and replanting. • Protect those areas not proposed for clearing and prevent the entry of construction equipment. • Where appropriate, replace non-indigenous vegetation with local provenance vegetation. • Standard signs will be erected throughout the island, and specifically at the edges of developed areas, indicating that areas are closed for rehabilitation and explaining the extent and objectives of rehabilitation. • Where possible, existing isolated patches of vegetation are linked together to provide habitat corridors allowing the free movement of wildlife. • Construct pedestrian and golf buggy paths and landscape furniture in accordance with the detailed landscaping plan. • Use of treated effluent for irrigation to be in accordance with EPA license conditions. • Limit the use of non-native grasses to the extent of irrigated areas only. Restrict the application of nutrients to the immediate playing areas of the golf course. • Limit the use of non-native grasses and restrict actions that may potentially impact upon the Striped Legless Lizard. • Conduct rehabilitation/regeneration with the intentions of maximising the continued inhabitation of the Striped Legless Lizard on the development site. • Plan to implement a continual mowing regime (this will also limit the seeding of grasses). • In general, chemicals and fertilisers registered for use on turf will be used. The strength of these applications will depend on regular soil analysis. • Implement a program of annual herbicide spraying and removal of unwanted plant growth (to allow and encourage the natural re-establishment of local provenance plant species and associations).
Performance Indicators:	<ul style="list-style-type: none"> • Install and maintain attractive landscaping within the resort development and golf course. • Create and maintain a unified landscape with local provenance species, which parallels existing vegetation patterns, and protects critical areas of visual impact. • Limited isolated patches of vegetation. • Healthy plants and grasses established and maintained in all

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HAMILTON ISLAND SOLFOODUREE RESORT - DENT ISLAND - Operations Environmental Management Plan (EMP)

9. LANDSCAPING & REHABILITATION/REGENERATION EMP - OPERATIONS	
	landscaped areas. <ul style="list-style-type: none"> Stability of foreshore, ridgelines and gullies. No erosion caused by resort operational activities.
Monitoring:	<ul style="list-style-type: none"> During operations, the nominated Dent Island Manager/s will visually inspect the landscaping to gauge the health of plants and extent of grasses, the presence of erosion and stability of vulnerable areas.
Responsibility & Reporting:	Any non-compliance with performance requirements will be reported to the nominated Dent Island Manager/s.
Corrective Action:	In the event that any of the above performance requirements are not achieved, corrective action must be implemented as directed by the nominated Dent Island Manager/s to maintain plant health and growth, ensure soil stability, eliminate erosion and minimise sediment run-off. These may include: plant substitutions from a pre-approved list, seeding with sterile cereal cover crops, use of proprietary erosion control matting, temporary re-direction of surface flows.
Interfaces:	<ul style="list-style-type: none"> Visual Amenity EMP (Section 2.10) Erosion & Sediment Control EMP (Section 2.1) Flora Management EMP (Section 2.5) Pest Plant & Animal Control EMP (Section 2.8) EIS Section 4.3.3, 5.5.2, 5.5.5

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HAMILTON ISLAND GOLF COURSE RESORT - DENT ISLAND - Operations Environmental Management Plan (EMP)

2.10 Visual Amenity EMP - Operations

10. VISUAL AMENITY EMP - OPERATIONS	
Element:	Visual impacts caused by the resort development.
Potential Impacts:	The resort development has the potential to affect the visual amenity and character of the area.
Aim:	To screen where possible all development from Whitsunday Passage, to control views of the resort development and ensure the individual character of both Hamilton and Dent Islands is maintained.
Actions:	<ul style="list-style-type: none"> • The existing tree canopy skyline will be maintained along the main ridgeline as viewed from the west and north-west. • Existing vegetation will be retained where possible. • The majority of views from the surrounding waters and islands of the Whitsundays to Dent Island are primarily of the existing mosaic landscape. • Development is confined to the east side of Dent Island. • Dent Island will be subservient (viewed as the peripheral resort amenity) to Hamilton Island. • Views of development on Dent Island are to be minimised. • Selection of materials and colours and location of the resort elements will minimise the level of contrast between the buildings and the landscape setting in which they will be viewed. • The colour scheme of all buildings and works to comprise muted tones such as greys, browns, greens and dark blue and be approved by the Manager - Development and Environmental Services, Whitsunday Shire Council. • Non reflective glass will be used where buildings protrude above landscaping to prevent sunlight reflection. • Lighting of the clubhouse and resort precinct will be designed to have minimum impact when viewed from off site (upstream, downstream and adjacent land). • Buildings allow for views across sites and through transition spaces without compromising privacy. • The height of service infrastructure will be kept to a minimum to limit their visibility in the landscape.
Performance Indicators:	<ul style="list-style-type: none"> • The resort development is located on the eastern side of Dent Island. • Design of buildings is such that they remain recessive to the natural landscape. • Buildings and service infrastructure do not protrude above the natural vegetation and landscaping...
Monitoring:	The nominated Dent Island Managers will monitor the implementation of initial and on-going actions.
Responsibility & Reporting:	Any incidence of non-compliance is to be reported to the Principal / nominated Dent Island Manager/s.
Corrective Action:	Where non-compliance occurs, the cause and nature of the non-compliance will be identified and an appropriate ameliorative action implemented.
Interfaces:	<ul style="list-style-type: none"> • Landscaping & Rehabilitation / Regeneration EMP (Section 2.9) • Flora Management EMP (Section 2.5) • EIS Section 4.3.3, 5.5.3, 5.5.6

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HAMILTON ISLAND GOLF COURSE RESORT - DENT ISLAND - Operations Environmental Management Plan (EMP)

2.11 Transport EMP - Operations



11. TRANSPORT EMP - OPERATIONS	
Element:	Management of traffic, parking and pedestrian movement during the operational phase of the resort and golf course.
Potential Impacts:	<ul style="list-style-type: none"> • Potential for fuel and oil spills associated with increased vessel operations to Dent Island. • Pedestrian movement outside the resort area may potentially impact on native flora and fauna.
Aim:	To ensure the safe and efficient management of vehicular and pedestrian movement on and around Dent Island.
Actions:	<ul style="list-style-type: none"> • Instruct all construction vehicle operators and workers to drive cautiously. • Should construction vehicles damage any road sections on Dent Island, rehabilitate to pre construction standard following construction period. Contractor/s to organise worker transport vehicle schedules throughout construction period. • Barge landings on the island at night are subject to nominated Dent Island Manager/s approval.
Performance Indicators:	<ul style="list-style-type: none"> • No construction vehicle activity during restricted times. • No complaints or reports of unsafe or inappropriate operation of construction vehicles. • Vegetation surrounding the site and adjacent to walking tracks remains intact.
Monitoring:	<ul style="list-style-type: none"> • Visitor and employee behaviour will be monitored by the nominated Dent Island Manager/s.
Responsibility & Reporting:	<ul style="list-style-type: none"> • A report listing all incidences and actions taken shall be prepared and submitted to the nominated Dent Island Manager/s. • Notify the Environmental Protection Agency and GBRMPA immediately where potential or actual environmental harm is identified.
Corrective Action:	<ul style="list-style-type: none"> • In the event of any visitor or employee misbehaviour, the offender should be immediately stopped and appropriate corrective action will be implemented (i.e. rehabilitation of disturbed vegetation).
Interfaces:	<ul style="list-style-type: none"> • EIS Section 3.3.7, 5.8

Title Reference 18791025 and 18791031

HAMILTON ISLAND GOLF COURSE RESORT - DENT ISLAND - Operations Environmental Management Plan (EMP)

2.12 Potable Water Management EMP - Operations

12. POTABLE WATER MANAGEMENT EMP - OPERATIONS	
Element:	Management of potable water during the operation of the resort and golf course.
Potential Impacts:	Management of potable water consumption is necessary to ensure an adequate supply is available.
Aim:	To make the most efficient use of available water sources.
Actions:	<ul style="list-style-type: none"> • The volume of water consumption and water supply will be monitored at weekly and monthly periods. • Install water reducing showerheads and taps. • Use dual flush toilets. • Implement restrictions on hosing down driveways and paths.
Performance Indicators:	<ul style="list-style-type: none"> • Community expectations for a reliable supply of quality water are met.
Monitoring:	The nominated Dent Island Manager/s is to monitor the implementation of initial and on-going actions.
Responsibility & Reporting:	Non-compliance to be reported to the nominated Dent Island Manager/s and the Principal.
Corrective Action:	Where any non-compliance occurs, an investigation will take place to identify the nature of the non-compliance and corrective actions implemented.
Interfaces:	<ul style="list-style-type: none"> • Irrigation Management EMP (Section 2.15) • Sewage Disposal EMP (Section 2.13) • EIS Section 3.3.5, 4.3.5, 5.2, 5.8.4

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HAMILTON ISLAND GOLF COURSE RESORT - DENT ISLAND - Queensland Environmental Management Plan (EMP)

2.13 Sewerage Disposal EMP - Operations

13. SEWAGE DISPOSAL EMP - OPERATIONS	
Element:	Sewerage disposal throughout the operation of the resort and golf course.
Potential Impacts:	<ul style="list-style-type: none"> An increase in population may put pressure on existing sewage treatment/pump station facilities. Treated and solid effluent disposal on the island can impact on water quality and soil conditions.
Aim:	To minimise the impact of effluent and solids disposal during construction and operations.
Actions:	<ul style="list-style-type: none"> Raw sewerage is to be pumped over to Hamilton Island via the undersea pipe-line Regular inspections and maintenance of all pump stations Comply with the conditions relating to the environmentally relevant activity of sewage treatment.
Performance Indicators:	<ul style="list-style-type: none"> Treated effluent meets tertiary quality requirements.
Monitoring:	<p>The nominated Dent Island Managers to monitor the implementation of initial and on-going actions.</p> <p>Sewerage flows to be monitored via MAGFLOW meter and SCADA leaving Dent Island pump station, and arriving at Hamilton Island Sewerage treatment plant.</p>
Responsibility & Reporting:	<ul style="list-style-type: none"> Non-compliance to be reported to the nominated Dent Island Managers and Principal. Notify the Environmental Protection Agency and GBRMPA immediately where potential or actual environmental harm is identified.
Corrective Action:	Where any non-compliance occurs, an investigation will take place to identify the nature of the non-compliance and corrective actions implemented.
Interfaces:	<ul style="list-style-type: none"> Water Quality EMP (Section 2.3) EIS Section 3.3.5, 4.3.5, 5.8.4

Title Reference 18791025 and 18791031

HAMILTON ISLAND GOLF COURSE RESORT - DENT ISLAND - Operations Environmental Management Plan (EMP)

2.14 Service Pipeline EMP - Operations

14. SERVICE PIPELINE EMP - OPERATIONS	
Element:	Management of the marine environment and service pipeline during its operation.
Potential Impacts:	<ul style="list-style-type: none"> Scour of trench backfill above Highest Astronomical Tide (HAT) where trench is other than in a formed track. Scour of trench backfill below HAT. Pipeline leakage.
Aim:	<p>To minimise:</p> <ul style="list-style-type: none"> the deposition of sediment on undisturbed areas and the run-off of sediment to Dent Passage; the turbidity of the sea water in Dent Passage resulting from erosion of fines; the destruction of reef life; and disturbance of foreshore. <p>To ensure the pipeline is maintained in a sound state of repair.</p> <p>To immediately detect any leakage from the pipeline to Dent Passage.</p>
Actions:	<ul style="list-style-type: none"> Comply with the requirements of any Marine Park permit, Coastal Protection and Management Act 1995 approval and conditions relating to the environmentally relevant activity of dredging. Pipeline to remain securely banded. Maintain pressure loss / leak detection systems and cut-off valves on the pipeline. Weighting chains to remain secured to banding and unbroken.
Performance Indicators:	<ul style="list-style-type: none"> No leakages from pipeline.
Monitoring:	<ul style="list-style-type: none"> Monitor pipeline by diver inspection one-year, three years and five years after construction and every fifth year thereafter. Automatic monitoring by comparative flow meters located on Dent Island and Hamilton Island.
Responsibility & Reporting:	<ul style="list-style-type: none"> Prepare written report describing the state of the pipeline for the nominated Dent Island Manager/s following each inspection. The nominated Dent Island Manager/s shall instigate corrective action where performance is no longer met. Notify the Environmental Protection Agency and GBRMPA immediately where potential or actual environmental harm is identified.
Corrective Action:	<ul style="list-style-type: none"> Undertake appropriate repair by diver. Repair leak in pipeline.
Interfaces:	<ul style="list-style-type: none"> Marine Landing Facility EMP (Section 2.7) Sewage Disposal EMP (Section 2.13) EIS Section 3.3.6, 4.3.5, 5.2.4, 5.4.5, 5.8.4

Title Reference 18791025 and 18791031

HAMILTON ISLAND GOLF COURSE RESORT - DENT ISLAND - Operations, Environmental Management Plan (EMP)

2.15 Irrigation Management EMP – Operations

15. IRRIGATION MANAGEMENT EMP – OPERATIONS	
Element:	Irrigation Management during the on-going operation of the resort and golf course.
Potential Impacts:	The irrigation watering application rates and quantities (involving the use of nutrients and other fertilisers and pesticides) has the potential to exceed the needs of plants and cause increased runoff.
Aim:	To ensure application rates are controlled to meet but not exceed the needs of plants.
Actions:	<ul style="list-style-type: none"> A detailed management plan will be developed at the detailed design stage incorporating design parameters such as maximum daily irrigation rates, nitrogen and phosphorous fertiliser application rates and operational aspects such as the timing of irrigation, wind impacts and periods of irrigation. Implementation and operational arrangements will be conducted in accordance with the Queensland Water Recycling Guidelines (EPA, 2005). The proposed irrigation source is dam water, which will be stored in the main dam. Irrigation applications and scheduling arrangements will be undertaken upon closure of the Golf Course to the public. The irrigation system and scheduling will be designed to provide repeat cycles with soak times between, in order to prevent run-off. Application of Agro-chemicals will be in accordance with Best Management Practices with application methods and rates in accord with manufacturers' directions and will be restricted to avoid nutrient loadings in excess of turf demand. Maintenance practices will be developed, including detatching to avoid excessive nutrient build up in the soil. Access to the site will be restricted by signs stating that public access is not allowed beyond the Golf Course closing time. Warning signs are to be posted indicating that reclaimed water is used for irrigation. Buffer zones will be provided whereby no spray irrigation is undertaken within 50m of neighbouring properties as prescribed in the Queensland Water Recycling Guidelines (EPA, 2005). The irrigation system will be designed to avoid any risk of off-site (upstream, downstream and adjacent land) spray drift. Key staff will be adequately trained to recognise the risk inherent in the use of reclaimed water and to act with due caution.
Performance Indicators:	<ul style="list-style-type: none"> Soils and watercourses outside the designated irrigation area exhibit no increase in the natural level of nutrients or the presence of chemicals or other foreign substances. Indigenous and landscaped vegetation and turf grasses are healthy.
Monitoring:	Water quality and soil analysis will be monitored, with monitoring results interpreted every two years by a hydro geologist.
Responsibility & Reporting:	<ul style="list-style-type: none"> Any incidence of non-compliance will be reported to nominated Dent Island Manager/s and relevant regulatory authority. Notification of any emergency to the nominated Dent Island Manager/s. Notify the Environmental Protection Agency and GBRMPA immediately where potential or actual environmental harm is identified.
Corrective Action:	Where an incidence of non-compliance occurs, an investigation will take place and corrective action implemented.
Interfaces:	<ul style="list-style-type: none"> Water Quality EMP (Section 2.3) Flora Management EMP (Section 2.5) EIS Section 4.3.2, 5.2.4, 5.5.5, 5.8.4

Title Reference 18791025 and 18791031

HAMILTON ISLAND GOLF COURSE RESORT – DENT ISLAND – Operations Environment Management Plan (EMP)

2.16 Emergency Response & Risk Management EMP - Operations

16. EMERGENCY RESPONSE & RISK MANGEMENT EMP – OPERATION S	
Element:	Response to emergency situations during the operational phase of the resort and golf course.
Potential Impacts:	Damage to persons, buildings and the environment, in particular the loss of biodiversity, arising from operation of the Golf Course Resort.
Aim:	<ul style="list-style-type: none"> To outline appropriate response procedures for emergency situations during the operation of the Golf Course Resort. To ensure the safety of employees, guests and visitors on the Island. To manage the Impacts of bushfire.
Actions:	<p>An Emergency Action Plan containing detailed response procedures to likely emergency situations will be developed prior to operations commencing. This will be developed once detailed design has been completed and the performance standards of the buildings and equipment are known and employee numbers are available. It will be prepared in consultation with the relevant emergency service agencies.</p> <ul style="list-style-type: none"> Employees will be trained in emergency response procedures. <p>The following management strategies will be incorporated into the action plans:</p> <p><i>Cyclonic Weather</i></p> <ul style="list-style-type: none"> A Cyclone Procedures Manual based on the <i>Hamilton Island Tropical Cyclone Procedures Manual 2011</i> will be prepared prior to operations. Upon receipt of a warning of an approaching cyclone, no new guest will be allowed travel to the Island. <p><i>Fire Risk</i></p> <ul style="list-style-type: none"> The nominated Dent Island Manager/s, in conjunction with the fire response teams/ volunteer fire service, will develop bushfire procedures and fire management plan for prescribed burning and wildfire suppression as part of overall emergency procedures. This will be prepared in consultation with the Environmental Protection Agency and Department of Natural Resources and Mines. Fire tender to be located on Dent Island Comply with the requirements of the ‘Operations Plan for Dent Island’ and ‘A Fire Management Framework for Ecological Burning on Hamilton and Dent Islands’ (Brown and Root Services Asia Pty Ltd 2004). Subsequent to the endorsement of the Fire Management Plan a permit is obtained from the Department of Natural Resources and Mines prior to any burning taking place. If bushfires are present in the areas that are likely to threaten the Resort buildings, operations will cease. If evacuation is necessary this will occur by returning employees, guests and visitors to Hamilton Island. <p><i>Medical Emergency</i></p> <ul style="list-style-type: none"> Key staff will be trained in first aid. If deemed necessary, emergency medical assistance will be called from Hamilton Island. All accommodation units will have direct communications with Resort Management. Stretchers will be available in the event that the patient needs to travel by stretcher. <p><i>Evacuation Procedures and Emergency Access</i></p> <ul style="list-style-type: none"> All buildings will have clearly detailed emergency access ways. Emergency access roads /tracks will be identified for the purposes of evacuation. If deemed necessary i.e. in the event of severe fire or medical

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HAMILTON ISLAND GOLF COURSE RESORT - DENT ISLAND - Operations, Environmental Management Plan (EMP)

16. EMERGENCY RESPONSE & RISK MANGEMENT EMP - OPERATIONS	
	<p>emergency, a helicopter will be deployed from Hamilton Island to assist</p> <ul style="list-style-type: none"> Regular inspections of equipment and emergency response drills will be conducted.
Performance Indicators:	<ul style="list-style-type: none"> All employees trained in evacuation procedures and emergency response procedures. Key staff trained in first aid. All volunteer fire personnel are trained to at least level 1 in prescribed burning and wildfire suppression. No injury or danger to employees, guests or visitors during emergency situations. The emergency response procedures are followed in an emergency situation.
Monitoring:	<ul style="list-style-type: none"> The nominated Dent Island Manager/s is responsible for monitoring employee performances in emergency response drills to ensure they are adequately trained in emergency procedures. Emergency response equipment will be regularly inspected to ensure it is maintained in good working order. The emergency action plan will be reviewed after each incident in which it is invoked to ensure it is continually updated and improved. Prescribed burning will be monitored and mapped to measure changes in the impacts on burning.
Responsibility & Reporting:	All incidents and emergencies will be documented and brought to the attention of the nominated Dent Island Manager/s and Principal.
Corrective Action:	<p>Should an incident or failure to comply occur the following steps will be taken:</p> <ul style="list-style-type: none"> Investigate why appropriate response procedures were not followed; and Review response to emergency and how it could have been improved, then amend the emergency response plan as addressed and reduce the risk of a reoccurrence.
Interfaces:	<ul style="list-style-type: none"> EIS Section 5.9, 5.11.3

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HAMILTON ISLAND GOLF COURSE RESORT - DENT ISLAND - Operations Environmental Management Plan (EMP)

2.17 Visitor Management EMP - Operations

17. VISITOR MANAGEMENT EMP - OPERATIONS	
Element:	Visitor Management throughout the operation of the resort and golf course.
Potential Impacts:	The increase in visitors to the island has the potential to impact on the existing environment, cultural heritage and privacy and amenity of permanent residents.
Aim:	To minimise impacts caused by the increase of visitors to the island.
Actions:	<ul style="list-style-type: none"> • Signs will be erected at the access landing facility to clearly explain the sensitivity of Dent Island with regards to the introduction of weed species and identify Dent Island as containing some areas of Legless Lizard habitat. Signs will be intended to discourage/prevent the public from undertaking activities that may damage the Striped Legless Lizard or its favoured habitat, whilst increasing public conservation awareness for the species. • Visitors will be restricted to (designated) walking tracks, beaches and golf course area. • The Dent Island Lightstation and any identified heritage sites are protected from intense visitor activity. Visitation limits will be set, prior to the operation of the Golf Course Resort, on the number of visitors permitted at the Lightstation at any one time. • Paths and lookout areas will meet relevant Australian Standards for safety. • Signs will clearly distinguish degrees of difficulty and estimated walking time. • Signs and interpretive material (in several languages) will explain the natural and cultural environment. • Signs will be erected to clearly identify areas where visitor access is not permitted. • Selected signs will display a general island emergency number and specific locational coordinate (e.g. GPS, AMG, LAT-LONG) - in several languages - to assist with emergency response time. • Bins will be provided for general refuse • Implementation of the Dent Island Lightstation Heritage Management Plan.
Performance Indicators:	<ul style="list-style-type: none"> • No incidences of unpermitted visitor behaviour. • No incidences of guest complaint.
Monitoring:	<ul style="list-style-type: none"> • Visitor behaviour will be monitored by resort and golf course employees.
Responsibility & Reporting:	<ul style="list-style-type: none"> • The nominated Dent Island Manager/s and/or employees shall report any incidences of visitor misbehaviour to the Project Manager. • A report listing all incidences and actions taken shall be prepared and submitted to the Principal.
Corrective Action:	<ul style="list-style-type: none"> • In the event of visitor misbehaviour, the offender shall be immediately stopped and an investigation will take place as to how the offender was able to engage in the activity. • Management procedures will be revised and new procedures developed.
Interfaces:	<ul style="list-style-type: none"> • Flora Management EMP (Section 2.5) • Fauna Management EMP (Section 2.6) • Pest Plant & Animal Control EMP (Section 2.8) • Emergency Response & Risk Management EMP (Section 2.16)

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HAMILTON ISLAND GOLF COURSE RESORT - DENT ISLAND - Operations, Environment, Management Plan (OEMP)

SCHEDULE 1 – Responsibility and Reporting

Project	Hamilton Island Golf Course Resort
Site	Dent Island, Great Barrier Reef, QLD, Australia
Works	Operation of an 18-hole international standard golf course, support service infrastructure, golf club, approximate - 109 guest rooms, 38 villa sites and 172 two-bedroom and three-bedroom apartments.
Principal	Hamilton West Pty Ltd
Contact Details	Glenn Bourke, Chief Executive Officer, Hamilton Island Enterprises Ltd, PO Box 131, Hamilton Island Qld 4803. Phone: 07 4948 9940, Fax: 07 4946 8754, Mobile: 0411 108 816, Email: gbourke@hamiltonisland.com.au
Nominated Dent Island Manager/s	Andy Trigg – General Manager Engineering & Services
Contact Details	Phone: 07 4946 8293, Fax: 07 4946 8291, Mobile: 0428 349 385, Email: atrigg@hamiltonisland.com.au
Nominated Dent Island Manager/s	Michael Saville – General Manager Hamilton Island Yacht Club and Hamilton Island Golf Course
Contact Details	Phone: 07 4948 9947, Fax: 07 4948 9689, Mobile: 0422 660 648, Email: msaville@hamiltonisland.com.au
Nominated Dent Island Manager/s	To be appointed
Contact Details	To be appointed

Title Reference 18791025 and 18791031

HAMILTON ISLAND GOLF COURSE RESORT - DENT ISLAND - Operations Environmental Management Plan (OEMP)

SCHEDULE 2 – Local Provenance Species

TABLE 1 – List of species for use in landscapes on Dent Island

Species Name	Common Name	Form
<i>Drynaria rigida</i>	Basket Fern	fern
<i>Macrosporium grossum</i>	A fern	fern
<i>Nephrolepis coronata</i>	Fishbone Fern	fern
<i>Xanthorrhoea johnsonii</i>	Forest Grass Tree	grass tree
<i>Xanthorrhoea johnsonii</i>	Grass Tree	grass tree
<i>Amelanchia laevis</i>	Cookaloo Grass	grass/forb
<i>Cynum pedunculatum</i>	Swamp Lily	grass/forb
<i>Cymbopogon teretius</i>	Barbed Wire Grass	grass/forb
<i>Dianella caerulea</i>		grass/forb
<i>Gonolobus aspera</i>	Saw Sedge	grass/forb
<i>Lomandra laeta</i>	Mat Rush	grass/forb
<i>Themeda triandra</i>	Kangaroo Grass	grass/forb
<i>Gynura drymophila</i>		herb
<i>Hebecladon albidocarpus</i>	White everlasting	herb
<i>Peperomia trianae</i> (P. <i>repens</i>)	Native Peperomia	herb
<i>Pilea laetifolia</i>		herb
<i>Hectranthis graveolens</i>		herb
<i>Wedelia spianthoides</i>		herb
<i>Cycas media</i>	Cycas	palm/cycad
<i>Dasylirion decipiens</i>		palm/cycad
<i>Hydrocotyle elegans</i>	Elegant Palm	palm/cycad
<i>Acacia sinclairii</i>		shrub
<i>Argusia tomentosa</i>	Octopus Bush	shrub
<i>Bursaria spinosa</i>	Blackthorn	shrub
<i>Corchorus mucronosus</i>	A Palm Lily	shrub
<i>Gardenia speciosa</i>	Beach Gardenia	shrub
<i>Indigofera pratensis</i>		shrub
<i>Hibiscus pauciflorus</i> (syn. <i>Citriobatus pauciflorus</i>)	Orange Thorn	shrub
<i>Pogonochloa teretius</i>		shrub
<i>Scaevola sericea</i>		shrub
<i>Sophora tomentosa</i>	Sophora	shrub
<i>Tademastrionia orientalis</i>		shrub
<i>Metra tomentosa</i> (P. <i>aspera</i>)	Wild Peach	shrub
<i>Acacia leptocarpa</i>		tall shrub
<i>Acacia longissima</i>		tall shrub
<i>Acacia melanoxylon</i>	Blackwood	tall shrub
<i>Aglaia laevis</i>		tall shrub
<i>Allocasuarina nitida</i>	Black She Oak	tall shrub
<i>Canarium austrosum</i>		tall shrub
<i>Canarium coprosmaoides</i>	Coast Caninum	tall shrub
<i>Diospyros geminata</i>		tall shrub
<i>Ficus vassei</i>	A Sandpaper Fig	tall shrub
<i>Leuca munda</i>		tall shrub
<i>Podocarpus sericeus</i>		tall shrub

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HAMILTON ISLAND GOLF COURSE RESORT - DENT ISLAND - Operations Environmental Management Plan (OEMP)

Species Name	Common Name	Form
<i>Amorpha urtica</i>		tall shrub
<i>Wax Irtzia var bicolor</i>	Coastal Wax	tall shrub
<i>Alphitonia excelsa</i>	Red Ash	tree
<i>Astonia scholaris</i>	Milky Pine	tree
<i>Artocarpus cunninghamii</i>	hoop Pine	tree
<i>Corymbia intermedia</i>	Pink Bloodwood	tree
<i>Corymbia tessellaris</i>	Moreton Bay Ash	tree
<i>Erythrina variegata</i>	Salswing Coral Tree	tree
<i>Eucalyptus drepanolobium</i>	Ironbark	tree
<i>Eucalyptus excelsa</i>	Queensland Papermint	tree
<i>Eucalyptus praealpina</i> (syn. <i>E. alba</i>)	Poplar gum	tree
<i>Ficus microcarpa</i>		tree
<i>Ficus oblique</i>	Small-leaved Fig	tree
<i>Gossypium hirsutum</i>	Cotton Tree	tree
<i>Hortralium</i> sp. (South Molle Island JA Gresty AQ200995)		tree
<i>Jagera pseudorhus</i>	Foam Bark Tree	tree
<i>Lophostemon confertus</i>	Bush Box	tree
<i>Melaleuca prostrata</i>	Red Kamala	tree
<i>Melaleuca viridiflora</i>	Broadleaf Paperbark	tree
<i>Neohassa australiensis</i>		tree
<i>Neohassa dealbata</i>	White Bolly Gum	tree
<i>Myrtaleya arbutifolia</i>		tree
<i>Parosartus tectorius</i>	Screw Pine	tree
<i>Paraserianthes toona</i>	Pencil Cedar	tree
<i>Podocarpus venulosus</i>		tree
<i>Planchonella caraya</i>	Cocky Apple	tree
<i>Pongamia pinnata</i>	Pogamia Tree	tree
<i>Schinus molle</i>	Umbrella Tree	tree
<i>Terminalia catappa</i>	Sea Almond	tree
<i>Mespesia populnea</i>		tree
<i>Cissus antarctica</i>	A native grape	vine
<i>Cissus opaca</i>	A native grape	vine
<i>Genonoprasium cymosum</i>	Scrambling Lily	vine
<i>Hoya australis</i>	Wax Flower	vine
<i>Pomoea pascuifera</i> subsp. <i>brasilienis</i>	Goats Foot	vine
<i>Mucuna gigantea</i>	Burny Bean	vine
<i>Sarcocostemma australe</i>	Caustic Vine	vine
<i>Nymphaeodes indica</i>	Snow Flake	water plant
<i>Polydorum ranunculoides</i>	Frogmouth	water plant

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HAMILTON ISLAND GOLF COURSE RESORT - DENT ISLAND - Conditions of Conditions Management Plan (CMP)

SCHEDULE 3 – Exotic Species

TABLE 2 – Known exotic species present on Dent Island

Species Name	Common Name	Management technique
<i>Ageratum conyzoides</i>	Billy Goat Weed	Undertake target treatment in areas to be disturbed, prior to disturbance. Utilise spot spraying with Glyphosate. Care must be taken to control weed in rehabilitation areas.
<i>Brachiaria distachya</i>	Para Grass	Target all outbreaks prior to disturbance. Will require constant monitoring and management to ensure grasslands and the understorey in Eucalypt communities are not degraded. A Glyphosate product applied through spot spraying is recommended.
<i>Eleusine indica</i>	Mother of Millions	Target all outbreaks prior to disturbance. Will require constant monitoring and management to ensure grasslands and the understorey in Eucalypt communities are not degraded. A 2,4-D product applied through spot spraying is recommended.
<i>Desmodium illinoense</i>	Silver-leaf Desmodium	Target all outbreaks prior to disturbance. Will require constant monitoring and management. A Glyphosate product applied through spot spraying and cut stump methods is recommended.
<i>Lantana camara</i>		Target all outbreaks prior to disturbance. Will require constant monitoring and management. A Glyphosate product applied through spot spraying and cut stump methods is recommended.
<i>Melinis minutiflora</i>	Molasses Grass	Undertake target treatment in areas to be disturbed, prior to disturbance. Search for existing specimens in grasslands for eradication. Utilise spot spraying with Glyphosate. Care must be taken to control weed in rehabilitation areas.
<i>Paspalum distachne</i>	Stinking Paspalum	Treat specimens as encountered with a Glyphosate product applied through spot spraying and cut stump methods.
<i>Quercus macgregoriae</i>		Control with spot spraying with a Glyphosate product when encountered.
<i>Sporobolus vaginatus</i>		Target all outbreaks prior to disturbance. Will require constant monitoring and management to ensure grasslands and the understorey in Eucalypt communities are not degraded. A Glyphosate product applied through spot spraying is recommended.

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Species Name	Common Name	Management technique
SPERMATOPHYTES sp	Snake Weed	Target all outbreaks prior to disturbance. Will require constant monitoring and management. A Glyphosate product applied through spot spraying and cut stump methods is recommended.
UROSALPINGES UROSALPINGES	Chinese Burr	Target all outbreaks prior to disturbance. Will require constant monitoring and management. A Glyphosate product applied through spot spraying and cut stump methods is recommended.
SPERMATOPHYTES UROSALPINGES (syn. <i>Wedelia trilobata</i>)	Singapore Daisy	Target all outbreaks prior to disturbance. Will require constant monitoring and management. A Glyphosate product applied through spot spraying and cut stump methods is recommended.

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HAMILTON ISLAND GOLF COURSE RESORT - DENT ISLAND - Operations Environmental Management Plan (OEMP)

SCHEDULE 4 – Weed Control Techniques

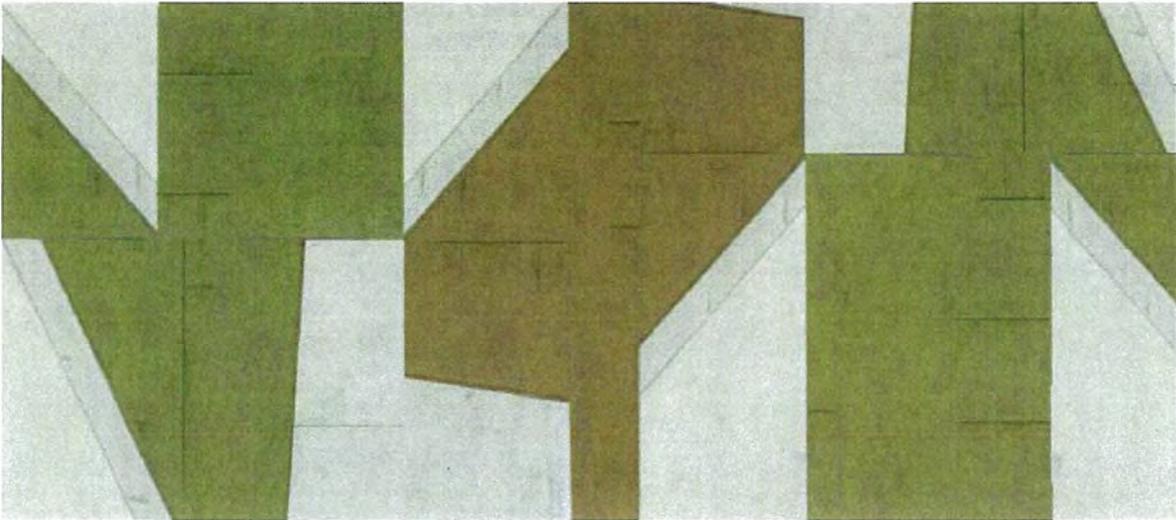
TABLE 3 – Weed Control Techniques

	<p>Hand Removal Removal of small weeds by hand. To be employed for weeds where the entire root system can be easily removed by hand whilst minimising soil disturbance. Care is necessary to ensure seed is not dispersed. Plants likely to restrike (e.g. Singapore Daisy) or set propagules should be removed from site.</p>
	<p>Spraying Care must be undertaken to avoid drift by selecting appropriate nozzles, adjusting droplet size, spraying in low wind conditions and keeping the spray head close to the target plant.</p> <p>Spot spraying: Undertaken manually with a knapsack or motorised spray unit. Knapsack foliar spraying will be employed for the preparation of planting areas, the selective target of individual weeds in planting beds or rehabilitation areas as part of bush rehabilitation and part of on-going maintenance. Tall dead standing grass and herbaceous weeds should be slashed prior to ripping and planting of rehabilitation areas.</p>
	<p>Cut stump method This method is ideal for woody plants and vines without aerial tubers:</p> <ul style="list-style-type: none"> • cut the stem close to the ground, if possible below the lowest branch; • <u>immediately</u> (within 30 seconds) apply herbicide using a small squeeze bottle to the cut surface.

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FOURTH SCHEDULE (SUBCLAUSE 21.1)
Structural Inspection Report

Title Reference 18791025 and 18791031



Dent Island Winch House and Derrick Crane

Structural Inspection and Report

31st August 2012



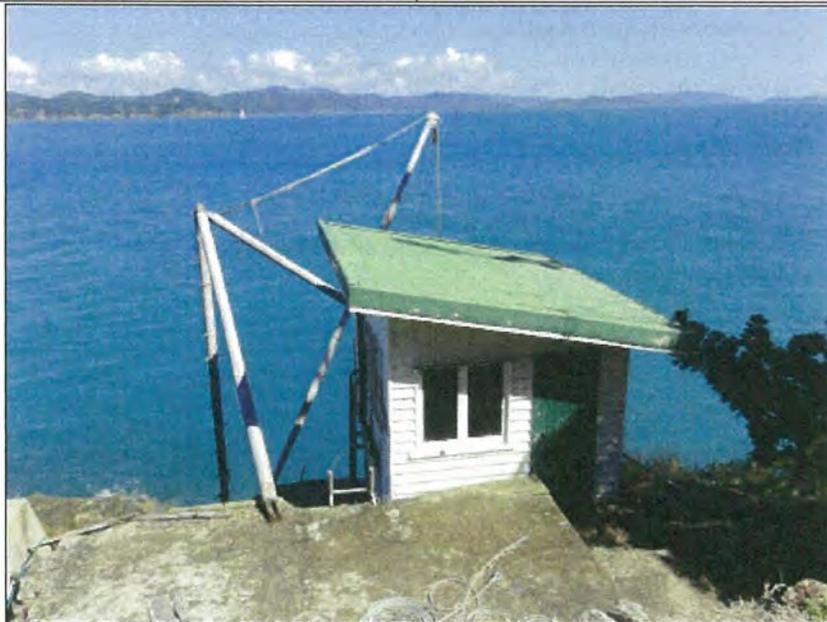
BUILDING STRUCTURES
LAND AND INFRASTRUCTURE DEVELOPMENT
ENVIRONMENTAL PLANNING
INTEGRATED WATER MANAGEMENT
SPECIAL STRUCTURES

Title Reference 18791025 and 18791031

Bligh Tanner Consulting Engineers
Dent Island Winch House and Derrick Crane - Structural Inspection and Report
31/08/2012

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	Bligh Tanner Job Number: 2012.121.300
	Project Engineer: Simon Kochanek
	Client: Great Barrier Reef Marine Park Authority
	Client Contact: Stephanie Lemm



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Version	Author	Reviewed	Approved	Date
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4	Simon Kochanek		Rod Bligh	29/08/2012
5	Simon Kochanek		Rod Bligh	31/08/2012

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Appendices

Appendix A – Structural Sketches for Proposed Repairs
Appendix B – Winch House Plans and Elevations
Appendix C – Roberts International Cost Estimate for Repairs
Appendix D – Photo Log

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Dent Island Winch House and Derrick Crane - Structural Inspection and Report
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Page 1

1 INTRODUCTION AND SCOPE

Bligh Tanner was commissioned in May 2012 to complete a structural inspection and condition report for the Dent Island Winch House and Derrick Crane. The visual inspection has been completed by Simon Kochanek, a principal structural and conservation engineer from Bligh Tanner, who has a strong background with remedial works to heritage listed structures.

As part of the condition report, a number of repairs have been specified and detailed to remediate the damage and deterioration to the building which has occurred as a result of weathering and general deterioration. The proposed repairs and remediation works have been costed by Roberts International Quantity Surveyors.

The Dent Island Winch House and associated Derrick Crane and winch apparatus is one of a number of buildings associated with the Dent Island Lighthouse. The lighthouse and its surrounding buildings including the winch house are Commonwealth Heritage listed under the Environment Protection and Biodiversity Conservation Act 1999. The lighthouse was placed on the Heritage Register on 22 June 2004 and has a place ID No.105369 and place file No. 4/04/234/001. The lighthouse is listed on the Commonwealth Heritage register as having attributes associated with Heritage Criterion A – processes and Criterion D – characteristic values. The lighthouse was originally constructed in 1879, while the winch house was constructed in the 1950's.

2 SITE AND BUILDING DESCRIPTION

The Dent Island Winch House and Lighthouse is located on the South-West tip of Dent Island, approximately three kilometres from Hamilton Island in North Queensland (55 nautical miles from Mackay).



Photograph 1: Dent Island Winch House location

The winch house is one of a number of buildings associated with the Dent Island Lighthouse complex.

The winch house is a small timber framed building which was used in conjunction with the external platforms, winch and derrick crane to hoist supplies from the shore line to the

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lighthouse. The external hoisting platform is constructed in reinforced concrete and the winch assembly and arm is predominately constructed from structural steel.



Photograph 2: Dent Island Winch House

3 EXTENT AND LIMITATIONS OF THE INSPECTION

Bligh Tanner completed a non-invasive structural inspection of the Dent Island Winch House and Derrick Crane on 23 and 24 May 2012. The inspection was a visual inspection of the accessible structural elements of the building, surrounding platforms and derrick crane. Where structural elements were inaccessible or hidden behind floor and wall linings, these areas were not inspected and the structural condition of these areas is unknown.

4 STRUCTURAL INSPECTION CONDITION REPORT

4.1 Winch House

The timber framing to the winch house was observed to be in good condition with no significant signs of termite damage or decay. The external protective coating system to the winch house was generally in poor condition with paint flaking and peeling to all surfaces. It is recommended that the external surfaces be stripped back and the protective coating reapplied to protect the exposed timber.

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Photograph 3: Winch house

The external weather board nails were observed to be corroding throughout the winch house and these nails should be replaced and reinstalled as required using stainless steel grade 316 nails.

As part of an ongoing maintenance regime, it is recommended that a termite inspection be completed on an annual basis with remediation action taken as required following these inspections.

One window to the entrance side of the winch house is broken and this should be replaced to secure the building and help to reduce the wind pressures that the building could be exposed to. A plywood sheet was positioned against the ocean facing side of the winch house to seal an opening. This plywood sheet should be replaced with new studs and wall cladding to match the existing.

Twelve tie-down rods are positioned equally on the internal walls to the winch house which hold down the roof during peak winds. These rods were observed to be in varying degrees of condition. Tie-down rods that are heavily corroded should be replaced.

Generally there was a fair amount of rubbish and debris over the floor of the winch house. It is recommended that the floor and internal space be cleaned to remove rubbish. It should be noted that as the roof sheeting contains asbestos, it is likely that the dust and debris in the winch house may contain asbestos fibres. This space should be cleared and cleaned by licensed asbestos contractors.

The existing internal base slab to the winch house was observed to be in good condition with no significant cracks or movement observed to the slab. The cantilevered reinforced concrete viewing platform slab was observed to be in average to poor condition with significant spalling observed to the underside of the slab. The extent of corrosion to the reinforcement in the slab is expected to be significant and it is recommended that an additional supporting strut be placed to the underside of the slab to assist in providing additional support to the cantilever. The spalled concrete to the underside of the slab should be fully scabbled back with any corrosion to reinforcement removed prior to application of anti-chloride and anti-carbonation coating, followed by the installation of a high build

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cementitious mortar. A drip groove stainless steel angle should be installed to the edge of the cantilevered slab to prevent water from tracking under the suspended slab.

The handrail to the viewing platform was observed to have significant corrosion at the base support. The baseplate to the two handrail posts should be replaced with a new protective coating applied to the steelwork. Each corner of the cantilevered landing requires the concrete to be repaired to protect the exposed reinforcement from further corrosion and spalling.

The asbestos roof cladding was observed to be in average condition. Two holes were observed to the roof sheeting which is allowing the ingress of water into the winch house. Two longitudinal splits were also observed to the cladding. Generally the asbestos cladding, although still largely intact, was observed to be in average to poor condition. The roof cladding fixings were significantly corroded with the majority of the roof fixings not serviceable or of adequate capacity to resist design wind loads. It is recommended that a licensed asbestos consultant inspect the roof sheeting to determine whether it is in a serviceable condition and can be salvaged as part of any remedial works that are completed to the winch house. If the existing asbestos sheeting is able to be retained then new cyclone fixings will be required to be installed to the full extent of the roof cladding.

All work associated with the existing asbestos roof sheeting should be completed by trained and licensed asbestos contractors. It should be noted that any work to the existing building while the asbestos roof is left in place may present a hazard and this should be managed in accordance with the asbestos legislation. New batten to rafter connections will be required at all locations to increase uplift resistance under ultimate wind conditions.

If it is deemed acceptable to remove the existing asbestos roof sheeting, new roof sheeting should be replaced with a new roof sheeting profile similar to the existing. New batten to rafter connections should be installed to meet design wind requirements and the roof sheeting should be fixed with cyclone clips at spacing to meet the wind load requirements for the location.



Photograph 4: Existing roof cladding

4.2 External Concrete Platform and Pavement

The external concrete slab to the front of the winch house was observed to be in poor condition over the first 1500mm width from the winch house. Access to this area of the slab

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which is suspended should be barricaded until repairs have been completed. Significant corrosion of the reinforcement and spalling of the concrete to the underside of the suspended slab has occurred, which has resulted in the slab barely being able to carry its own weight. In one section of the suspended slab half of the slab thickness has completely delaminated in half as a result of extensive corrosion of the reinforcement steel within the slab.



Photograph 5: Concrete platform to front of winch house



Photograph 6: Extensive corrosion and delamination of concrete slab

The suspended area of the platform slab should be fully supported using stones and mass poured concrete to support the damaged zone. Exposed reinforcement should be ground back and protected from further exposure and corrosion.

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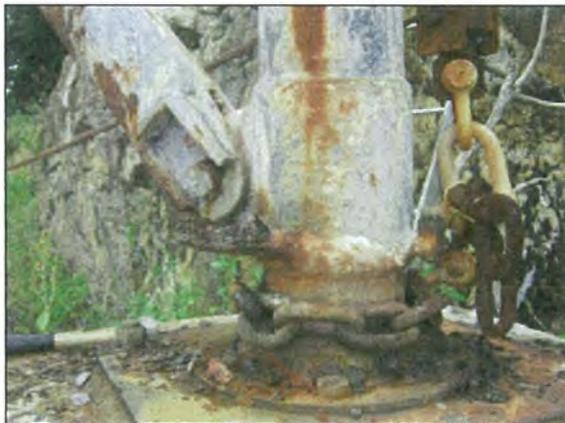


Photograph 7: Exposed reinforcement to slab edge

4.3 Derrick Crane

Generally the Derrick Crane assembly was observed to be in average condition. The protective coating system to the existing steelwork was observed to be failing along the full length of the winch system and is in need of repair and reinstatement. Lead paint was observed to the crane and this will need to be taken into account with any abrasive blasting and paint removal processes that are adopted to recoat the steelwork.

Significant corrosion is occurring at the strut connection locations as these areas are trapping moisture and contaminants. Although the central base connection has corrosion to the baseplate, bolts and connections, it is expected that no structural strengthening or welding will be required. It is instead proposed to fully remove the corrosion to a class SA 2.5 finish and reapply the protective coating system. For a marine grade paint specification, it is anticipated that life to first maintenance will be up to 15 years.



Photograph 8: Corrosion to central base connection

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Extensive corrosion has occurred to the upper strut connections of the winch assembly. These connections will require structural strengthening and repairs to be completed. The level of corrosion to the upper connections is more extensive than at other locations along the winch assembly as the connection holds moisture and debris which accelerates to rate of corrosion. It is recommended as part of the ongoing maintenance of the winch assembly that the connections be regularly inspected with any dirt and rubbish being removed from around the connection as required.



Photograph 9: Corrosion and debris around upper strut arm connection

The climbing rungs positioned along the main central winch arm were observed to be significantly corroded and unserviceable. It is recommended that the existing climbing rungs be cut off with new steel rungs re-welded to match the original detail.

It should be noted that remedial works to the winch assembly proposed in this report are not intended to return the apparatus back to a serviceable and operational condition.

The concrete anchor blocks at the base of each of the three supporting strut arms were inspected and found to be in good crack free condition. No remediation or repair work is required to the concrete anchor blocks at this stage.



Photograph 10: Concrete derrick crane anchor block

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4.4 External Features

Concrete was observed to be spalling at the base of the steel access ladder to the winch house. The concrete and steel support at this location should be repaired locally to prevent further spalling and stop the current corrosion that is occurring.



Photograph 11: Concrete spalling and corrosion of access ladder

A number of the handrails to the perimeter of the site were observed to be connected using dissimilar metals. These connections involved galvanised and mild steel tubes and angles in contact with stainless steel bolts. Locations where dissimilar metals are in contact with each other will result in accelerated corrosion. The metals should be fully isolated using neoprene washers.



Photograph 12: Handrail with dissimilar metals in contact

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Photograph 13: Handrail with dissimilar metals in contact

A number of the handrail sections down to the water level were not continuous and may not comply with the requirements of the Australian Standards. It is recommended that further clarification be sought as to whether the handrails need to be compliant to any regulations or standards.



Photograph 14: Access handrail down to water

The winch trolley rails and support arms were generally observed to be in good condition given the corrosive environment. It is not intended to return this system back into a serviceable state and there are no structural repairs that were identified from the inspection that are required to be completed at this stage.

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Photograph 15: Winch trolley rails and supports

5 STRUCTURAL REPAIR RECOMMENDATIONS

The repairs detailed in this section of the report are intended to remediate areas of the winch house and derrick crane which have deteriorated from exposure to weathering. A number of the repairs have been specified to provide protection to the structure to improve its long term durability and serviceability. An example of a protective measure is the reapplication of the paint and protective coating systems to the external, exposed surfaces.

It should be noted that a detailed structural analysis of the building and associated external structures has not been completed to assess their compliance to current Australian Standards and design wind requirements.

5.1 Winch House

1. Repaint external exposed surfaces of the winch house building to reinstate the protective coating system to the exposed timber surfaces.
 - Scaffold as required to allow safe access.
 - Re-nail cladding where existing fixings have corroded. Stainless steel grade 316 nails to be used.
 - Replace localised timber framing where significant decay is identified.
 - Protective paint system colours to match existing or as advised by Heritage Consultant.
 - Paint specification:
 - Timber surfaces to be sanded back to in-tact edge
 - Remove all dust and grease prior to application of paint system
 - Spot prime – Wattyl Professional Choice 100% acrylic primer/sealer
 - 2nd and 3rd coat – Wattyl Sunfast 100% acrylic (min. TDFT – 50 microns)
 - Alternative proposed paint systems are to be approved before use

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Photograph 16: Winch house to be painted

2. Repair and replace broken window.



Photograph 17: Broken window to be repaired

3. Replace sea-ward facing plywood infill panel with weatherboards and framing to match existing (1.0m x 1.0m).

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Photograph 18: Plywood infill panel to be replaced

4. Repair corroded baseplate of two external handrail posts.
 - Cut existing baseplate off.
 - Re-weld new cap-end base plate and install two new grade 316 stainless steel chemical anchors into existing.
 - Stainless steel bolt to be fully isolated from mild steel using neoprene washers.
 - Refer to Appendix A for structural sketch details.
 - Reinstate protective coating to handrails to match external steel paint system.



Photograph 19: Baseplate repair

5. Repair and replace M12 tie down bolts.
 - Allow to replace six existing tie-down rods due to excessive corrosion.
 - New tie-down rods are to be supplied in grade 316 stainless steel.

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- Allow to repaint six existing tie-down rods.



Photograph 20: Typical corroded base tie-down connection

6. Repair / replace roof sheeting.
 - 6a. Option 1 – Refix existing asbestos roof sheeting in place (3.9m x 3.6m)
 - Use cyclone caps/washers and stainless steel roofing screws spaced to cyclonic requirements – every crest.
 - Repair two holes in existing asbestos roof sheeting.
 - Engage asbestos consultant to inspect roof sheeting. Apply stabilisation protective coating system if directed.
 - All repairs to comply with asbestos legislation requirements.
 - Batten to rafter connections to be strengthened using 30 x 0.8mm GI looped straps over batten fixed with four 2.8mm dia. nails each end of strap into face of rafter. Nails and strap – SS316.
 - 6b. Option 2 – Replace all roof sheeting (3.9m x 3.6m)
 - Dispose of existing asbestos roofing sheeting
 - New roof sheeting - Stramit Monoclad 0.48mm BMT, Colorbond Ultra.
 - New batten to rafter fixings – 2/75mm long, No. 14 type 17 stainless steel 316 screws per batten and rafter junction (25 locations).
 - Roof fixings and cyclone washers to suit – every crest.
7. Concrete repairs and new strut to cantilevered viewing platform.
 - Area of repair ~600mm x 600mm to soffit and each corner of cantilever at handrail stanchion bolt location.
 - Scabble back all spalling concrete to underside of suspended slab.
 - Remove corroded steel back to rust free face.
 - Apply SikaTop – 110 Epocem to face of exposed and prepared concrete.
 - Apply Sika MonoTop – 615HB repair mortar to rebuild concrete to final levels.

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- Apply Sika MonoTop – 620 as required for final fairing coat and finishing.
- Concrete repairs to be completed by competent concrete remediation specialists strictly in accordance with manufactures requirements.
- Install a new drip groove to the edge of the cantilevered slab. Drip groove can be installed as a 25mm x 25mm stainless steel angle in required.
- Install new strut as detailed. Refer to Appendix A.



Photograph 21: Spalled concrete to underside of viewing platform

5.2 Derrick Crane

8. Install structural base connection repair to upper two winch arm struts.
- Refer to Appendix A for structural repair sketch details.



Photograph 22: Corroded base connection of strut to be repaired

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9. Reinstate climbing rungs to main winch post.

- Cut off existing rungs at face and weld identical bar size to face using full strength butt weld (13 No. climbing rungs in total).
- Refer to Appendix A for repair sketch details.



Photograph 23: Replace existing climbing rungs to central winch arm

10. Reinstatement of protective coating system to winch.

- Fully scaffold as required for access to winch arms.
- Surface blast existing metal surfaces to SA 2.5 finish.
- All existing corrosion is to be fully removed back to bright metal.
- Self-contained paint removal systems are to be employed to protect the environment from contamination.
- Marine grade protective coating system (with life to first maintenance of 10 to 15 years) is to be applied to all steel surfaces.

1. One coat Interzinc 52 - 75 microns DFT
2. One coat Interplus 1180 - 250 microns DFT
3. One coat Interthane 990 - 75 microns DFT

- Final Interthane colour to match existing or as specified by heritage consultant.
- After surface blasting to SA 2.5 the exposed steel surface is to be washed down to maximum 10 mg per cm² chloride concentration before application of Interzinc.

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5.3 External Remediation Requirements

11. Repair base of access ladder (one location).

- Removed spalled concrete.
- Fully remove corrosion from base of ladder leg.
- Paint ladder to steel specification.
- Repair concrete locally using Sika MonoTop-615HB.



Photograph 24: Local concrete spalling at ladder support leg

12. Mass pour concrete under Landing Platform Slab and local repairs.

- Carefully remove all loose soil and material under suspended landing slab.
- Remove all visible corrosion of reinforcement steel to soffit of slab.
- Install formwork shutter to face of land and mass pour concrete behind to full support heavily deteriorated concrete slab.
- Full remove exposed corroding reinforcement to edge of slab and patch repair with mortar patch repair detailed in repair number seven.
- Allow to patch repair two corners of slab.
- Refer to Appendix A for repair sketch details.

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Photograph 25: Fill cavity under suspended landing slab

13. Isolate all handrail bolts where dissimilar metals have been used (~20 locations).



Photograph 26: Isolate dissimilar metals

6 ONGOING MAINTENANCE

Once the repairs and remedial works are completed to the winch house and derrick crane it is recommended that an ongoing maintenance regime be implemented at the site to ensure that the structures are preserved and protected. The following maintenance activities and associated timeframes are recommended to be implemented for the site:

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General house keeping

Timeframe: Every three months
Activities:

1. Remove debris, soil and rubbish from around the base connections of the derrick crane.
2. Wash down with clean water the outside exposed surfaces of the winch house, concrete slabs, derrick crane and handrails.
3. Remove soil and debris from around winch house perimeter as required.
4. Inspect the derrick crane restraint cables and retie if necessary.

Termite inspection

Timeframe: Every 12 months
Activities:

1. Complete termite inspection of the winch house by qualified inspector. Action recommendations from inspection report.

Building maintenance / engineering inspection

Timeframe: Every 12 months or after cyclonic activity
Activities:

1. Qualified builder, building maintenance contractor or engineer to complete a full visual inspection of the winch house, external structures, slabs and the derrick crane. Repairs and remediation works are to be completed as identified during the inspection.

If the protective coating system to the derrick crane needs to be repaired or reapplied, it may be possible to complete this work by suitably qualified personnel using climbing and harness equipment to access the strut arms and central vertical support of the derrick crane. The two 150mm dia. strut arms and central supporting column of the derrick crane have adequate capacity to support the weight of one man. The main lifting boom of the derrick crane could be accessed for painting and maintenance by lowering the boom onto the embankment and adequately securing each end. With each end of the boom adequately restrained it is expected that the boom will be fully accessible from the land. If it is intended for the strut arms to be accessed at any time with climbing and harness equipment, an engineering inspection of the boom and its associated supports will be required to be completed by an RPEQ certified engineer to confirm the anchor blocks and derrick crane is in a safe state for access.

The paint system is anticipated to have a life to first maintenance of up to 15 years.

7 COST ESTIMATES

Roberts International has prepared a cost estimate based on the structural repairs detailed throughout this report. The cost estimate has been included in Appendix C. This cost estimate breaks down each of the proposed repairs and remediation work into individual cost items. A cost estimate has been provided for each of the two different roof options proposed which involve retention of the existing roof or replacement with a new Colorbond profile. Due to the complications involved in handling and working with the existing asbestos, Roberts International believes that both options will have a similar cost.

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John Hassell of J&D Rigging has provided a cost estimate/quote to complete a number of the structural steel, scaffolding and painting repairs for the site. Repairs which have been priced by J&D Rigging include repair detail 4, 5, 7, 8, 9, 10 and 12. As part of the cost estimate provided by J&D Rigging, they have inspected the site and allowed to scaffold around the winch shed and derrick crane to provide safe access to complete the works. The quote prepared by J&D Rigging has been embedded within the overall cost estimate prepared by Roberts International.

Roberts International believes that the quote prepared by J&D Rigging is competitive given the access restrictions to the site. It should be noted that if an alternate contractor is preferred or chosen than the cost to complete the scope of works that J&D Rigging have priced could be significantly higher.

An allowance for rain and weather delays should be considered in the final budget allocation.

An allowance has been made for an RPEQ certified engineer to complete a final inspection of the construction works to ensure that they comply with the prescribed structural details.

8 CONCLUSIONS

The winch house and derrick crane was observed to be in average condition given its aggressive coastal proximity.

Remediation works and the reinstatement of the protective coating systems are proposed to manage and reduce the ongoing corrosion of the existing exposed steelwork that is occurring. Repairs and reinstatement of the protective coating to the winch house building has also been detailed to provide weather protection to the timber building and reduce the rate of deterioration and decay. Once the structural works have been completed Bligh Tanner Consulting Engineers should complete a final inspection of the site to confirm that the repairs and remediation work has been completed in accordance with the details documented in this report.

The concrete suspended slab to the front of the winch house entrance is structurally unsound and unsafe and this area should be barricaded off until repairs works have been completed.

Due to the aggressive coastal environment that the winch house and derrick crane are located in, it is recommended that ongoing annual inspections be conducted by competent maintenance or building personal to identify any future remediation works that may be required. Annual termite inspection of the winch house is also recommended to prevent any termite damage to the structure. General housekeeping and clean-up of base connections and removal of debris from around the building and steel connections should be completed on a three monthly period.

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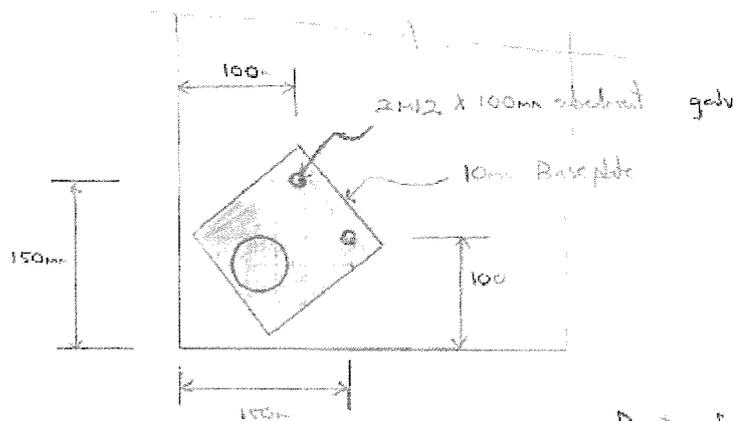
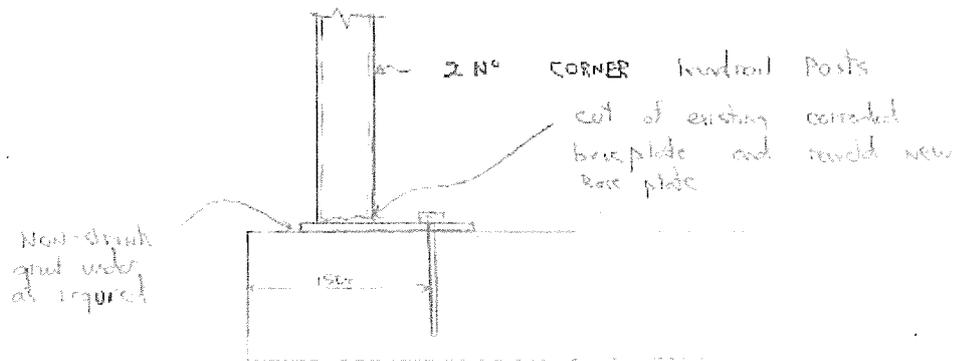
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Appendix A – Structural Sketches for Proposed Repairs

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 BLIGH TANNER CONSULTING ENGINEERS LEVEL 1, 189 WICHAM STREET, BOONDA FOOTHILLS, QUEENSLAND 4208 AUSTRALIA T 07 5521 6633 F 07 5521 6596	PROJECT	DENT ISLAND WINCH HOUSE	PROJECT NUMBER	SCALE PURPOSE
	DATE	APPENDIX A	DRAWN BY	SCALE
			DATE	25/5/12

Repair Detail 4

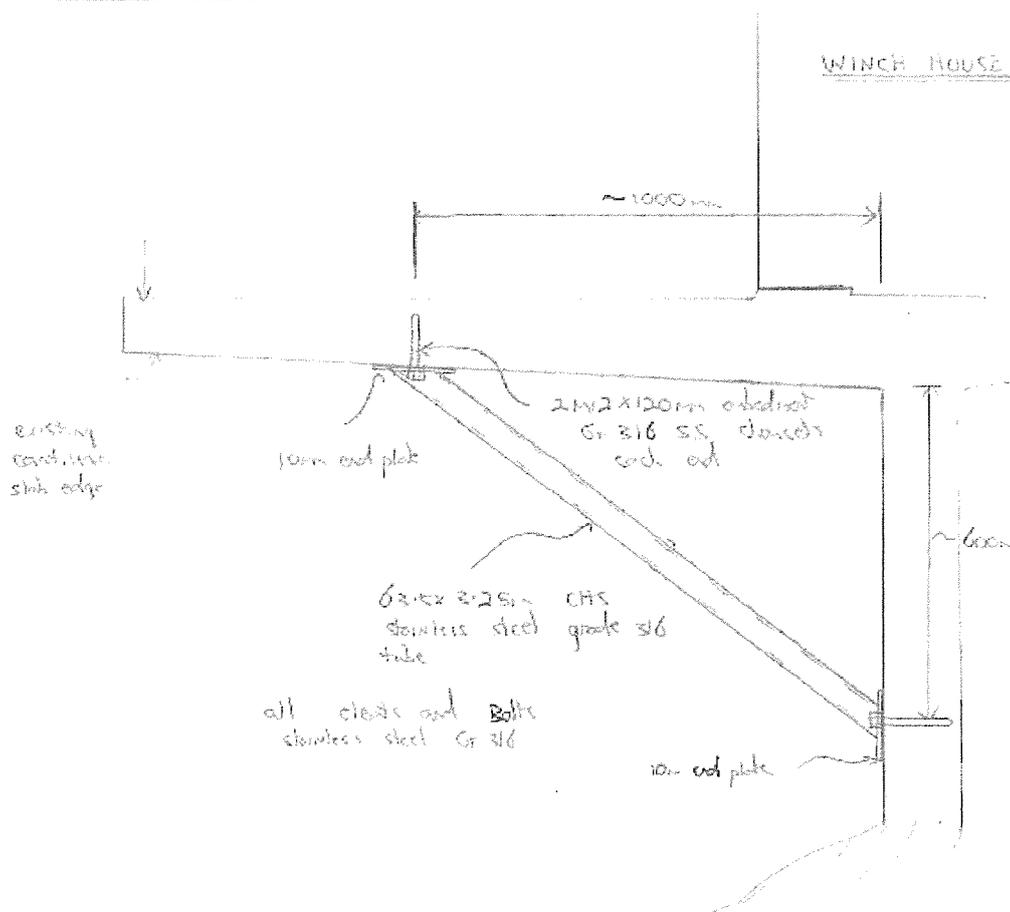


Paint finish to match winch system.

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 BLIGH TANNER CONSULTING ENGINEERS LEVEL 8, 88 WASHBURN STREET, BOONBERRI PO BOX 403 MOUNT FOSTER VALLEY QLD 4208 AUSTRALIA TEL 07 5521 8600 FAX 07 5521 8694	PROJECT	PROJECT NUMBER	SHEET NUMBER
	ITEM	SCALE	SCALE
		DATE	DATE
		skt	
		25/5/12	

Repair No. 7



- site measure before fabrication

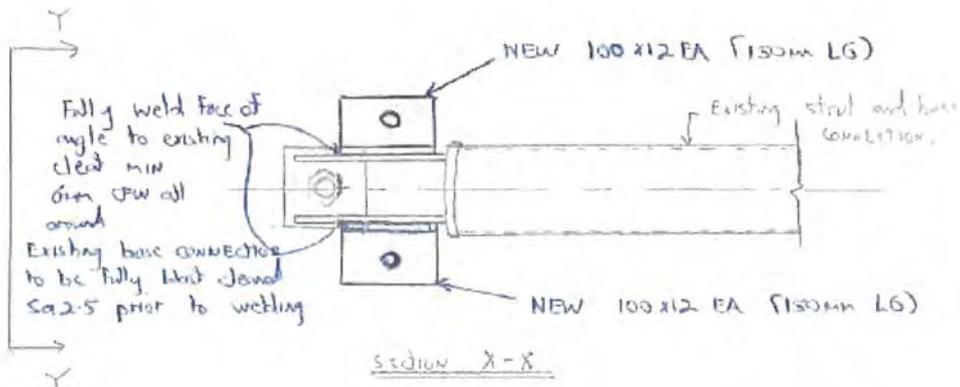
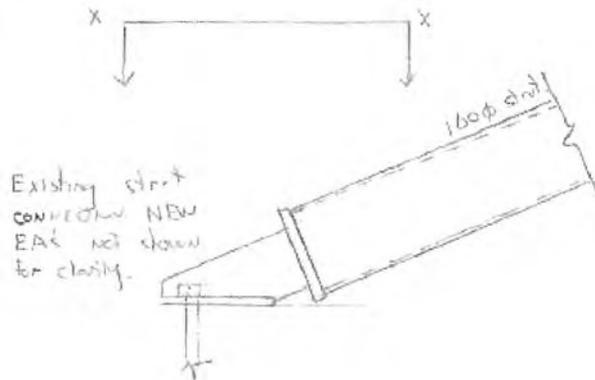
- position strut central to width of landing.

Not to scale

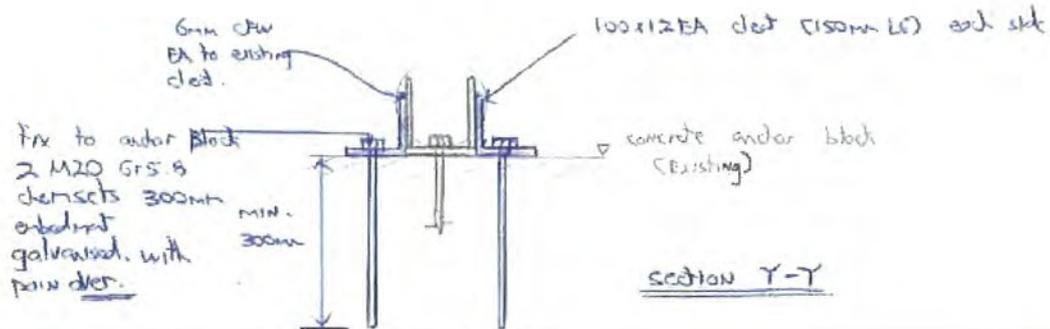
Title Reference 18791025 and 18791031

 BLIGH TANNER CONSULTING ENGINEERS LEVEL 11 265 WICHAM STREET PO BOX 612 FORTITUDE VALLEY QLD 4008 AUSTRALIA T 07 321 8200 F 07 321 8200	PROJECT	DRAWING NUMBER	SHEET NUMBER
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		DATE	25/5/12

Repair No 3



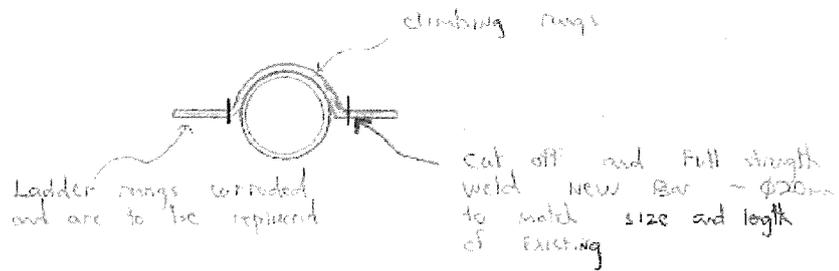
(2 Repair Locations)



Title Reference 18791025 and 18791031

 BLIGH TANNER CONSULTING ENGINEERS LEVEL 8 204 WACHPARK STREET PO BOX 812 PORT AUSTRALIA QLD 4850 AUSTRALIA T 07 3251 8500 F 07 3251 8507	PROJECT	PROJECT NUMBER	SHEET NUMBER
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		DATE 25/5/12	

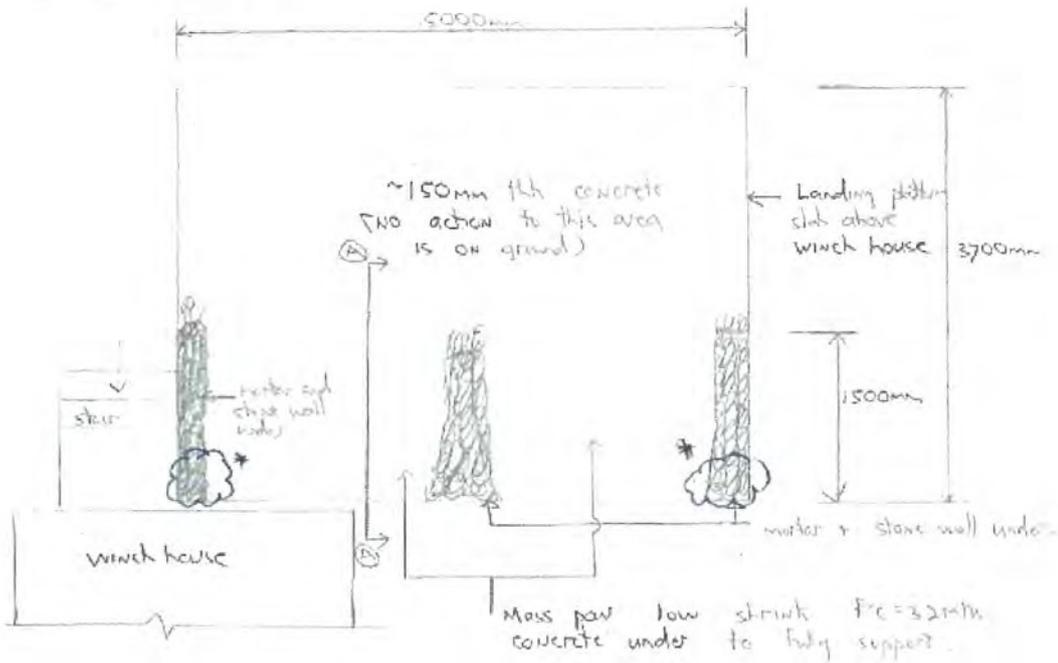
Repair N° 9



Title Reference 18791025 and 18791031

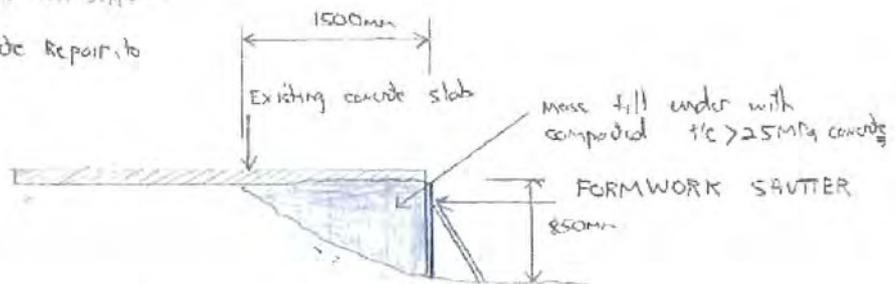
 BLIGH TANNER CONSULTING ENGINEERS LEVEL 8, 266 WICKHAM STREET, PO BOX 632 SOUTH BRISBANE QLD 4008 AUSTRALIA P 07 327 6622 F 07 327 6626	PROJECT	DENT ISLAND	PROJECT NUMBER	2012.121.300	DRAWN BY	
	DATE		ISSUED BY	SKK	SCALE	
			DATE	25/5/12		

Repair No 12



 Red zone is damaged slab and requires full support.

* - Low concrete repair to slab.



SECTION A-A

Estimated concrete volume
3m³

Cavity can be built out with stones and concrete.

→ say 1m³ of stones over 10cm

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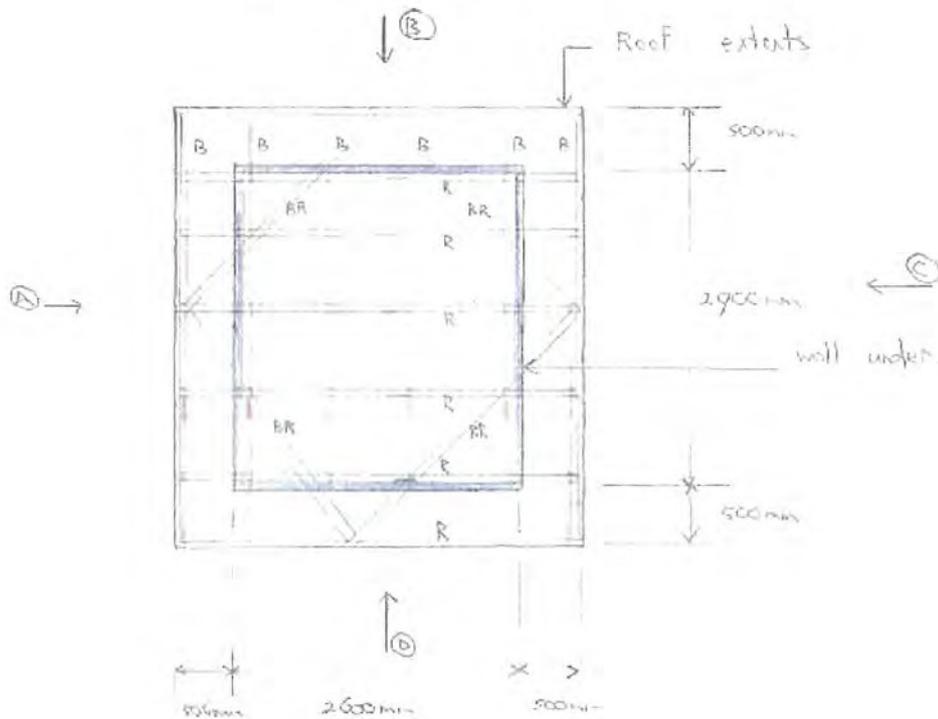
Appendix B – Winch House Plans and Elevations

Title Reference 18791025 and 18791031

 BLIGH TANNER <small>CREATING THE FUTURE</small> LEVEL 9 289 WICKHAM STREET, PO BOX 172 FORTITUDE VALLEY QLD 4008 AUSTRALIA T 07 2201 8265 F 07 2201 8533	PROJECT DENT ISLAND WINCH HOUSE	PROJECT NUMBER	DRAWING NUMBER
	EDM PLAN.	DATE 28/5/12	SCALE

APPENDIX B

WINCH HOUSE
Existing Framing

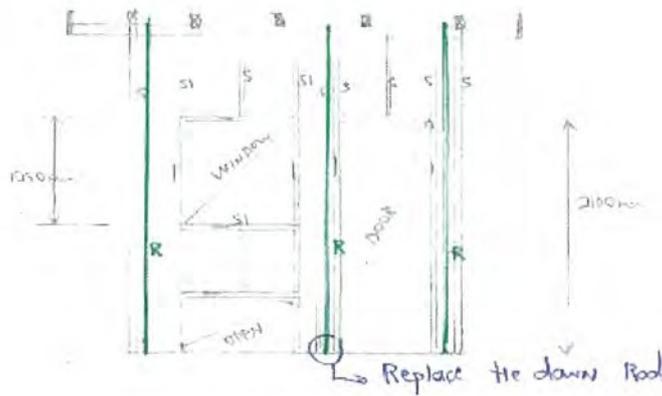


Roof Plan

- R - 100x50 hardwood Rafter @ 750 cts
- B - 75x35 Hardwood Battens @ 700 cts
- BR - BRACING 75x25

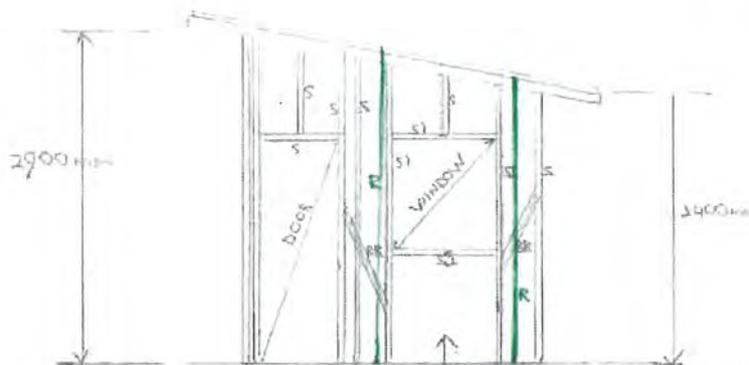
Title Reference 18791025 and 18791031

 BLIGH TANNER CONSULTING ENGINEERS LEVEL 2, 389 WICKHAM STREET, PO BOX 813 NORTH QUEENSLAND, AUSTRALIA T 07 325 8555 F 07 325 8596	PROJECT	DENT ISLAND WINCH HOUSE	
	TITLE	DESIGNED BY	SLK
	Elevations		DATE



Elevation A

- S - 70x100 mm stud
- SI - 70x170 mm stud
- R - 60x100 mm down Rod

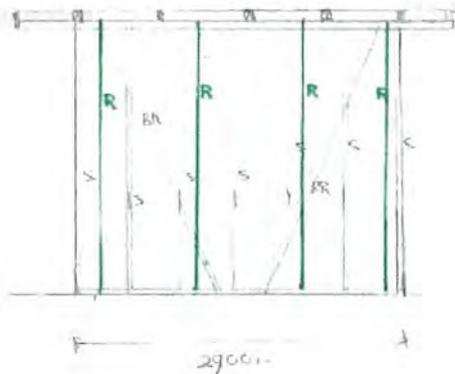


- Existing Plywood infill
- Replace with stud and wall cladding to match existing

Elevation B

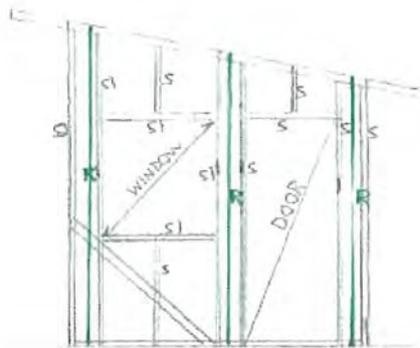
Title Reference 18791025 and 18791031

 BLIGH TANNER CONSULTING ARCHITECTS LEVEL 2, 266 WICKHAM STREET, PO BOX 810 PORT OF DENISON VALLEY QLD 4236 AUSTRALIA T 07 5511 8500 F 07 5511 8848	PROJECT	DENT ISLAND WINCH HOUSE	PROJECT NUMBER	SHEET NUMBER
	TITLE	Elevations -	MADE BY	SCALE
			DATE	28/5/12



Elevation C

- S - 70x50 HW stud
- S1 - 70x70 HW stud
- BR - 75x25 brace
- R - Ø12mm Rod



Elevation D

Title Reference 18791025 and 18791031

Bligh Tanner Consulting Engineers
Dent Island Winch House and Derrick Crane - Structural Inspection and Report
15/06/2012

Appendix C – Roberts International Cost Estimate for Repairs

Title Reference 18791025 and 18791031



05th June 2012/*Dent Island Estimate 050612*

Bligh Tanner Pty Ltd
Level 9, 269 Wickham Street
PO BOX 612
FORTITUDE VALLEY QLD 4006



**Roberts
International
Consultants Pty Ltd**

PO Box 2259
REDCLIFFE NORTH QLD 4020

PHONE 07 3880 3230
EMAIL info@robertsinternational.com.au

ABN 66 962 492 121

ATTENTION: Simon Kochanek

Dear Sir,

SUBJECT: CONSTRUCTION COST ASSESSMENT FOR REPAIR WORKS – DENT ISLAND WINCH HOUSE

In accordance with your instruction, we have performed a construction cost estimate of the repair works for Dent Island Winch House

BASE DOCUMENTS

The following base documents were provided to aid us in compiling the estimate

1. Dent Island Winch House and Gantry – Structural Report and Scope of Works
2. Bligh Tanner sketch drawings for repair numbers, 4, 8, 7 and 9
3. Bligh Tanner sketch drawings elevations A, B, C and D
4. Bligh Tanner sketch drawings Roof Plan
5. Quote from J and D Rigging 01st June 2012

In addition to these documents, we were given a disc with extensive photos of the site and surrounds

THE SITE

The Dent Island Winch House, is but one building which forms part of a series of structures known as the 'Dent Island Lighthouse Precinct'. The light house and its surrounding ancillary buildings are heritage listed. The complex sits on the south west tip of Dent Island. The purpose of the winch house was to hoist supplies and materials from the base of the cliff below delivered by marine craft. Access on the island to the light house is via a rough 4wd drive track. Currently all materials are delivered to the island by barge/ferry via the boat ramp at the newly developed golf course. It is envisaged this is how materials and labour will be delivered to the island during the period of construction works.

METHODOLOGY

After reviewing the scope of works we built our estimate up by compiling materials, labour and plant rates. We did this for each individual item sequentially numbered in the scope of works. We did however notice some items which were not included and deemed it prudent to include them at this early cost planning stage. They are as follows.

1. Sand back and repaint timber doors and frames
2. Sand back and repaint timber window frames
3. Sand back and repaint barge boards

Title Reference 18791025 and 18791031

Letter to Bligh Tanner
Dent Island Winch House
Dent Island 05th June 2012

Page 2

In our estimate we have made an allowance for accommodation. This amount is based on accommodation at Airlie Beach. It is however, a contingency sum only as we are yet to determine how overnight accommodation will be provided. Each contractor would have a differing methodology for accommodation and labour resourcing.

Having established the net trade subtotal, the following factors and percentages have been applied to derive the gross design and construction value:

Builders Preliminaries	15%
Unique Site Allowance	20%
Margin for Offsite Overheads and Profit	20%

It should be noted, that although we have priced the scope items individually, deleting one or more of the items, may affect other cost items.

UNIQUE SITE ALLOWANCE

Dent Island represents a unique construction challenge. First is the isolated location of the island and the fact that all materials and labour will need to be brought in by barge. This means that for some activities the tradesperson will be required to be there all day even though the task may only take a few hours. Moreover if a task were to take more than six hours for example, overnight accommodation would need to be provided as the travel time on the barge each day return is two hours. Secondly the site itself sits on the edge of a cliff creating a difficult and potentially dangerous work environment. Thirdly the site sits in an environmentally sensitive area. Therefore as a result of these factors in the estimate we have created a contingency of 20% to allow for the increased costs created by these factors. Of significant concern in the calculations, is the requirement to not contaminate the environment when grinding, sanding and removing paint finish and asbestos sheeting. We would expect that the existing paint at least in some layers, would be lead based. The contractor as part of his preliminaries would need to use a lead test kit.

CURRENT ESTIMATED REPAIR VALUATION – CONSTRUCTION ONLY

ATTACHMENT A contains our summary of construction cost estimate of repair of the winch house. Our estimate of the construction cost for the repair is One Hundred & Fifty Thousand, Six Hundred and Twenty-Nine Dollars (\$150,629) rounded.

This concludes our report. Should you require any further explanation in relation to this matter, please do not hesitate to contact the writer.

Yours Faithfully
ROBERTS INTERNATIONAL
CONSULTANTS PTY LTD



PERRY ROBERTS MAIB AAIQS
Senior Quantity Surveyor

Title Reference 18791025 and 18791031

ATTACHMENT A

Title Reference 18791025 and 18791031

DENT ISLAND WINCH HOUSE MAINTENANCE UPGRADE COST PLAN													05th JUNE 2012					
Item	Description	Qty	Unit	Material			Labour			Plant			Subcontract			Unit Total		
				Supply Rate	Waste %	Net Rate	Material Amount	Constant	Item Hours	Net Rate	Hire Rate	Net Amount	Net Rate	Net Amount	Net Rate	Net Amount	Net Rate	Net Amount
WINCH HOUSE																		
1	Repaint external exposed surfaces of the winch house building to maintain the protective coating system to the exposed timber services	1	Item		0.00	\$0.00	\$0.00	99.84	99.84	85.00	\$8,190.60	\$8,190.60	\$0.00	\$16,677.00	\$16,677.00	\$0.00	\$16,677.00	\$16,677.00
a	Scaffolding and make safe																	
b	Re-nail cladding where required due to exposure of existing fittings	1	Item	\$200.00	0.10	\$220.00	\$220.00	25.00	25.00	85.00	\$0.00	\$0.00	\$0.00	\$2,345.00	\$2,345.00	\$0.00	\$2,345.00	\$2,345.00
c	Replace localised timber framing (extent not known - allow nominal length)	5	m	\$18.00	0.10	\$19.80	\$99.00	0.50	2.50	85.00	\$0.00	\$0.00	\$0.00	\$62.30	\$62.30	\$0.00	\$62.30	\$62.30
	Sand Back Timber Surface and remove all dust and grease prior to application of paint system - External Cladding	32	m ²	\$2.50		\$2.50	\$90.00	0.44	14.08	85.00	\$1,196.60	\$1,196.60	\$16.00	\$57.10	\$57.10	\$512.00	\$1,827.20	\$1,827.20
d	Sand Back Timber Doors/Frames (Both sides) and remove all dust and grease prior to application of paint system	12	m ²	\$2.50		\$2.50	\$30.00	0.44	5.28	85.00	\$448.60	\$448.60	\$16.00	\$57.10	\$57.10	\$192.00	\$665.20	\$665.20
e	Sand Back Barge Board and remove all dust and grease prior to application of paint system	2.35	m ²	\$2.50		\$2.50	\$5.85	0.80	1.88	85.00	\$159.60	\$159.60	\$16.00	\$67.70	\$67.70	\$37.60	\$206.10	\$206.10
f	Prepare & Repaint Timber Window Frames	3	N0	\$18.65	0.10	\$20.52	\$61.55	2.00	6.00	85.00	\$510.00	\$510.00	\$0.00	\$190.52	\$190.52	\$0.00	\$571.55	\$571.55
g	Prepare and apply primer and two finish coats to external cladding	32	m ²	\$16.30	0.10	\$17.93	\$573.76	0.42	13.44	85.00	\$1,142.40	\$1,142.40	\$0.00	\$53.63	\$53.63	\$0.00	\$1,716.16	\$1,716.16
h	Repaint Timber Doors and Frames	12	m ²	\$38.00	0.10	\$41.80	\$501.60	4.00	48.00	85.00	\$4,080.00	\$4,080.00	\$0.00	\$381.60	\$381.60	\$0.00	\$4,581.60	\$4,581.60
i	Repaint Barge Board	2.35	m ²	\$16.30	0.10	\$17.93	\$42.14	0.38	0.89	85.00	\$75.91	\$75.91	\$0.00	\$50.23	\$50.23	\$0.00	\$118.04	\$118.04
							\$1,613.92		216.91		\$18,437.61	\$18,437.61	\$0.00	\$6,246.22	\$6,246.22	\$741.60	\$29,039.34	\$29,039.34
2	Repair & Replace Broken Window						\$0.00		0.00		\$0.00	\$0.00	\$1,500.00	\$1,500.00	\$1,500.00	\$1,500.00	\$1,500.00	\$1,500.00
a	Remove and replace window pane	1	Item			\$0.00	\$0.00				\$0.00	\$0.00	\$1,500.00	\$1,500.00	\$1,500.00	\$1,500.00	\$1,500.00	\$1,500.00

File: dent island estimate amended (2).xls
Print Date: 6/06/2012

SCHEDULE

Title Reference 18791025 and 18791031

DENT ISLAND WINCH HOUSE MAINTENANCE UPGRADE COST PLAN														05th JUNE 2012			
Item	Description	Qty	Unit	Supply Rate	Material Waste %	Material Net Rate	Material Amount	Constant	Labour Item Hours	Labour Net Rate	Labour Amount	Plant Hire Rate	Plant Net Amount	Subcontract Net Rate	Subcontract Amount	Net Rate	Net Amount
3	<u>Replace Plywood Panel.</u>						\$0.00		0.00		\$0.00				\$1,500.00		\$1,500.00
3	Replace sea-ward facing plywood infill panel with weatherboards and framing to match existing - includes removal of plywood and frame	1	m2	\$350.00		\$350.00	\$350.00	3.00	85.00		\$680.00		\$0.00		\$0.00	\$1,030.00	\$1,030.00
4	<u>Repair corroded baseplate and repainting handrail.</u>						\$350.00		8.00		\$580.00				\$0.00		\$1,030.00
3	Repair corroded baseplate of two external handrail posts - includes repainting handrail	1	Item	\$105.00	0.10	\$115.50	\$115.50	6.00	85.00		\$510.00	\$150.00	\$150.00		\$0.00	\$775.50	\$775.50
5	<u>Tie Down Bolts.</u>						\$115.50		6.00		\$510.00				\$0.00		\$775.50
3	Repair and Replace M12 Tie Down Bolts	6	No	\$110.00	0.10	\$121.00	\$726.00	2.00	85.00		\$1,020.00	\$25.00	\$150.00		\$0.00	\$316.00	\$1,896.00
6	<u>Remove and replace roof sheeting.</u>						\$726.00		12.00		\$1,020.00				\$0.00		\$1,896.00
3	Asbestos inspection & clean up	1	Item												\$5,000.00		\$5,000.00

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Print Date: 6/06/2012

ROBERTS INTERNATIONAL
CONSULTANTS PTY LTD
Ph 98903399
Email: simon@robertsinternational.com.au

Title Reference 18791025 and 18791031

Item Description		Qty Unit		Material				Labour			Plant		Subcontract		05th JUNE 2012 Unit Total		
				Supply Rate	Waste %	Net Rate	Material Amount	Constant	Item Hours	Net Rate	Net Amount	Hire Rate	Net Amount	Net Rate	Net Amount	Net Rate	Net Amount
b	Repair Roofing (option 1)	7.55	m2	\$135.00	0.10	\$148.50	\$1,121.18	1.25	9.44	85.00	\$802.19	\$45.00	\$339.75	\$291.39	\$2,200.00	\$591.14	\$4,463.11
c	Remove and replace roof sheeting (Option 2)	7.55	m2	\$135.00	0.10	\$148.50	\$1,121.18	1.25	9.44	85.00	\$802.19	\$45.00	\$339.75	\$291.39	\$2,200.00	\$591.14	\$4,463.11
7	Concrete repairs and new strut to cantilevered viewing platform.						\$1,121.18		9.44		\$802.19		\$339.75		\$7,200.00		\$9,463.11
a	Concrete repairs with sikatop 110 to cantilevered viewing platform	0.4	m2	\$1,000.00	0.10	\$1,100.00	\$440.00	6.00	2.40	85.00	\$204.00	\$450.00	\$180.00		\$0.00	\$2,060.00	\$824.00
b	Steel nominal 65 x 3.25 CHS strut S5316 with end plates and M12 chemsets	2	No	\$365.00	0.10	\$401.50	\$803.00	4.00	8.00	85.00	\$680.00	\$75.00	\$150.00		\$0.00	\$916.50	\$1,633.00
	WINCH AND GANTRY SYSTEM						\$1,245.00		10.40		\$884.00		\$330.00		\$0.00		\$2,457.00
8	Install Structural Base						\$625.00	6.00	12.00	85.00	\$1,020.00	\$155.00	\$310.00		\$0.00	\$1,077.50	\$2,155.00
9	Reinstatement of climbing Rungs to main winch post						\$825.00		12.00		\$1,020.00		\$310.00		\$0.00		\$2,155.00

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Print Date: 6/06/2012

Title Reference 18791025 and 18791031

DENT ISLAND WINCH HOUSE MAINTENANCE UPGRADE COST PLAN															05th JUNE 2012		
Item	Description	Qty	Unit	Material			Labour			Plant			Subcontract		Unit Total		
				Supply Rate	Waste %	Net Rate	Material Amount	Constant	Item Hours	Net Rate	Net Amount	Hire Rate	Net Amount	Net Rate	Net Amount	Net Rate	Net Amount
	Reinstatement of climbing Rungs to main winch post	1	Nb	\$390.00	0.10	\$429.00	\$429.00	16.00	16.00	85.00	\$1,360.00	\$250.00	\$250.00	\$0.00	\$2,039.00	\$2,039.00	
10	<u>Reinstatement of Protective Coating System to Winch</u>					\$429.00	\$429.00		16.00		\$1,360.00	\$250.00	\$250.00	\$0.00	\$2,039.00		
a	Reinstatement of Protective Coating System to winch	1	Nb	\$1,000.00	0.10	\$1,100.00	\$1,100.00	147.00	147.00	85.00	\$12,495.00	\$4,000.00	\$4,000.00	\$0.00	\$17,595.00		
	External Remediation Requirements					\$1,100.00	\$1,100.00		147.00		\$12,495.00	\$4,000.00	\$4,000.00	\$0.00	\$17,595.00		
11	<u>Base of access ladder</u>																
a	Repair Base of access ladder	1	Nb	\$150.00	0.10	\$165.00	\$165.00	8.23	8.23	85.00	\$699.55	\$0.00	\$0.00	\$0.00	\$864.55		
	Mass pour concrete under Landing Platform Slab and Local Repairs					\$165.00	\$165.00		8.23		\$699.55	\$0.00	\$0.00	\$0.00	\$864.55		
12	<u>Mass pour concrete under Landing Platform Slab and Local Repairs</u>																
a	Mass pour concrete under Landing Platform Slab and Local Repairs	3	m3	\$650.00	0.10	\$715.00	\$2,145.00	15.00	60.00	85.00	\$5,100.00	\$0.00	\$0.00	\$0.00	\$7,245.00		
	Isolate all handrail bolts					\$2,145.00	\$2,145.00		60.00		\$5,100.00	\$0.00	\$0.00	\$0.00	\$7,245.00		

Title Reference 18791025 and 18791031

DENT ISLAND WINCH HOUSE MAINTENANCE UPGRADE COST PLAN																												
Item	Description	Qty	Unit	Material			Labour			Plant		Subcontract		Unit Total														
				Supply Rate	Waste %	Net Rate	Material Amount	Constant	Item Hours	Net Rate	Net Amount	Hire Rate	Net Amount	Net Rate	Net Amount													
1	Isolate all handrail bolts	20	Nd	\$25.00	0.10	\$27.50	\$550.00	0.50	10.00	85.00	\$550.00	\$15.00	\$300.00	\$0.00	\$385.00	\$1,700.00												
14	Transport (Labour to and from site) Total hours estimated is 475hrs at 6 effective work hours per day Labour cost of travel included in the above cost centre labour allowances	80	RT Note		0.10	\$0.00	\$0.00		0.00	85.00	\$0.00		\$0.00	\$4,800.00	\$60.00	\$4,800.00												
15	Accommodation - Provisional Sum Allow 21 days at \$265 per night on average	21	Days		0.10	\$0.00	\$0.00		0.00	85.00	\$0.00		\$0.00	\$5,565.00	\$265.00	\$5,565.00												
16	Materials and Transport Allowance - Extra Over	1	Item				\$0.00		0.00		\$0.00		\$0.00	\$5,565.00	\$5,565.00													
17	Final Engineering Inspection and Sign Off	1	Item				\$0.00		0.00		\$0.00		\$0.00	\$0.00	\$3,400.00	\$3,400.00												
NET SUBTOTAL																							\$30,959.50					
Preliminaries																												\$13,643.93

05th JUNE 2012

File: dent island estimate amended (2).xls
Print Date: 6/06/2012

Title Reference 18791025 and 18791031

**DENT ISLAND WINCH HOUSE
 MAINTENANCE UPGRADE COST PLAN**

05th JUNE 2012

Item Description	Qty	Unit	Material			Labour			Plant			Subcontract			Unit Total			
			Supply Rate	Waste %	Net Rate	Material Amount	Constant	Item Hours	Net Rate	Net Amount	Hire Rate	Net Amount	Net Rate	Net Amount	Net Rate	Net Amount	Net Rate	Net Amount
Unique Site Allowance																		\$20,920.69
Contractors Margin																		\$25,104.82
TOTAL																		\$150,628.94

File: dentisland estimate amended (2).xls
 Print Date: 6/06/2012

Title Reference 18791025 and 18791031



QUOTATION

J&D Rigging Pty Ltd
13B Reward court, Bohle QLD 4818
Ph: (07) 4774 7899
Fax: (07) 4774 7811

Date: 4/06/2012
Our Ref #: 549_JDR
Your Ref #:
Customer ID:

Quotation To: Simon Kochanek

Price for the repairs to the Dent Island winch shed and Derrick Crane as per your detail

Detail 4 Repair and paint corner post	\$510:00
Detail 5 Replace 6 only 12mil tie down rods Blast and paint 6 only 12 mil tie down	\$1800:00
Detail 7 Fab and Install Stainless Strut	\$550:00
Detail 8 Repair and paint Footing on 2 only 160 Dia Struts	\$1100:00
Detail 9 Remove and replace 13 only corroded Ladder Rungs	\$3100:00
Detail 10 Blast and Paint Derrick Crane 3 coat system	\$ 5200:00
Detail 12 Repairs to concrete landing platform	\$4100:00
Scaffold and Encapsulate Winch Shed and Derrick Crane	\$15:800:00
Mobe all equipment and materials to site and down to work site And demobe on completion	\$16:000:00
Total =	\$48:160:00

The intension is to lift the materials from the Golf course to the work area by helicopter. This includes concrete for landing repairs. Concrete accom and barging to be supplied. The repairs or Painting of the Winch House or the Asbestos sheeting is not included in this price. The scaffold has been calculated to remain in place for 3 weeks. This is to allow the other trades time to complete works.
Should you have any queries please do not hesitate contacting me.

Kind Regards,

John Hasseli

Managing Director

J&D Rigging Pty. Ltd

Title Reference 18791025 and 18791031



QUOTATION

Tel: (07) 4774 7899
Fax: (07) 4774 7811
Email: john@jdrigging.com
Web: www.jdrigging.com

Commercial & Trading Terms:

All pricing is excluding GST
Price validity 30 Days Only
Payment terms as per BCIPA
Overdue payment attracts 10% interest per annum

Title Reference 18791025 and 18791031

Bligh Tanner Consulting Engineers
Dent Island Winch House and Derrick Crane - Structural Inspection and Report
15/06/2012

Appendix D – Photo Log

Title Reference 18791025 and 18791031

Bligh Tammer Consulting Engineers
Dent Island Winch House & Winch Photograph Log
June 2012



Photograph 1



Photograph 2



Photograph 3



Photograph 4

Title Reference 18791025 and 18791031

Bligh Tanner Consulting Engineers
Dent Island Winch House & Winch Photograph Log
June 2012



Photograph 5



Photograph 6



Photograph 7



Photograph 8

Title Reference 18791025 and 18791031

Bligh Tanner Consulting Engineers
Dent Island Winch House & Winch Photograph Log
June 2012



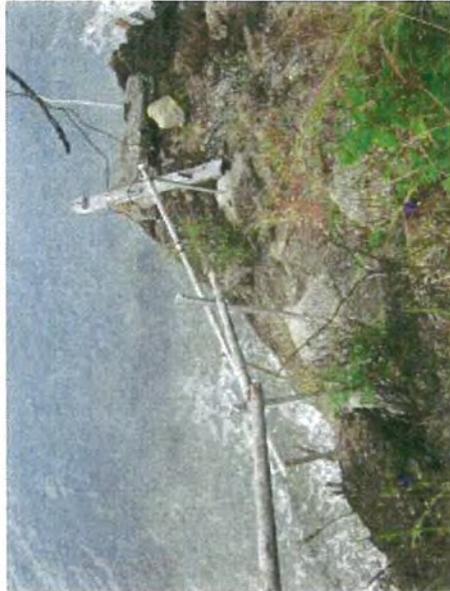
Photograph 8



Photograph 11



Photograph 10



Photograph 12

Title Reference 18791025 and 18791031



Photograph 14



Photograph 16



Photograph 13



Photograph 15

Blight, Tanner Consulting Engineers
Dent, Island Winch House & Winch Photograph Log
June 2012

Title Reference 18791025 and 18791031



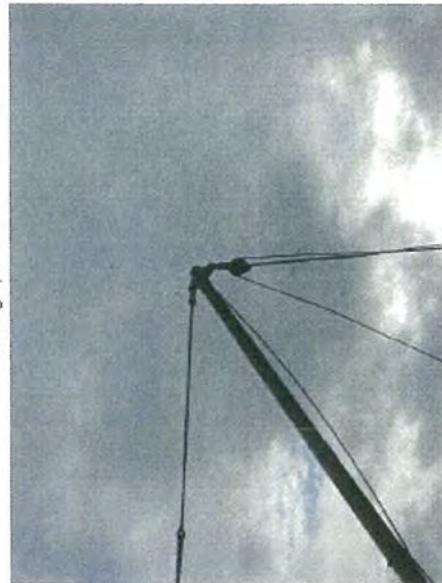
Photograph 18



Photograph 20



Photograph 17



Photograph 19

Bligh Tanner Consulting Engineers
Dent Island Wind House & Winch Photograph Log
June 2012

Title Reference 18791025 and 18791031

Bligh Tanner Consulting Engineers
Dent Island Winch House & Winch Photograph Log
June 2012



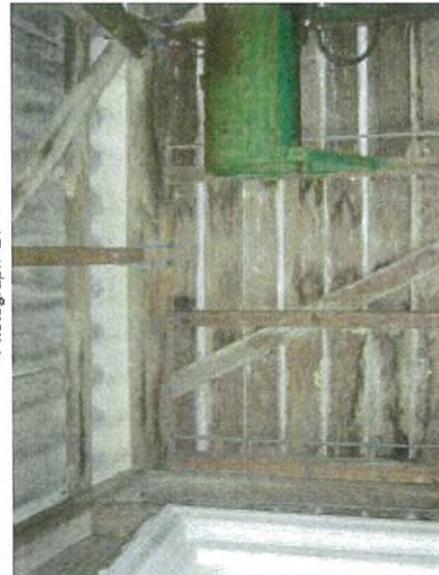
Photograph 22



Photograph 24



Photograph 21



Photograph 23

Title Reference 18791025 and 18791031

Bligh Tanner Consulting Engineers
Dent Island Winch House & Winch Photograph Log
June 2012



Photograph 25



Photograph 28



Photograph 27



Photograph 26

Title Reference 18791025 and 18791031



Photograph 30



Photograph 32



Photograph 29



Photograph 31

Bligh Tanner Consulting Engineers
Dent Island Winch House & Winch Photograph Log
June 2012

Title Reference 18791025 and 18791031



Photograph 34



Photograph 36



Photograph 33



Photograph 35

Bligh Tanner Consulting Engineers
Dent Island Winch House & Winch Photograph Log
June 2012

Title Reference 18791025 and 18791031

Blight Tanner Consulting Engineers
Dent Island Winch House & Winch Photograph Log
June 2012



Photograph 37



Photograph 38



Photograph 39



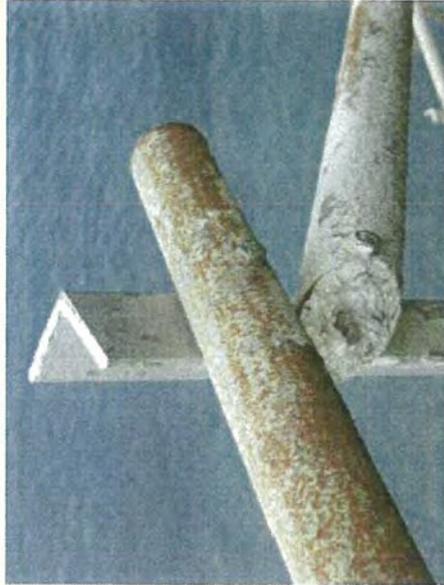
Photograph 40

Title Reference 18791025 and 18791031

Bligh Tanner Consulting Engineers
Dent Island Winch House & Winch Photograph Log
June 2012



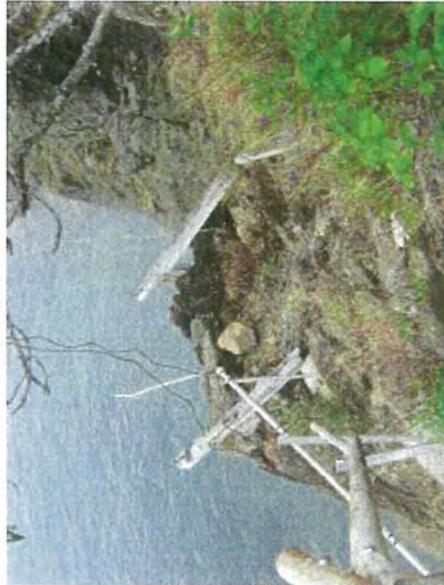
Photograph 41



Photograph 42



Photograph 43



Photograph 44

Title Reference 18791025 and 18791031

Bligh Tammer Consulting Engineers
Dent Island Winch House & Winch Photograph Log
June 2012



Photograph 45



Photograph 46



Photograph 47

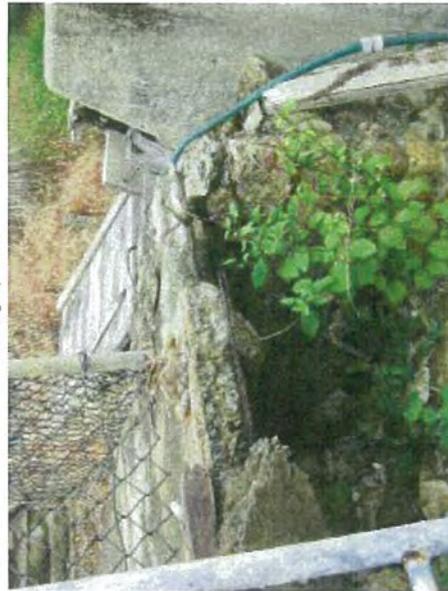


Photograph 48

Title Reference 18791025 and 18791031



Photograph 50



Photograph 52



Photograph 48



Photograph 51

Title Reference 18791025 and 18791031

Bligh Tanner Consulting Engineers
Dent Island Winch House & Winch Photograph Log
June 2012



Photograph 53



Photograph 54



Photograph 55



Photograph 56

Title Reference 18791025 and 18791031



Photograph 58



Photograph 60



Photograph 57



Photograph 59

Bligh Tanner Consulting Engineers
Dent Island Winch House & Winch Photograph Log
June 2012

Title Reference 18791025 and 18791031



Photograph 82



Photograph 84



Photograph 61



Photograph 63

Title Reference 18791025 and 18791031

Bligh Tamer Consulting Engineers
Dent Island Winch House & Winch Photograph Log
June 2012



Photograph 66



Photograph 67



Photograph 68



Photograph 69

Title Reference 18791025 and 18791031



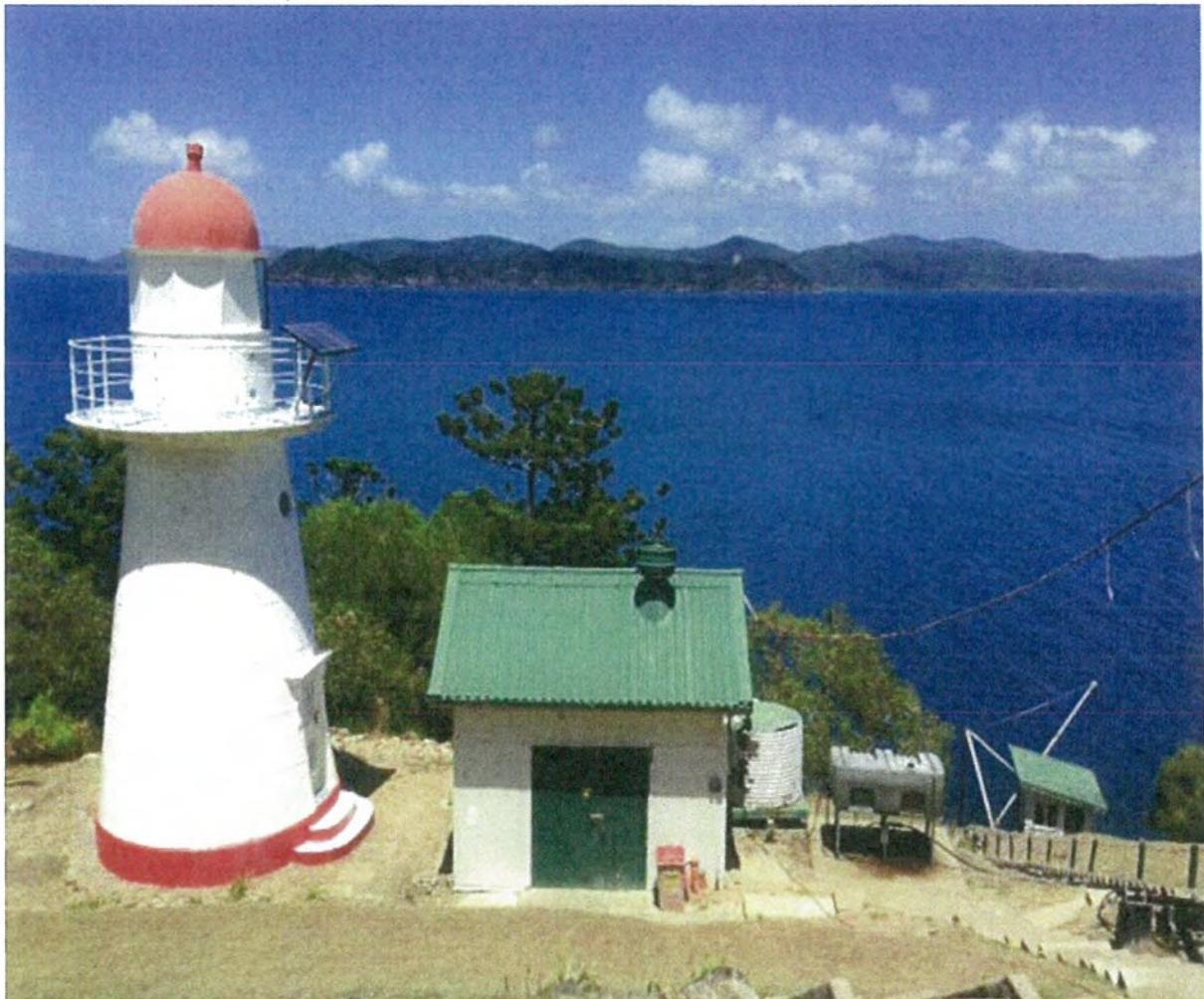
Photograph 69

Blyth Tanner Consulting Engineers
Deer Island Winch House & Winch Photograph Log
June 2012

Title Reference 18791025 and 18791031

FIFTH SCHEDULE (SUBCLAUSE 21.1)
Dent Island Lighthouse Building Works Proposal

Title Reference 18791025 and 18791031



Dent Island

Lighthouse buildings work

Friday 2nd
November 2012



HAMILTON ISLAND
GREAT BARRIER REEF AUSTRALIA

Title Reference 18791025 and 18791031

Generator Shed

- Erect scaffold to make safe

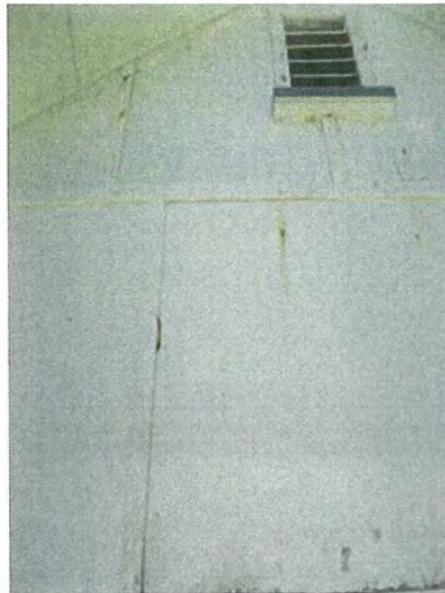


HAMILTON ISLAND
GREAT BARRIER REEF AUSTRALIA

Title Reference 18791025 and 18791031

Generator Shed

- Re-nail cladding where required due to rusted existing nails

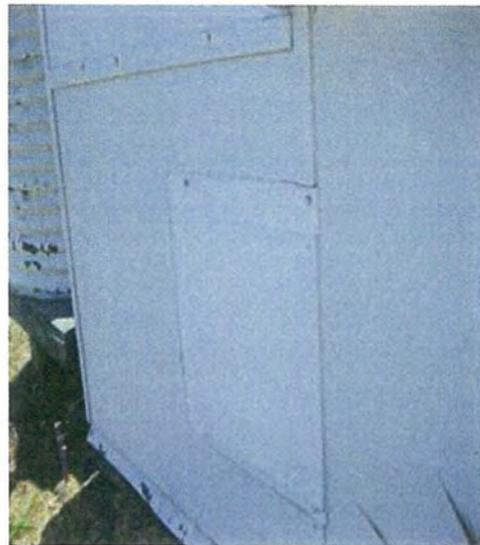
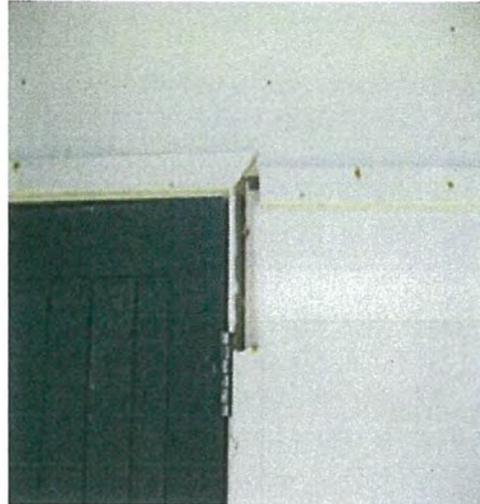


HAMILTON ISLAND
GREAT BARRIER REEF AUSTRALIA

Title Reference 18791025 and 18791031

Generator Shed

- Replace external patched sheeting, and moulds

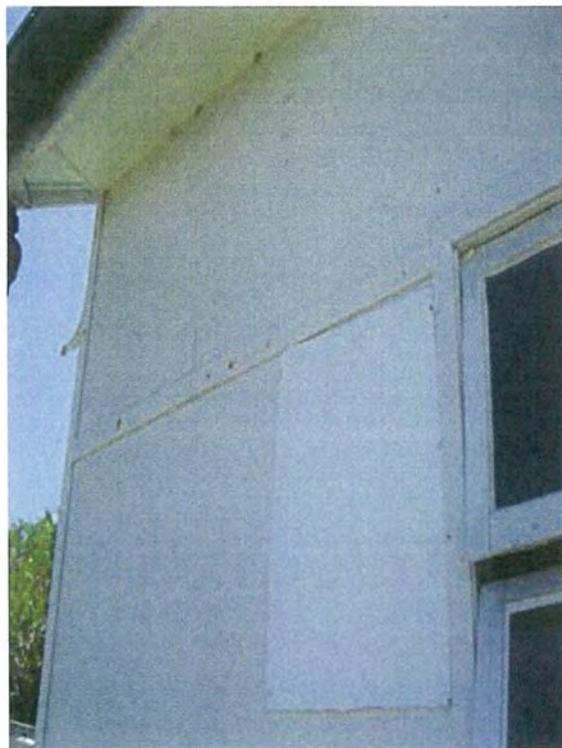
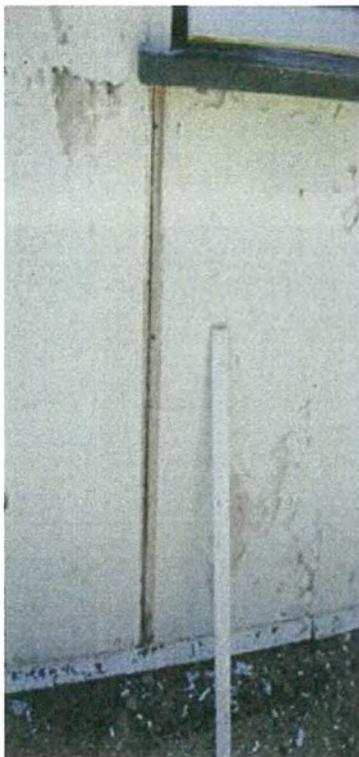


HAMILTON ISLAND
GREAT BARRIER REEF AUSTRALIA

Title Reference 18791025 and 18791031

Generator Shed

- Replace external patched sheeting, and moulds

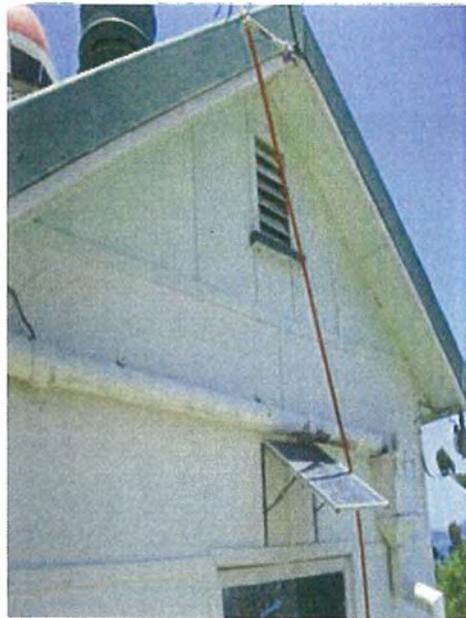
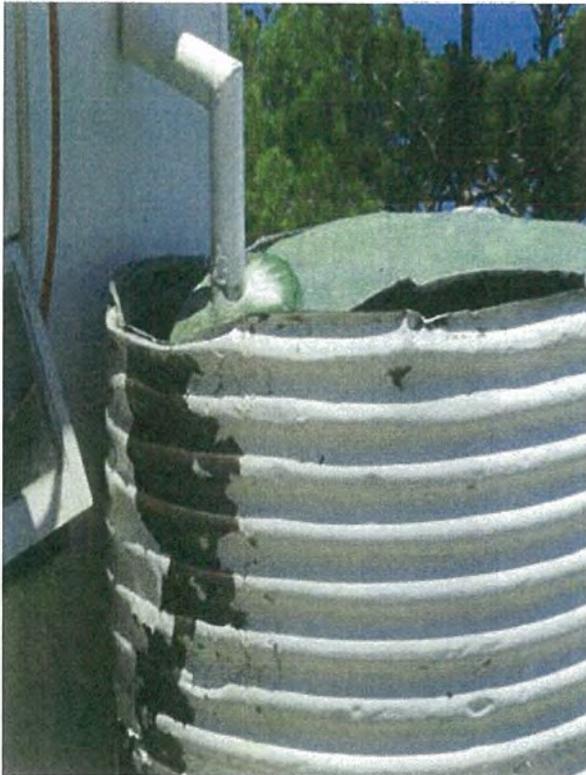


HAMILTON ISLAND
GREAT BARRIER REEF AUSTRALIA

Title Reference 18791025 and 18791031

Generator Shed

- Panel beat water tank to sit neat and re-paint external



HAMILTON ISLAND
GREAT BARRIER REEF AUSTRALIA

Title Reference 18791025 and 18791031

Generator Shed

- Fix up door hardware
- Fix up/replace door timbers



HAMILTON ISLAND
GREAT BARRIER REEF AUSTRALIA

Title Reference 18791025 and 18791031

Generator Shed

- Sand back external and re-paint as per Winch House

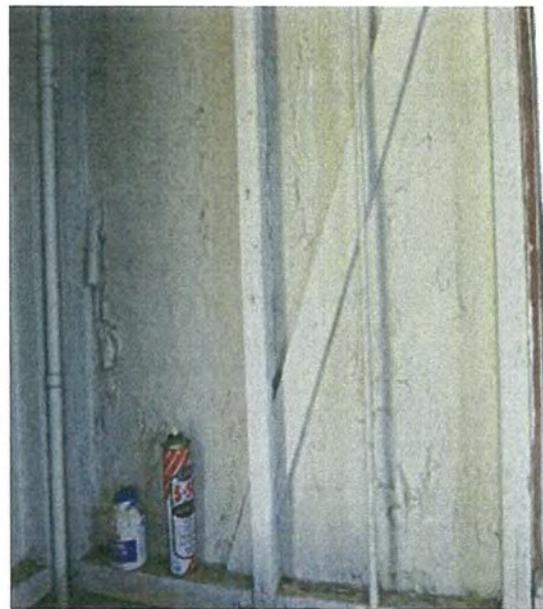


HAMILTON ISLAND
GREAT BARRIER REEF AUSTRALIA

Title Reference 18791025 and 18791031

Generator Shed

- Sand back internal and re-paint

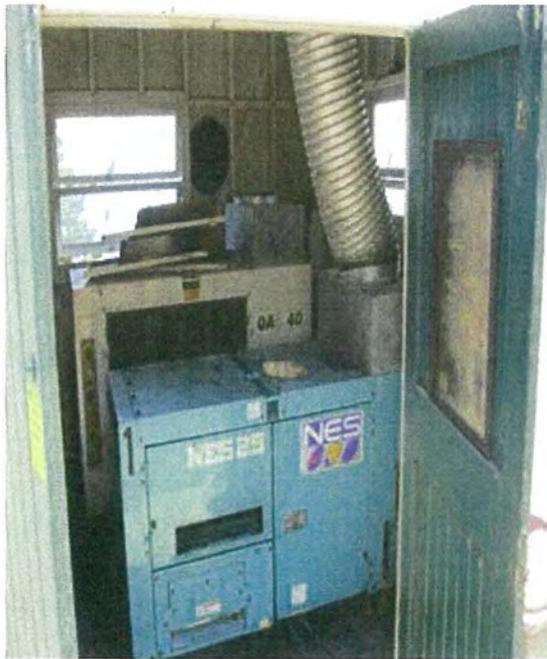


HAMILTON ISLAND
GREAT BARRIER REEF AUSTRALIA

Title Reference 18791025 and 18791031

Generator Shed

- Removal of old generators



HAMILTON ISLAND
GREAT BARRIER REEF AUSTRALIA

Title Reference 18791025 and 18791031

Water Tank



- Scaffold to make safe



HAMILTON ISLAND
GREAT BARRIER REEF AUSTRALIA

Title Reference 18791025 and 18791031

Water Tank

- Replace timber deck

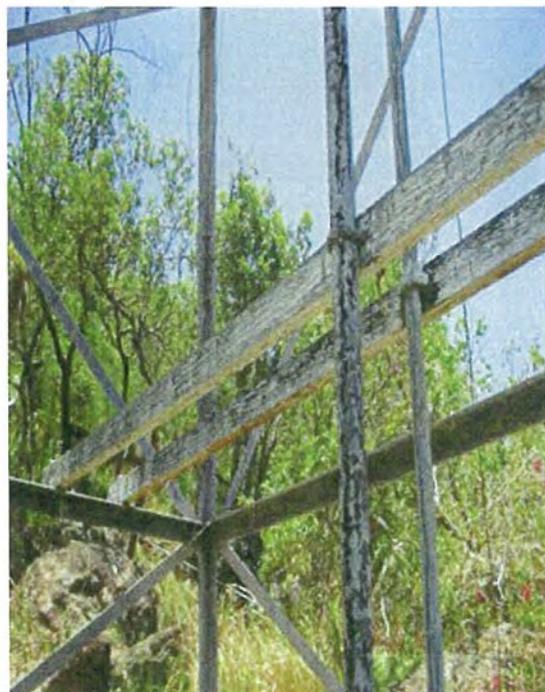
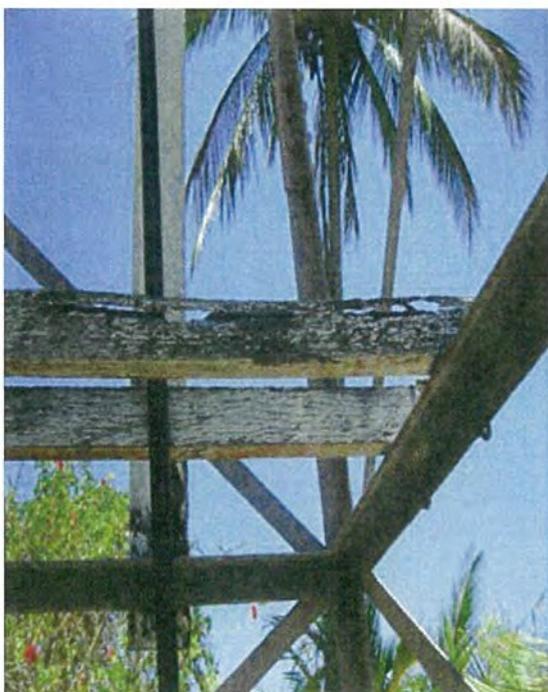


HAMILTON ISLAND
GREAT BARRIER REEF AUSTRALIA

Title Reference 18791025 and 18791031

Water Tank

- Replace timber pipe supports

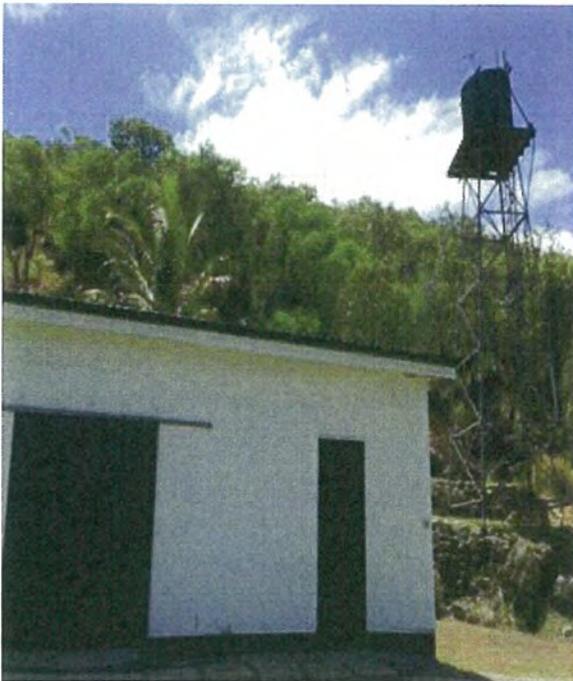


HAMILTON ISLAND
GREAT BARRIER REEF AUSTRALIA

Title Reference 18791025 and 18791031

Water Tank

- Remove and re-install tank



HAMILTON ISLAND
GREAT BARRIER REEF AUSTRALIA

Title Reference 18791025 and 18791031

Water Tank

- Remove and re-place rusted bolts

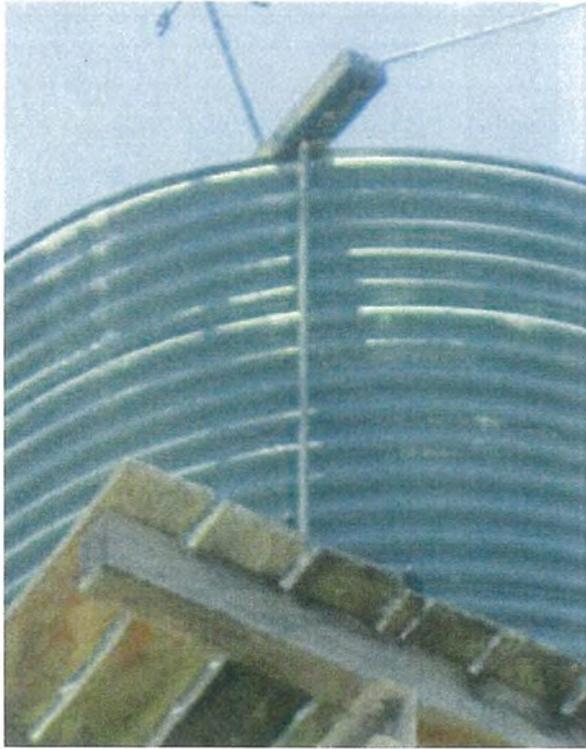


HAMILTON ISLAND
GREAT BARRIER REEF AUSTRALIA

Title Reference 18791025 and 18791031

Water Tank

- Replace tank hold down clamp
- Re-paint tank



HAMILTON ISLAND
GREAT BARRIER REEF AUSTRALIA

Title Reference 18791025 and 18791031

Workshop Shed

- Patch any areas prior to painting
- Paint any internal raw sheeting

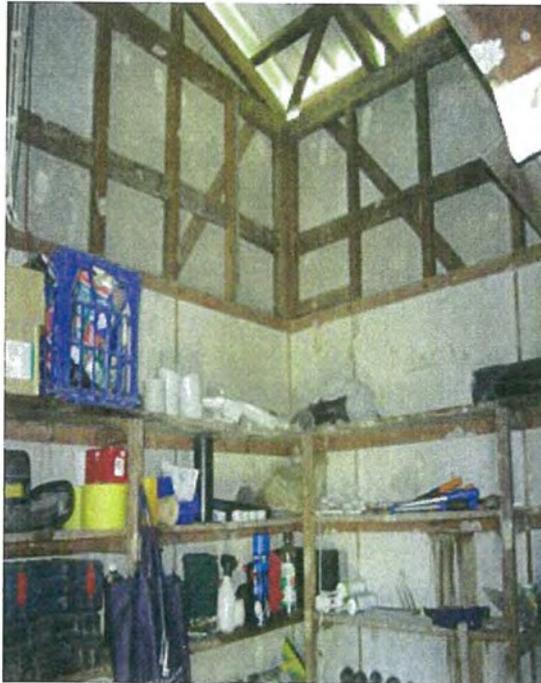


HAMILTON ISLAND
GREAT BARRIER REEF AUSTRALIA

Title Reference 18791025 and 18791031

Workshop Shed

- Install new electrical switchboard, wiring, lights and GPO's



HAMILTON ISLAND
GREAT BARRIER REEF AUSTRALIA

Title Reference 18791025 and 18791031

Galvanised handrails to paths

- Option 1 Double rail

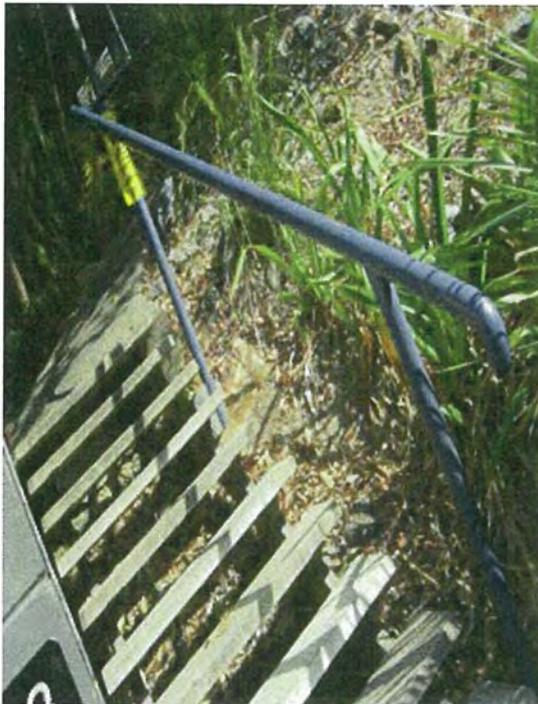


HAMILTON ISLAND
GREAT BARRIER REEF AUSTRALIA

Title Reference 18791025 and 18791031

Galvanised handrails to paths

- Option 2 Single rail



HAMILTON ISLAND
GREAT BARRIER REEF AUSTRALIA

Title Reference 18791025 and 18791031

Galvanised handrails to paths

Locations of rails

- Carpark to House 1



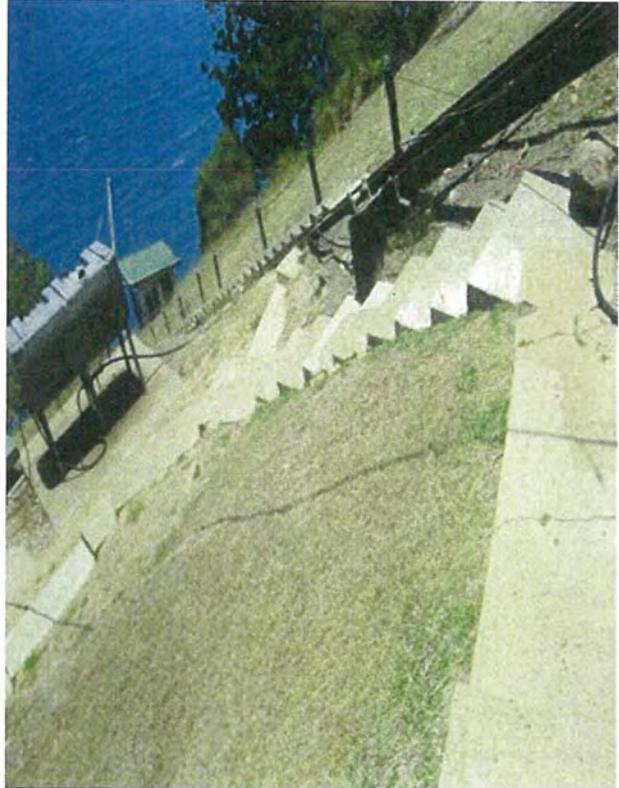
HAMILTON ISLAND
GREAT BARRIER REEF AUSTRALIA

Title Reference 18791025 and 18791031

Galvanised handrails to paths

Locations of rails

- House 1 to Generator Shed



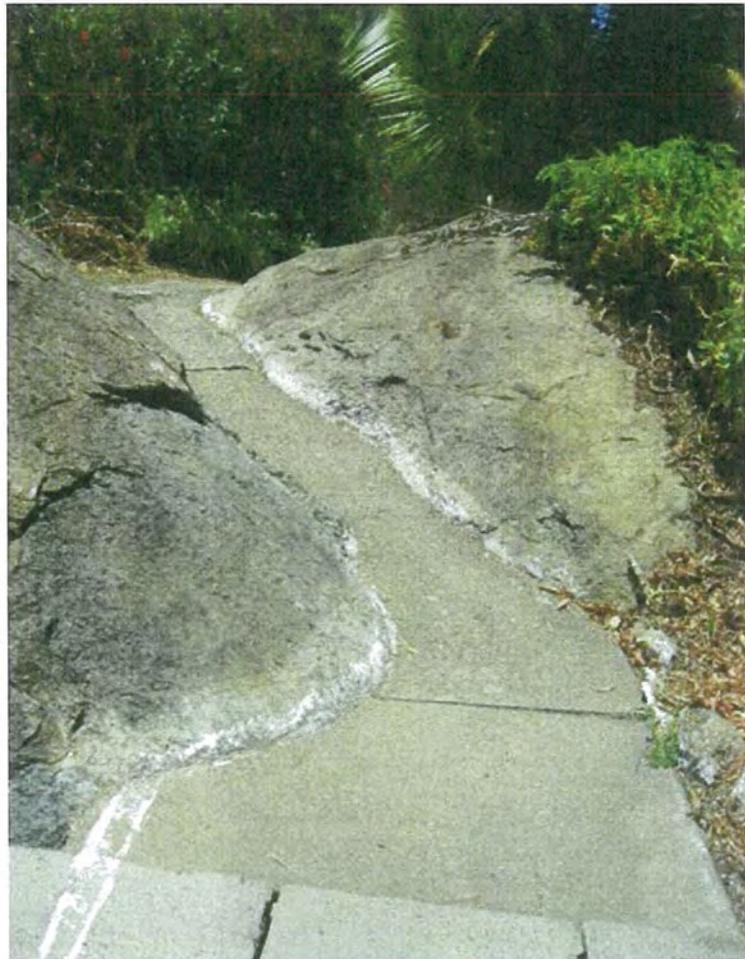
HAMILTON ISLAND
GREAT BARRIER REEF AUSTRALIA

Title Reference 18791025 and 18791031

Galvanised handrails to paths

Locations of rails

- Path to House 2



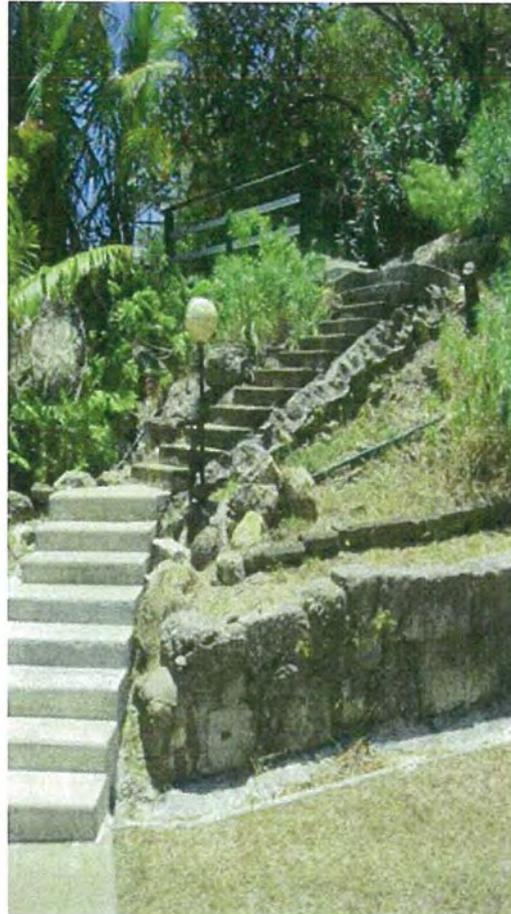
HAMILTON ISLAND
GREAT BARRIER REEF AUSTRALIA

Title Reference 18791025 and 18791031

Galvanised handrails to paths

Locations of rails

- Steps down to House 2



HAMILTON ISLAND
GREAT BARRIER REEF AUSTRALIA

Title Reference 18791025 and 18791031

Dent Island Lighthouse Buildings

Generator Shed						
	m	Hire	Labour	Materials	Rate/m	Total
Scaffold to make safe		2900	3200			\$ 6,100.00
Re-nail cladding where required due to rusted existing			1700	90		\$ 1,790.00
Re-place external patched sheeting, and moulds			1280	1390		\$ 2,670.00
Panel beat water tank to sit neat and re-paint external			1920	190		\$ 2,110.00
Fix up door hardware			640	290		\$ 930.00
Fix up/replace door timbers			1920	370		\$ 2,290.00
Sand back external and re-paint as per Winch House			7680	490		\$ 8,170.00
Sand back internal and re-paint			6400	390		\$ 6,790.00
Removal of old generators			7040			\$ 7,040.00
						\$ 37,890.00
Water Tank						
Scaffold to make safe		7200	7900			\$ 15,100.00
Replace timber deck			3840	1600		\$ 5,440.00
Replace timber pipe supports			640	190		\$ 830.00
Remove and re-install tank			1280	180		\$ 1,460.00
Helicopter		5100				\$ 5,100.00
Paint timber's with oil			1690	190		\$ 1,880.00
Remove and replace rusted bolts			1280	170		\$ 1,450.00
Replace tank hold down clamp			640	210		\$ 850.00
Paint tank			1280	290		\$ 1,570.00
						\$ 33,680.00
Workshop Shed						
Paint any internal raw sheeting			5120	390		\$ 5,510.00
Patch any areas prior to painting			1280	490		\$ 1,770.00
Remove materials for painting and re-install			2560			\$ 2,560.00
New electrical work, switchboard, lights and GPO's			6400	1900		\$ 8,300.00
						\$ 18,140.00
Galvanised Handrail to Paths						
Option 1 Double Rail	55				1290	\$ 70,950.00
Option 2 Single Tube	55				592	\$ 32,560.00
Freight						\$ 7,000.00
Project Management 5% Option 1			\$ 167,660.00		0.05	\$ 8,383.00
Project Management 5% Option 2			\$ 129,270.00		0.05	\$ 6,463.50
Total Option 1 Handrails						\$ 176,043.00
Total Option 2 Handrails						\$ 135,733.50

Title Reference 18791025 and 18791031

SIXTH SCHEDULE (CLAUSE 23)

A. Valuer to determine Rent if not agreed

A.1 Determination of Rent

A.1.1 If the parties fail to agree the Rent for the first Rent Period of the First Further Term in accordance with paragraph 23.1.d, the Rent will be determined by a Valuer appointed in accordance with subclause **A.2** of this Schedule.

A.2 Appointment of Valuer

A.2.1 If the parties fail to agree on a Valuer within 14 days after the expiration of a period of 3 months following the commencement of the First Further Term either party may request the president of the Institute to appoint a Valuer.

B. Valuer's determination of Rent

B.1 Role of Valuer

B.1.1 The Valuer must:

- a. determine the open market rental value of the Demised Premises at the Commencement Date of the First Further Term (the Effective Date);
- b. act as an expert and not as an arbitrator; and
- c. give a written determination with reasons within 28 days after the Valuer's appointment.

B.2 Submissions

B.2.1 In making a determination the Valuer must consider the written and oral submissions of a party received within 14 days after the Valuer's appointment.

B.3 Fees

B.3.1 The fees and expenses of the Valuer must be paid by the Lessor and the Lessee equally.

B.4 Determination final

B.4.1 The Valuer's determination is final and binding.

B.5 Valuation assumptions

B.5.1 The Valuer must determine the open market rental value of the Demised Premises at the Effective Date assuming that:

- a. the Lessor is a willing but not anxious landlord and the Lessee is a willing but not anxious tenant;
- b. the Demised Premises are available with vacant possession,
and taking into account:
 - c. the open market rental value (other than rental values which have been escalated to a predetermined amount or in accordance with movements in the consumer price index or any other index) at the Effective Date of comparable premises, in the town or city within which the Demised Premises is situated whether that value is determined in respect of new lettings with vacant possession or in respect of occupied premises;
- d. the Permitted Use of the Demised Premises;

Title Reference 18791025 and 18791031

- e. the period which will elapse between the Effective Date and the first review date in the First Further Term or, if there is no review date, the end of the First Further Term;
- f. the increased value of the Demised Premises occasioned by the Lessor repainting or recarpeting the Demised Premises pursuant to this Lease (provided that nothing in this clause will require the Lessee to reimburse the Lessor for the cost of that repainting or recarpeting);
- g. the restriction on user, assignment or sub-letting;
- h. the terms and conditions generally of the lease for the First Further Term;
but not taking into account:
- i. the adverse effect on the condition or rental value of the Demised Premises of any breach of this Lease by the Lessee;
- j. any fittings and other improvements or alterations installed in or made to the Demised Premises by or for the Lessee, its sub-lessees or their respective predecessors in title during the Term, the First Further Term or any period of prior occupation to the intent that the Demised Premises for the purpose of determining the open market rental value will be regarded as cleared space but otherwise serviced and habitable;
- k. any increase in value in the Demised Premises as a result of any structural alterations or other voluntary improvements made to the Demised Premises or the Buildings (including installation of equipment) by the Lessor at its discretion for any reason at any time (except any carried out at the prior request of the Lessee to which the Lessee has not contributed either by way of service charge or otherwise);
- l. any special interest of the Lessee, its sub-lessees or their respective predecessors in title including the fact that the Lessee is a sitting tenant;
- m. goodwill occasioned by the Lessee, its sub-lessees or their respective predecessors in title; or
- n. any right of the Lessee to use any part of the Buildings or the land described in Item 4 of the Form 7 other than the Demised Premises.

C. If Valuer fails to make a determination

C.1 Replacement of Valuer

C.1.1 If the Valuer fails to make a determination under clause B of this Schedule within 28 days after the date of the Valuer's appointment, a party may request the president of the Institute to appoint another Valuer to make a determination in accordance with that clause.

C.1.2 A Valuer appointed under this clause C will be deemed to have been appointed under clause A of this Schedule and must make the determination in accordance with clause B of this Schedule.

CURRENT STATE TENURE SEARCH

DEPT OF NATURAL RESOURCES AND MINES, QUEENSLAND

Request No: 19786811

Search Date: 13/11/2014 12:10

Title Reference: 40052931

Date Created: 08/12/2006

DESCRIPTION OF LAND

Tenure Reference: TL 0/230976

Lease Type: TERM

LOT 6 SURVEY PLAN 220416
 County of HERBERT Parish of WHITSUNDAY
 Local Government: WHITSUNDAY

Area: 0.066600 Ha. (ABOUT)

No Land Description

No Forestry Entitlement Area

No Future Conservation Area

Purpose for which granted:
 MARINE FACILITY

TERM OF LEASE

Term and day of beginning of lease

Term: 10 years commencing on 01/11/2006

Expiring on 31/10/2016

REGISTERED LESSEE

HAMILTON WEST PTY LTD A.C.N. 010 254 207

CONDITIONS

CURRENT STATE TENURE SEARCH

DEPT OF NATURAL RESOURCES AND MINES, QUEENSLAND

Request No: 19786811

Search Date: 13/11/2014 12:10

Title Reference: 40052931

Date Created: 08/12/2006

CONDITIONS

- A78
- (1) The lessee must use the leased land for marine facility purposes namely a Barge Ramp.
 - (2) This lease may be forfeited if not used for the purpose stated above.
 - (3) The annual rent must be paid in accordance with the Land Act 1994.
 - (4) The Parties acknowledge that GST may be payable in respect of a supply made under this lease. Where GST becomes payable in respect of a supply made under this lease, the State (lessor) may recover the GST from the lessee by increasing the consideration payable by the lessee to the State by an amount equal to that which the State is obliged to remit to the Commonwealth as GST on the supply and that amount may be recovered from the lessee as part of the money payable to the State under this lease. The State will upon request by the lessee, issue to the lessee a valid GST tax invoice in respect of any taxable supply made under this lease. (NOTE: For the purposes of this condition "GST" means the goods and services tax which results from the enactment of A New Tax System (Goods and Services Tax) Act 1999 and the related Acts which constitute the Commonwealth taxation reform (as amended from time to time)).
 - (5) The lessee must pay the cost of any required survey or re-survey of the leased land.
 - (6) The lessee must control pest plants and animals, on the leased land, in accordance with the Land Protection (Pest and Stock Route Management) Act 2002 and the Local Laws and requirements of the Whitsunday Regional Council.
 - (7) The lessee has the responsibility for a duty of care, to take all reasonable and practicable measures to sustainably manage the leased land by conserving the physical, biological, productive and cultural values, either on the leased land or in areas affected by the management of the leased land.
 - (8) The lessee must ensure that the use and development of the leased land conforms to the Planning Scheme, Local Laws and requirements of the Whitsunday Regional Council, binding on the lessee.
 - (9) The lessee must give the Minister administering the Land Act 1994, information about the lease, when requested.
 - (10) The lessee must not clear any vegetation on the leased land, unless in accordance with the Integrated Planning Act 1997.
 - (11) No compensation for improvements or developmental work is payable by the State or the Minister administering the Land Act 1994 at the forfeiture, surrender or expiry of the lease, but the lessee has the right to remove the lessee's moveable improvements within a period of three (3) months from the forfeiture, surrender or expiry of the lease, provided all money due by the lessee to the State on any account whatsoever has been paid, or be required to remove those improvements as

CURRENT STATE TENURE SEARCH

DEPT OF NATURAL RESOURCES AND MINES, QUEENSLAND

Request No: 19786811

Search Date: 13/11/2014 12:10

Title Reference: 40052931

Date Created: 08/12/2006

CONDITIONS

specified in any further condition of lease.

- (12) This lease is subject to the Land Act 1994 and all other relevant State and Commonwealth Acts.
- A89 (1) The lessee must allow any person authorised under the Forestry Act 1959 access to the leased land for the purpose of cutting and removing timber or removing other forest products, or quarry material, or other material from the leased land.
- (2) Except as hereinafter provided the lessee must not interfere with any forest products or remove any quarry material (including any stone, gravel, sand, earth, soil, rock, guano or clay which is not a mineral within the meaning of the Mineral Resources Act 1989) or other material upon the leased land without the permission of the Minister administering the Land Act 1994 except under the authority of and in compliance in every respect with the requirements or a permit, licence, agreement or contract granted or made under the Forestry Act 1959.
- A90 Further to Condition A78, the lessee must remove the Barge Ramp structure and rehabilitate the area to the satisfaction of the Minister administering the Land Act 1994 the Whitsunday Regional Council, Department of Environment and Resource Management and the Great Barrier Reef Marine Park Authority from the date of expiry/forfeiture/surrender of the lease .
- A91 If the lessee fails to remove the improvements and rehabilitate the area as detailed in Condition A90 above, the Minister administering the Land Act 1994 , can remove the improvements and rehabilitate the area and is hereby authorised to do whatever is necessary to effect the said removal and rehabilitation. The said Minister may recover from the lessee the total cost incurred in the said removal and rehabilitation.
- C343 The lessee must within 5 (five) years from the commencement of the lease and to the satisfaction of the Minister administering the Land Act 1994, Department of Employment, Economic Development and Innovation, Great Barrier Reef Marine Park Authority, and the Department of Environment and Resource Management construct a barge ramp, .
- G61 The lessee of this lease is not allowed to make an application for conversion in terms of the Land Act 1994.
- H126 The lessee must, at all times during the currency of the lease, allow the lessee, servants and guests of Lot 3 HR2019 and Lot 4 CP855596 free and unrestricted access to those lease areas for the purpose of embarking and disembarking.

CURRENT STATE TENURE SEARCH

DEPT OF NATURAL RESOURCES AND MINES, QUEENSLAND

Request No: 19786811

Search Date: 13/11/2014 12:10

Title Reference: 40052931

Date Created: 08/12/2006

CONDITIONS

- I59 The lessee must within three (3) months provide to the Minister administering the Land Act 1994 a Performance Guarantee Bond issued by a Trading Bank or other institution approved by the said Minister for the amount of \$500,000.00 and in a form approved by the said Minister unconditionally guaranteeing to pay the amount of the Bond to the said Minister on demand as surety for rehabilitation and restoration as may occur or be required by the terms and conditions thereof. The amount of the Bond may be reviewed at any time at the discretion of the said Minister, or upon application being made to the Department of Natural Resources & Water by the lessee. Assessment of the Bond amount must be undertaken by an independent Quantity Surveyor or Consulting Engineer and all costs leading to the establishment of the Bond and any review of the Bond must be borne by the lessee. Notwithstanding the above, the said Minister has the discretion to approve any other form of security offered by the lessee in substitution for the Bond. If the said Minister approves any other form of security offered by the lessee (the substituted security), then the said Minister will determine, in the Minister's absolute discretion, the amount of, the form of, and the terms upon which the substituted security must be provided.
- I60 In the event that any transfer of the leased land is approved, the purchaser will be required to furnish to the Minister administering the Land Act 1994, a performance guarantee bond as required by condition I59, effective from the date of transfer, upon such terms and conditions as the said Minister may at that time determine, in substitution for the current bond which will be released.
- I61 The lessee hereby covenants and agrees with the Minister administering the Land Act 1994, that by virtue of the execution of this lease, no liability is stated or implied or will attach to the said Minister in respect of any loss or damage to the leased land or to any improvements thereon caused by the effects of erosion, flooding, inundation by seawater through storm surge or other result or consequence caused by global climatic change.

CURRENT STATE TENURE SEARCH

DEPT OF NATURAL RESOURCES AND MINES, QUEENSLAND

Request No: 19786811

Search Date: 13/11/2014 12:10

Title Reference: 40052931

Date Created: 08/12/2006

CONDITIONS

- I64 (1) The lessee must effect a public liability insurance policy with an insurer authorised under the Insurance Act 1973 (Commonwealth) or, in any other case, to the satisfaction of the Minister administering the Land Act 1994, naming the lessee as the insured covering legal liability for any loss of, or damage to any property and for the injury (including death) to any person arising out of anything done or omitted on or about the leased land or any improvements thereon and against all claims, demands, proceedings, costs, charges and expenses whatsoever in respect thereof. Such policy must:
- (a) be for an amount of not less than ten million dollars (10,000,000.00) in respect of all claims arising out of a single event or such higher amounts as the Minister may reasonably require;
 - (b) be effected on a "claims occurring" basis so that any claim made by the lessee under the policy after expiration of the period of policy cover but relating to an event occurring during the currency of the policy will be covered by the policy subject to the claim meeting the policy's other terms and conditions;
 - (c) be effected on such other reasonable terms and conditions as may be required by the Minister; and
 - (d) be maintained at all times during the currency of the lease .
- (2) The lessee must, as soon as practicable, inform the Minister administering the Land Act 1994, in writing, of the occurrence of any event that the lessee considers is likely to give rise to a claim under the policy of insurance effected and must ensure that the Minister is kept fully informed of subsequent actions and developments concerning the claim.
- (3) The lessee must renew such policy, at the lessees' expense, each year during the currency of this lease and forward a certificate of currency to the Minister within 14 days of the commencement of each respective renewal period.
- (4) Upon receipt of a Notice of Cancellation, the lessee must immediately effect another public liability policy in accordance with the provisions of this condition.
- (5) Clause (1) of this condition will be satisfied if the lessee is the State of Queensland or a statutory authority eligible for cover under the Queensland Government Insurance Fund and is insured and continues to be insured by the Queensland Government Insurance Fund.
- (6) Clause (1) of this condition will be satisfied if the lessee is the Commonwealth of Australia or a statutory authority eligible for cover under the Comcover Insurance Fund and is insured and continues to be insured by Comcover.

CURRENT STATE TENURE SEARCH

DEPT OF NATURAL RESOURCES AND MINES, QUEENSLAND

Request No: 19786811

Search Date: 13/11/2014 12:10

Title Reference: 40052931

Date Created: 08/12/2006

CONDITIONS

- I66 The lessee indemnifies and agrees to keep indemnified the Minister administering the Land Act 1994, and the State of Queensland, Whitsunday Regional Council and the Department of Environment and Resource Management (the "Indemnified parties") against all actions, suits, proceedings, claims, demands, costs, losses, damages and expenses ("Claim") arising out of or in any way connected to or resulting from the granting of this lease to the lessee or which is connected to or resulting from the lessees' use and occupation of the leased land (all of which are referred to as "the indemnified acts or omissions") save to the extent that the Claim arises as a result of any negligent act or omission of the Indemnified parties, however, any negligent act or omission of one of the Indemnified parties does not negate the indemnity to any of the other Indemnified party/ies. The lessee hereby releases and discharges the Indemnified parties from any Claim relating to the indemnified acts or omissions which may be made against the Indemnified parties.
- L110 The lessee must, to the satisfaction of the Minister administering the Land Act 1994, construct or maintain the improvements on the leased land in a good and substantial state of repair.
- M546 This lease is issued in accordance with the provisions of 24HA of the Native Title Act 1993 (Cth). In accordance with 24HA of the Native Title Act 1993 (Cth), the non-extinguishment principle applies.
- M549 The lease is not transferable, including changes in ownership structure occasioned by transfer of shares in the lessee company, Hamilton West Pty Ltd A.C.N 010 254 207 of the lessee company without the prior consent of the Minister.
- T31 The lessee must not in any way interfere with any navigation mark or light erected on the leased land.
- T32 The lessee must, to the satisfaction of the Department of Transport and Main Roads, keep the sight line of any navigation leads which cross the leased land clear of obstructions. However, with the prior approval of the Department of Transport and Main Roads, the lessee may make alternative arrangements for relocating any of the said leads.
- T33 The lessee must not allow any vessel moored within the leased land to be used as a permanent place for human habitation without the prior approval of Department of Environment and Resource Management and the Whitsunday Regional Council and the Great Barrier Reef Marine Park Authority.
- T34 The lessee must supply, install and maintain, at the lessees' expense, any navigation lights, buoys, marks and warning signs which the Department of Transport and Main Roads considers necessary.

CURRENT STATE TENURE SEARCH

DEPT OF NATURAL RESOURCES AND MINES, QUEENSLAND

Request No: 19786811
Search Date: 13/11/2014 12:10

Title Reference: 40052931
Date Created: 08/12/2006

CONDITIONS

- T38 The lessee must, to the satisfaction of the Minister take all reasonable action to ensure that all vessels attached to moorings within the boundaries of the leased land must be moored wholly within such boundaries and that such vessels or any part/s thereof must not encroach beyond the boundaries of the leased land.
- U46 The lease is tied to the Term Lease over Lot 5 on CP855596 and separate transfers are not allowed.

ENCUMBRANCES AND INTERESTS

1. Rights and interests reserved to the Crown by Lease No. 40052931
2. AMENDMENT OF LEASE CONDITIONS No 712535307 21/06/2009 at 15:14 THE CONDITIONS OF THE WITHIN TENURE ARE HEREBY AMENDED.
3. MORTGAGE No 715938126 06/08/2014 at 14:19 WESTPAC BANKING CORPORATION A.B.N. 33 007 457 141

ADMINISTRATIVE ADVICES - NIL
UNREGISTERED DEALINGS - NIL

Corrections have occurred - Refer to Historical Search

Caution - Charges do not necessarily appear in order of priority

** End of Current State Tenure Search **

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CURRENT STATE TENURE SEARCH

DEPT OF NATURAL RESOURCES AND MINES, QUEENSLAND

Request No: 19787095

Search Date: 13/11/2014 12:27

Title Reference: 40058717

Date Created: 11/06/2009

DESCRIPTION OF LAND

Tenure Reference: PO 0/233408

Lease Type: NO TERM

LOT A CROWN PLAN AP19528
 County of HERBERT Parish of WHITSUNDAY
 Local Government: WHITSUNDAY

LOT B CROWN PLAN AP19528
 County of HERBERT Parish of WHITSUNDAY
 Local Government: WHITSUNDAY

Area: 0.496000 Ha. (ABOUT)

No Land Description

No Forestry Entitlement Area

No Future Conservation Area

Purpose for which granted:
 COMMERCIAL/BUSINESS

DATE OF COMMENCEMENT

Commencement Date: 28/05/2009

REGISTERED PERMITTEE

HAMILTON WEST PTY LTD A.C.N. 010 254 207
 PERMITTEE

CONDITIONS

CURRENT STATE TENURE SEARCH

DEPT OF NATURAL RESOURCES AND MINES, QUEENSLAND

Request No: 19787095

Search Date: 13/11/2014 12:27

Title Reference: 40058717

Date Created: 11/06/2009

CONDITIONS

- A92
- (1) The permittee must use the permit area for commercial/business purposes namely a services pipeline.
 - (2) This permit may be cancelled if not used for the purpose stated above.
 - (3) The permit may be cancelled after giving the permittee reasonable notice in writing, in accordance with the Land Act 1994 .
 - (4) The annual rent must be paid in accordance with the Land Act 1994.
 - (5) The Parties acknowledge that GST may be payable in respect of a supply made under this permit. Where GST becomes payable in respect of a supply made under this permit, the State (lessor) may recover the GST from the permittee by increasing the consideration payable by the permittee to the State by an amount equal to that which the State is obliged to remit to the Commonwealth as GST on the supply and that amount may be recovered from the permittee as part of the money payable to the State under this permit. The State will upon request by the permittee, issue to the permittee a valid GST tax invoice in respect of any taxable supply made under this permit.
(NOTE: For the purposes of this condition "GST" means the goods and services tax which results from the enactment of A New Tax System (Goods and Services Tax) Act 1999 and the related Acts which constitute the Commonwealth taxation reform (as amended from time to time)).
 - (6) The permittee must not under any circumstances enter into any arrangements to sublet, dispose of or transfer the permit.
 - (7) The permittee must pay the cost of any required survey or re-survey of the permit area.
 - (8) The permittee must control pest plants and animals, on the permit area, in accordance with the Land Protection (Pest and Stock Route Management) Act 2002 and the Local Laws and requirements of the Whitsunday Regional Council.
 - (9) The permittee has the responsibility for a duty of care, to take all reasonable and practicable measures to sustainably manage the permit area by conserving the physical, biological, productive and cultural values, either on the permit area or in areas affected by the management of the permit area.
 - (10) The permittee must ensure that the use and development of the permit area conforms to the Planning Scheme, Local Laws and requirements of the Whitsunday Regional Council, binding on the permittee.
 - (11) The permittee must give the Minister administering the Land Act 1994, information about the permit, when requested.
 - (12) The permittee must not clear any vegetation on the permit area, unless in accordance with the Integrated Planning Act 1997.
 - (13) No compensation for improvements or developmental work is payable by the State at the cancellation or surrender of the

CURRENT STATE TENURE SEARCH

DEPT OF NATURAL RESOURCES AND MINES, QUEENSLAND

Request No: 19787095

Search Date: 13/11/2014 12:27

Title Reference: 40058717

Date Created: 11/06/2009

CONDITIONS

permit, but the permittee has the right to remove the Permittees moveable improvements within a period of three (3) months from the cancellation or surrender of the permit, provided all money due by the permittee to the State on any account whatsoever has been paid, or be required to remove those improvements as specified in any further condition of permit.

- (14) This permit is subject to the Land Act 1994 and all other relevant State and Commonwealth Acts.
- C343 The permittee must within three (3) years from the commencement of the permit and to the satisfaction of the Minister administering the Land Act 1994 and the Department of Environment and Resource Management, Department of Employment, Economic Development & Innovation, Great Barrier Reef Marine Park Authority, construct maintain the services pipeline to connect a water supply, electricity, data network, raw sewerage and treated effluent to lot 5 CP855596 (known as Dent Island) from Lot 8 CP861993 (known as Hamilton Island)..
- C344 The permittee must not under any circumstances carry out any other activity other than that stated in condition A92 on the permit area.
- I66 The permittee indemnifies and agrees to keep indemnified the Minister administering the Land Act 1994, and the State of Queensland, (the "Indemnified parties") against all actions, suits, proceedings, claims, demands, costs, losses, damages and expenses ("Claim") arising out of or in any way connected to or resulting from the granting of this permit to the permittee or which is connected to or resulting from the permittees' use and occupation of the permit area (all of which are referred to as "the indemnified acts or omissions") save to the extent that the Claim arises as a result of any negligent act or omission of the Indemnified parties, however, any negligent act or omission of one of the Indemnified parties does not negate the indemnity to any of the other Indemnified party/ies. The permittee hereby releases and discharges the Indemnified parties from any Claim relating to the indemnified acts or omissions which may be made against the Indemnified parties.
- L110 The permittee must , to the satisfaction of the Minister administering the Land Act 1994, the Whitsunday Regional Council and the Department of Environment and Resource Management, maintain the services pipeline on the permit area in a good and substantial state of repair.
- M546 This permit is issued in accordance with the provisions of 24HA of the Native Title Act 1993 (Cth). In accordance with Section 24HA of the Native Title Act 1993 (Cth), the non-extinguishment principle applies.

CURRENT STATE TENURE SEARCH

DEPT OF NATURAL RESOURCES AND MINES, QUEENSLAND

Request No: 19787095

Search Date: 13/11/2014 12:27

Title Reference: 40058717

Date Created: 11/06/2009

CONDITIONS

- T34 The permittee must supply, install and maintain, at the permittees' expense, any navigation lights, buoys, marks and warning signs which the Department of Transport and Main Roads considers necessary.
- U46 The permit is tied to Term Lease over lot 5 CP855596 and separate transfers are not allowed.

ENDORSEMENTS

ADMINISTRATIVE ADVICES

Dealing	Type	Lodgement Date	Status
713902513	DSI/OFFSET	14/06/2011 08:54	CURRENT

LAND VALUATION ACT 2010

UNREGISTERED DEALINGS - NIL

** End of Current State Tenure Search **

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CURRENT STATE TENURE SEARCH

DEPT OF NATURAL RESOURCES AND MINES, QUEENSLAND

Request No: 19787098

Search Date: 13/11/2014 12:27

Title Reference: 40065034

Date Created: 26/09/2012

DESCRIPTION OF LAND

Tenure Reference: TL 0/236004

Lease Type: TERM

LOT 5 SURVEY PLAN 245729
 County of HERBERT Parish of WHITSUNDAY
 Local Government: WHITSUNDAY

Area: 227.900000 Ha. (SURVEYED)

No Land Description

No Forestry Entitlement Area

No Future Conservation Area

Purpose for which granted:
TOURISM

TERM OF LEASE

Term and day of beginning of lease

Term: 100 years commencing on 24/08/2012

Expiring on 23/08/2112

REGISTERED LESSEE

HAMILTON WEST PTY LTD A.C.N. 010 254 207

CONDITIONS

CURRENT STATE TENURE SEARCH

DEPT OF NATURAL RESOURCES AND MINES, QUEENSLAND

Request No: 19787098

Search Date: 13/11/2014 12:27

Title Reference: 40065034

Date Created: 26/09/2012

CONDITIONS

- A78
- (1) The lessee must use the leased land for tourism purposes namely an integrated golf course resort and residential tourism development.
 - (2) This lease may be forfeited if not used for the purpose stated above.
 - (3) The annual rent must be paid in accordance with the Land Act 1994.
 - (4) The Parties acknowledge that GST may be payable in respect of a supply made under this lease. Where GST becomes payable in respect of a supply made under this lease, the State (lessor) may recover the GST from the lessee by increasing the consideration payable by the lessee to the State by an amount equal to that which the State is obliged to remit to the Commonwealth as GST on the supply and that amount may be recovered from the lessee as part of the money payable to the State under this lease. The State will upon request by the lessee, issue to the lessee a valid GST tax invoice in respect of any taxable supply made under this lease. (NOTE: For the purposes of this condition "GST" means the goods and services tax which results from the enactment of A New Tax System (Goods and Services Tax) Act 1999 and the related Acts which constitute the Commonwealth taxation reform (as amended from time to time)).
 - (5) The lessee must pay the cost of any required survey or re-survey of the leased land.
 - (6) The lessee must control pest plants and animals, on the leased land, in accordance with the Land Protection (Pest and Stock Route Management) Act 2002 and the Local Laws and requirements of the Whitsunday Regional Council.
 - (7) The lessee has the responsibility for a duty of care, to take all reasonable and practicable measures to sustainably manage the leased land by conserving the physical, biological, productive and cultural values, either on the leased land or in areas affected by the management of the leased land.
 - (8) The lessee must ensure that the use and development of the leased land conforms to the Planning Scheme, Local Laws and requirements of the Whitsunday Regional Council, binding on the lessee.
 - (9) The lessee must give the Minister administering the Land Act 1994, information about the lease, when requested.
 - (10) The lessee must not clear any vegetation on the leased land, unless in accordance with the Sustainable Planning Act 2009.
 - (11) No compensation for improvements or developmental work is payable by the State at the forfeiture, surrender or expiry of the lease, but the lessee has the right to remove the lessees moveable improvements within a period of three (3) months from the forfeiture, surrender or expiry of the lease, provided all money due by the lessee to the State on any account whatsoever has been paid, or be required to remove those improvements as

CURRENT STATE TENURE SEARCH

DEPT OF NATURAL RESOURCES AND MINES, QUEENSLAND

Request No: 19787098

Search Date: 13/11/2014 12:27

Title Reference: 40065034

Date Created: 26/09/2012

CONDITIONS

specified in any further condition of lease.

- (12) This lease is subject to the Land Act 1994 and all other relevant State and Commonwealth Acts.

C342 The lessee must comply with any lawful requirements of the Department of Natural Resources and Mines, Whitsunday Regional Council or any other relevant department within the Queensland and Commonwealth Governments or statutory instrumentality having jurisdiction over the leased land and any conditions imposed by any relevant concurrence of referral agency. The lessee must use occupy and develop the leased land in accordance with the requirements of the Sustainable Planning Act 2009, Vegetation Management Act 1999, the requirements of the Coordinator General's evaluation report on the EIS for the Dent Island Golf Course dated August 2004 and the requirements of the Minister Administering the Land Act 1994 and in accordance with the Staging Plan dated 22/9/2006.

I66 The lessee indemnifies and agrees to keep indemnified the Minister administering the Land Act 1994, and the State of Queensland, (the "Indemnified parties") against all actions, suits, proceedings, claims, demands, costs, losses, damages and expenses ("Claim") arising out of or in any way connected to or resulting from the granting of this lease to the lessee or which is connected to or resulting from the lessees' use and occupation of the leased land (all of which are referred to as "the indemnified acts or omissions") save to the extent that the Claim arises as a result of any negligent act or omission of the Indemnified parties, however, any negligent act or omission of one of the Indemnified parties does not negate the indemnity to any of the other Indemnified party/ies. The lessee hereby releases and discharges the Indemnified parties from any Claim relating to the indemnified acts or omissions which may be made against the Indemnified parties.

CURRENT STATE TENURE SEARCH

DEPT OF NATURAL RESOURCES AND MINES, QUEENSLAND

Request No: 19787098

Search Date: 13/11/2014 12:27

Title Reference: 40065034

Date Created: 26/09/2012

CONDITIONS

- I69 (1) The lessee must effect a public liability insurance policy with an insurer authorised under the Insurance Act 1973 (Commonwealth) or, in any other case, to the satisfaction of the Minister administering the Land Act 1994, naming the lessee as the insured covering legal liability for any loss of, or damage to any property and for the injury (including death) to any person arising out of anything done or omitted on or about the leased land or any improvements thereon and against all claims, demands, proceedings, costs, charges and expenses whatsoever in respect thereof subject to the terms and conditions of the insurance policy. Such policy must:
- (a) be for an amount of not less than twenty million dollars (\$20 000 000) in respect of all claims arising out of a single event or such higher amounts as the Minister may reasonably require;
 - (b) be effected on a "claims occurring" basis so that any claim made by the lessee under the policy after expiration of the period of policy cover but relating to an event occurring during the currency of the policy will be covered by the policy subject to the claim meeting the policy's other terms and conditions;
 - (c) be effected on such other reasonable terms and conditions as may be required by the Minister; and
 - (d) be maintained at all times during the currency of the lease .
- (2) The lessee must, as soon as practicable, inform the Minister administering the Land Act 1994, in writing, of the occurrence of any event that the lessee considers is likely to give rise to a claim under the policy of insurance effected and must ensure that the Minister administering the Land Act 1994 kept fully informed of subsequent actions and developments concerning the claim.
- (3) The lessee must renew such policy, at the lessees' expense, each year during the currency of this lease and forward a certificate of currency to the Minister administering the Land Act 1994 within 14 days of the commencement of each respective renewal period.
- (4) Upon receipt of a Notice of Cancellation, the lessee must immediately effect another public liability policy in accordance with the provisions of this condition.
- (5) Clause (1) of this condition will be satisfied if the lessee is the State of Queensland or a statutory authority eligible for cover under the Queensland Government Insurance Fund and is insured and continues to be insured by the Queensland Government Insurance Fund.
- (6) Clause (1) of this condition will be satisfied if the lessee is the Commonwealth of Australia or a statutory authority eligible for cover under the Comcover Insurance Fund and is insured and continues to be insured by Comcover.

CURRENT STATE TENURE SEARCH

DEPT OF NATURAL RESOURCES AND MINES, QUEENSLAND

Request No: 19787098

Search Date: 13/11/2014 12:27

Title Reference: 40065034

Date Created: 26/09/2012

CONDITIONS

- I70 The lessee hereby covenants and agrees with the Minister administering the Land Act 1994, that by virtue of the execution of this lease, no liability is stated or implied or will attach to the said Minister in respect of any loss or damage to the leased land or to any improvements thereon caused by the effects of erosion, cyclone or flooding or inundation by seawater or other result or consequence caused by global climatic change.
- L110 The lessee must, to the satisfaction of the relevant authorities, maintain the improvements on the leased land in a good and substantial state of repair.
- M549 The lease is not transferable, including changes in ownership structure occasioned by transfer of shares in the lessee company, or changes to the ultimate ownership of the lessee company without the prior consent of the Minister.
- U46 The lease is tied to NCL 5/2803 lot 8 CP861993, Term Lease 0/230976 lot 6 SP220416 Barge Ramp, Term Lease 0/233549 lot 7 SP220416 Passenger Jetty. The tied conditions of the lease remain in place until such time as a proposed transfer is received for 5 SP245729 together with a services agreement acceptable to the Minister between the holders of lot 5 SP245729 and NCL 5/2803 Lot 8 CP861993. The level of compliance with lease conditions will also be considered by the Minister when considering any transfer application. Unless a proposed and approved transfer is received, the leases remain tied and separate transfers are not allowed.

ENCUMBRANCES AND INTERESTS

1. Rights and interests reserved to the Crown by
Lease No. 40065034
2. MORTGAGE No 715938126 06/08/2014 at 14:19
WESTPAC BANKING CORPORATION A.B.N. 33 007 457 141

ADMINISTRATIVE ADVICES

Dealing	Type	Lodgement Date	Status
715736604	DSI/OFFSET	29/04/2014 11:42	CURRENT

LAND VALUATION ACT 2010

UNREGISTERED DEALINGS - NIL

CURRENT STATE TENURE SEARCH

DEPT OF NATURAL RESOURCES AND MINES, QUEENSLAND

Request No: 19787098

Search Date: 13/11/2014 12:27

Title Reference: 40065034

Date Created: 26/09/2012

Caution - Charges do not necessarily appear in order of priority

** End of Current State Tenure Search **

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Appendix C – Responsibility and Reporting

Responsibility and reporting contact details

Overview	Project Details
Project	Hamilton Island Golf Course Resort
Site	Dent Island, Great Barrier Reef, QLD, Australia
Works	Operation of an 18-hole international standard Golf Course, support service infrastructure, golf club.
Principal	Hamilton West Pty Ltd Chief Executive Officer, Hamilton Island Enterprises Ltd, PO Box 131, Hamilton Island Qld 4803. Phone: 07 4948 9940, Fax: 07 4946 8754, Mobile: 0411 108 816
Nominated Dent Island Managers	
General Manager Engineering & Services	Phone :07 4946 8293
Hamilton Island Golf Course Manager	Phone: 07 4948 9947

Appendix D – Dent Island Lightstation Heritage Management Plan



Australian Government

Great Barrier Reef Marine Park Authority

Australian Maritime Safety Authority

Dent Island Lightstation Heritage Management Plan



The Great Barrier Reef Marine Park Authority, acting pursuant to section 341S of the *Environment Protection and Biodiversity Conservation Act 1999*, makes this heritage management plan in relation to parts of the Dent Island Lightstation within its ownership or control.

Given under the Common Seal of the Great Barrier Reef Marine Park Authority

this 21st day of October 2013

which seal is duly affixed in the presence of:

Chairperson

(Bruce Elliot, A/Chairperson)

Witness

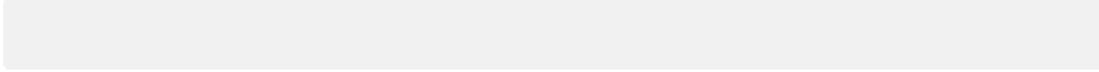
(Kristie Craig, Executive Assistant)

The Australian Maritime Safety Authority, acting pursuant to section 341S of the *Environment Protection and Biodiversity Conservation Act 1999*, makes this heritage management plan in relation to parts of the Dent Island Lightstation within its ownership or control.

this 9th day of December 2013

Chief Executive Officer

(Michael Kinley, A/Chief Executive Officer)



Dent Island Lightstation Heritage Management Plan



Australian Government

Great Barrier Reef Marine Park Authority

Australian Maritime Safety Authority

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Lighthouses--Queensland--Dent
Island.

Historic buildings--Conservation and restoration--Queensland--Dent Island.
Great Barrier Reef Marine Park (Qld.)--Management.

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Cover picture:

Dent Island Lighthouse, overlooking the Whitsunday Passage, 2012 (Image: Peter Marquis-Kyle)

Requests and inquiries concerning reproduction and rights should be addressed to:

**Great Barrier Reef Marine Park Authority
Authority**

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info@gbbrmpa.gov.au

Australian Maritime Safety

Business Media
GPO Box 2181
CANBERRA ACT 2601
Australia
Phone: (02) 6279 5000
Fax: (02) 6279 5950

Comments and inquiries on this document are welcome and should be addressed to:

Project Manager Field Management,
Field Management Unit

Manager, Aids to Navigation

u info@gbbrmpa.gov.au
www.gbbrmpa.gov.au

nsmaint@amsa.gov.a
www.amsa.gov.au

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Foreword

The Dent Island Lightstation was placed on the Commonwealth Heritage List in 2004. It is important for the evidence it shows of the historical development of maritime aids to navigation in Australia. The lighthouse, first lit in 1879, demonstrates a rare construction method used only in Queensland colonial lighthouses.

The lightstation is jointly managed by the Great Barrier Reef Marine Park Authority (GBRMPA), the Queensland Parks and Wildlife Service (QPWS) through the joint Field Management Program, and the Australian Maritime Safety Authority (AMSA), and is included on the Commonwealth Heritage List.

The *Environment Protection and Biodiversity Conservation Act 1999* requires that each Commonwealth agency that owns or controls a Commonwealth Heritage listed place must make a written management plan to protect and manage the Commonwealth Heritage values of the place.

This Dent Island Lightstation Heritage Management Plan describes the heritage values of this Commonwealth Heritage place, sets out the obligations that arise from those values, and proposes measures to ensure that those values are managed and protected.

This heritage management plan was written and adopted by the GBRMPA and AMSA, the two Commonwealth agencies responsible for the lightstation.



Figure 1 — Dent Island Lightstation, March 2013 (Image: Hamilton Island Enterprises)

Executive summary

Dent Island Lightstation was included in the Commonwealth Heritage List in 2004 because it demonstrates the historical pattern of development of coastal aids to navigation in colonial Queensland, and because it is a characteristic example of its type.

The lighthouse, erected on the island in 1879, was one of a series of 12 lighthouse towers of a distinctive type, built between 1873 and 1890. These timber-framed towers clad with riveted iron were designed by officers of the Queensland colonial government, to meet the particular needs of the colony, in a form that was not used anywhere else in the world. Near the lighthouse tower are two houses, a workshop, a derrick crane, a winch house, a trolley way, fowl house, and the grounds in which they sit together; these elements make up the Dent Island Lightstation.

The lightstation is about 18 km from Shute Harbour, on the south-western side of Dent Island, in the Whitsunday Region of the Great Barrier Reef. Dent Island is within the Great Barrier Reef Marine Park and World Heritage Area. The southern part of the island is held on behalf of the Commonwealth of Australia by the Great Barrier Reef Marine Park Authority (GBRMPA). The lighthouse is a working aid to navigation that remains the property of the Australian Maritime Safety Authority (AMSA).

This heritage management plan is concerned mainly with the lightstation, but also addresses the management of the surrounding land which forms the visual setting of the lightstation. The plan is intended to guide the decisions and actions of the GBRMPA and its two lessees at Dent Island — AMSA which continues to own and operate the lighthouse, and a private lessee who occupies the rest of the lightstation site. The GBRMPA and AMSA have prepared this plan jointly, to integrate the management of the heritage values of the lightstation in accordance with the *Environment Protection and Biodiversity Conservation Act 1999* (the EPBC Act).

The 1879 lighthouse has been fitted with modern solar-powered lighting equipment, and operates automatically as a part of the AMSA network of aids to navigation. The equipment is serviced by AMSA's maintenance contractor who visits at least once per year. AMSA officers visit on an ad hoc basis for auditing, project and community liaison purposes.

The larger part of the lightstation outside the AMSA lease, containing two lightkeepers' houses and other ancillary structures, is leased to a private lessee who operates a golf course on Dent Island. The private lessee has carried out repairs to the buildings, grounds and services, and uses the houses to accommodate members of staff. The lightstation area is not open to visitors except by special arrangement.

The use of the lightstation and its setting is constrained by several management controls, including Commonwealth Islands zoning, permits and leases. Under the *Great Barrier Reef Marine Park Zoning Plan 2003*, this part of Dent Island is designated a Commonwealth Islands Zone and may be used or entered without permission only for low impact (non-extractive) activities such as photography, filming, marine resources and limited educational programs. This heritage management plan is consistent with meeting the 'objectives of the zone' by ensuring minimal environmental impact.

Being well built and generally well maintained over the years, the buildings and other structures of the lightstation mostly remain in a good, stable condition. The policies and management regimes set out in this heritage management plan will ensure the Dent Island Lightstation's Commonwealth heritage values are recognised and maintained into the future.

1. Introduction

1.1. Overview of the cultural significance of Dent Island Lightstation

Dent Island is in the Whitsunday Island Group of the Great Barrier Reef approximately 18 kilometres south-east of Shute Harbour (20° 20' 21" S and 148° 55' 48" E). A lighthouse has operated on the island continuously since 1879. The historic lightstation — comprised of the lighthouse and its ancillary structures and grounds — embodies important and evocative evidence of the historical development of aids to navigation along the Queensland coast and the history of lighthouse technology, accommodation and associated services. It is a place of cultural significance.

Places of cultural significance enrich people's lives, often providing a deep and inspirational sense of connection to community and landscape, to the past and to lived experiences. They are historical records that are important as tangible expressions of Australian identity and experience. Places of cultural significance reflect the diversity of our communities, telling us about who we are and the past that has formed us and the Australian landscape... These places of cultural significance must be conserved for present and future generations.'

(from the preamble to the Australia ICOMOS Burra Charter, 1999)

These words reveal the importance of places which demonstrate the pattern of Australia's history. The Dent Island Lightstation is one such place of historical and cultural significance to Australians, particularly to the coastal communities of Queensland, reflecting the colony's and state's development after separation from New South Wales. A navigational light has shone on Dent Island since 1879, marking an area of danger and facilitating the safe passage of goods and people through the Great Barrier Reef.

In recognition of its significance, the lightstation is included in the Commonwealth Heritage List.

1.2. Conserving cultural significance

The southern part of Dent Island, including the lightstation site, is held on behalf of the Commonwealth by the GBRMPA, which has a responsibility to protect, preserve and transmit the heritage values of the lightstation to all generations of Australians.

The small area of land on which the lighthouse stands is leased by the GBRMPA to AMSA, another Commonwealth agency. AMSA operates the lighthouse as one of its system of aids to navigation.

The land around the lighthouse, together with the former lightkeepers' cottages and other ancillary structures, is leased by the GBRMPA to a private lessee. The lease requires the lessee to conserve the heritage values of the part of the lightstation not leased to AMSA. The private lessee has been extensively involved in the preparation of this heritage management plan.

This heritage management plan sets out the framework and mechanisms the GBRMPA and AMSA will use to monitor, protect, conserve and manage the heritage values at Dent Island Lightstation.

1.3. Preparation of this heritage management plan

Preparation of the heritage management plan has followed good professional practice in the field. The methods used are consistent with the recommendations of *The Burra Charter* (Australia ICOMOS 1999) and *The Conservation Plan* (Kerr 2004). The plan includes a short account of the history of the place drawn from expert knowledge and documentary sources acknowledged in the text. The descriptions of the place and its current condition are based on site inspections, and the analysis of the statement of significance uses the Commonwealth Heritage criteria drawn from the *Environment Protection and Biodiversity Conservation Regulations 2000* (the EPBC Regulations).

This plan was initially drafted by the private lessee then augmented and edited by Peter Marquis-Kyle (consultant conservation architect) and reviewed by the GBRMPA and AMSA.

The draft management plan was advertised in accordance with the EPBC Regulations jointly by GBRMPA and AMSA and the comments received were incorporated into the document. A developed draft was submitted to the Minister through the Department of Sustainability, Environment, Water, Population and Communities and in that process the Minister's delegate sought advice from the Australian Heritage Council.



Figure 2 — Aerial view of Dent Island Lightstation, March 2013 (Image: Hamilton Island Enterprises)

2. Heritage management plan objectives

The objectives of this heritage management plan are to:

- Protect, conserve and manage the Commonwealth heritage values of the Dent Island Lightstation;
- Interpret and promote the Commonwealth heritage values of the Dent Island Lightstation;
- Manage use and where there is no adverse impact on the Commonwealth heritage values of the place, manage adaptive re-use of the lightstation consistent with the heritage values; and
- Use best practice standards, including ongoing technical and community input, and apply best available knowledge and expertise when considering actions likely to have a substantial impact on Commonwealth heritage values.

In undertaking these objectives the heritage management plan also aims to:

- Provide for the protection and conservation of the Commonwealth heritage values of the place while minimising any impacts on the natural environment by applying the relevant environmental management requirements in a manner consistent with all heritage conservation activities;
- Take into account the significance of the island as a cultural landscape occupied by Aboriginal people over many thousands of years;
- Recognise that the site has been occupied by lease holders since the early 20th century;
- Encourage site uses that are compatible with the historical fabric, infrastructure and general environment; and
- Record and document maintenance works, and changes to the fabric, in the GBRMPA and AMSA heritage registers.

The key performance indicators for the heritage management plan are:

- The preservation of the Commonwealth heritage values of the lightstation for current and future generations;
- Meeting the Implementation Plan (page 61) and maintenance requirements relevant to the lightstation and AMSA's operational requirements for the lighthouse, consistent with lease requirements;
- Ensuring that any interpretation materials used for staff instruction, or for special interest visits if they occur, accurately represent the history and Commonwealth heritage values of the place; and
- The publication of this heritage management plan on the GBRMPA and AMSA websites and, as a registered legislative instrument, on the Federal Register of Legislative Instruments.

3. A brief history of Dent Island Lightstation

3.1 Australia's lighthouses

Since Governor Lachlan Macquarie ordered the building of a lighthouse at South Head near the entrance to Port Jackson in 1816 (and was criticised by his superiors in London for the cost), providing aids to navigation has been the business of Australian government agencies. It was a costly undertaking to build and operate lighthouses, but lighthouses reduced the risk of shipwreck and the cost was worthwhile. Up to the present time the cost has largely been paid by the operators of ships, through various schemes of dues, levies and charges.

Each of the colonies developed its own particular types and systems of lighthouse operation, reflecting the volume of shipping, the value of trade, the local building materials and the local navigation hazards. The earliest lighthouses were built in New South Wales — others in Van Diemen's Land (Tasmania), Victoria, South Australia and Western Australia came later.

When the colony of Queensland separated from New South Wales in 1859 there was only one lighthouse in the new territory: Cape Moreton Lighthouse, a stone tower completed in 1857. The new colony, with no railways and only a few rough roads, depended on coastal shipping, despite the difficulties of navigating a coast set behind the Great Barrier Reef. From separation in 1859 until federation in 1901 the Queensland marine authorities built an impressive set of lighthouses, which demonstrate remarkable frugality and technical innovation. The type of timber-framed, iron-sheeted lighthouse tower (of which the 1879 Dent Island Lighthouse is a typical example) is a local Queensland invention.

When the Australian colonies federated in 1901, it was decided that the new Commonwealth government would be responsible for coastal lighthouses. This arrangement came into effect after the necessary legislation was passed in 1912, a survey of existing lighthouses was conducted by Commander C R W Brewis RN, and a bureaucracy was established. The transfer of Queensland lighthouses to the new Commonwealth Lighthouse Service began in 1915. The Commonwealth Lighthouse Service headquarters was in Melbourne, and the design of new lighthouses became more standardised around the country, though regional depots (including one in Brisbane which was responsible for the coast between Torres Strait and Cape Moreton) still maintained some local character.

Since 1915 various Commonwealth departments have carried the responsibility for lighthouses. The Australian Maritime Safety Authority (AMSA), established under the *Australian Maritime Safety Authority Act 1990*, is now responsible for operating lighthouses and other Commonwealth aids to navigation, along with its other functions.

3.2 Lighting the Queensland coast

One of the first appointments made by the Queensland colonial government after separation from New South Wales was a marine surveyor, Captain George Poynter Heath. Between his appointment in 1859 and his retirement in 1887, Heath was *responsible for supervising the opening of 13 new ports, establishing 33 lighthouses, 6 lightships and 150 small lights and marking 450 miles (724 km) of the inner route through the Barrier Reef* (Gibbney 1972). Captain Heath advised a parliamentary select committee that set out the beginnings of the policy for developing lighthouses along the Queensland coast.

In 1864 the select committee recommended erecting lighthouses at Sandy Cape and Bustard Head. Selection of these two sites reflects the importance at that time of the ports of Maryborough and Rockhampton. The government acted on this recommendation, and its agents in England procured two complete lighthouses in 'kit' form, with towers of cast iron segments which were bolted together on their sites. The two towers were manufactured by different foundries in England, though their designs were similar. Both were equipped with lantern houses and optical apparatus manufactured by Chance Brothers & Company, the major English lighthouse equipment maker. The Bustard Head lighthouse was first lit in 1868, and Sandy Cape in 1870. These fully imported cast iron lighthouses were effective, though costly.



Figure 3 — Major pre-1900 lightstations in the Great Barrier Reef region (Source: GBRMPA)

Having pressed for the Sandy Cape and Bustard Head lights, the select committee members added that they did *not ignore the fact which this enquiry has impressed upon them, that there is before the Government of Queensland the much larger and more serious task of so lighting what is called the Inner Passage within the Barrier Reef, that not only the trade to our own rapidly increasing ports may be protected, but that much of the trade with India, China, and other countries to the North of this Continent may be diverted from the Western to the Eastern line of Passage* (Select Committee 1864). With the opening of the Suez Canal in 1869 the shipping route along the Queensland coast became even more important.

The Queensland government, though its funds were very limited, pressed ahead with the development of a system of lighthouses and other navigation and port facilities. Successive governments used this infrastructure to encourage expansion of trade, at the same time as they responded to requests by ship operators. The development of the shipping route through the Torres Strait, and on to the Suez Canal, put Queensland ports closer to European markets than the old route that added Queensland onto the end of a long journey around Australia's southern ports.

Architects in the Queensland Colonial Architect's office, in particular the skilled, innovative and practical Robert Ferguson (1840–1906), developed an innovative design for lighthouse towers. The first of these new timber and iron composite lighthouses was built on Lady Elliott Island and lit in 1873. Following the success of the Lady Elliot Island lighthouse, others were built at Cape Bowling Green (first lit 1874), Cape Capricorn (1875), Low Isles (1878), and North Reef (1878).

The government kept up this rapid progress of lighthouse building by letting a contract for the construction of a pair of identical lighthouses — one at Cape Cleveland to mark the entrance to Cleveland Bay and the port of Townsville, and the other at Dent Island, the subject of this heritage management plan. Both of these lightstations were finished and operating in 1879.

Development of the system of navigation lights continued. Similar iron-plated, timber-framed lighthouses were built at Flat Top Island (1879), Archer Point (1883), Double Island Point (1884), Pine Islet (1885), and Booby Island (1890).

Following the success of the composite lighthouses, the government architects developed an even more economical type of construction, using light gauge corrugated galvanised iron sheeting rather than riveted iron plating, and built a series of smaller lighthouses. Towers of this second type were built at Goods Island (1886), Grassy Hill (1886), Bay Rock (1886), Sea Hill (1895), Caloundra (1896), Gatcombe Head (1900), and Bulwer Island (1912).

3.3. Establishment of the Dent Island Lightstation

Commander Heath, the Portmaster, wrote to the Colonial Treasurer in February 1878 to request that *... the Colonial Architect may be instructed to prepare plans & specifications and call for tenders for a Lighthouse at Cape Cleveland & on Dent Island Whitsunday Passage. The towers to be the same size as that at Flat Top Island but with a trunkway in the centre for the clockwork weights to travel up & down as at Lady Elliots' Island. With each of the Light houses two cottages will be required for the keepers.* (WOR/A268 In-letter 4484 of 1890, quoted in Thorburn 1967).

The Treasurer passed the request on to F D G Stanley, the Colonial Architect. Stanley reported in April that the documents were almost ready, and in May called for tenders for the erection of both lighthouses. Three tenders were received for each lighthouse. William Peter Clark submitted the lowest tenders — £1820 for Dent Island and £1670 for Cape Cleveland — and his tenders were accepted.

In December 1878 Stanley reported on a visit to Dent Island: *Having arranged for detention of the -Victoriall S.S. [steam ship] for two hours in passing through Whitsunday Passage — I landed with the Contractor and with considerable difficulty reached the top of this island and found a suitable spot for the Lighthouse, commanding the Channel both to North and South, also a level site for Cottages. The work is now in progress, the buildings being framed up in Brisbane* (QSA WOR/A158 In-letter 6178 of 1878, quoted in Thorburn 1967).

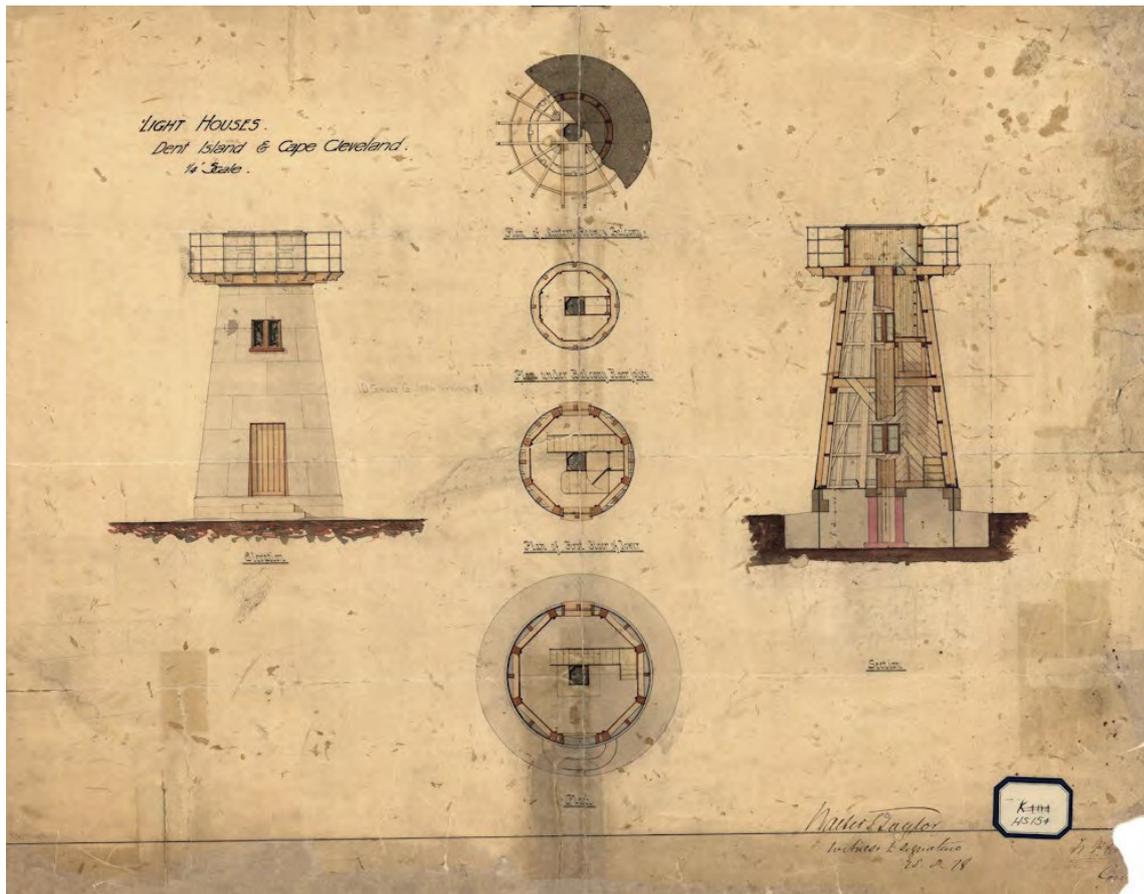


Figure 4 — Contract drawing for the lighthouse, 1878

Light houses: Dent Island & Cape Cleveland, a contract drawing prepared in the office of the Colonial Architect. The contractor William Clark signed the drawing in the bottom right corner, but part of his signature has been lost. (Source: National Archives of Australia, series J2775, item 1717459).

It appears that William Clark got into financial difficulties around this time. He transferred his contracts to others to complete (to John Clark for the Dent Island project and to James Wiseman for Cape Cleveland); James Campbell, supplier of building materials in Brisbane, sued William Clark for payment of debts; the Crown Solicitor and various other lawyers got involved; William Clark was insolvent for a time.

Despite these distractions the building work was finished, and the lighting equipment installed and commissioned. The lighthouse was first lit at the end of October 1879 (Heath 1879). A contemporary newspaper article describing a journey through the Whitsunday Passage mentioned that *...a young woman and her baby had to be landed at Dent Island, where a new lighthouse has lately been built, of which her husband is the keeper* (Anonymous 1879).

There were two separate cottages at the lightstation; one was for the principal lightkeeper with his family; and the other for the assistant lightkeeper and his family. No drawings of these cottages are known to survive, but they were probably similar to those for Cape Cleveland shown in Figure 5. A photograph published in 1915 shows that they were similar to those built at some other Queensland lightstations (Figure 7).¹

The keepers took turns keeping watch through the night in the tower, where their principal duty was to tend the kerosene wick burner and to wind up the weight that drove a clockwork to rotate the lenses. Dent Island Lighthouse was originally fitted with a fourth order revolving dioptric light. This is an

¹ The only keepers' houses of this particular type still surviving are at Booby Island Lightstation, built in 1890.

assembly of Fresnel lenses and refracting prisms with a focal radius of 250 mm that rotated on a vertical axis around the kerosene lamp, projecting several narrow beams of light out towards the horizon. Because of the regular rotation of the lenses, ships' officers saw distinct flashes of light as each beam passed over their ship. Each lighthouse had its own *character* or pattern of flashes which was shown on navigation charts, and which allowed the ships' crew to recognise which lighthouse it was.

The keepers' daytime duties included maintaining all the equipment and facilities of the station, monitoring vessels traversing the passage, signalling to and from the vessels, and dealing with quantities of kerosene (brought by the government steamer) and household supplies (brought by contractors). To support these functions, the station was equipped with a workshop, a flagpole, and a boat shed.

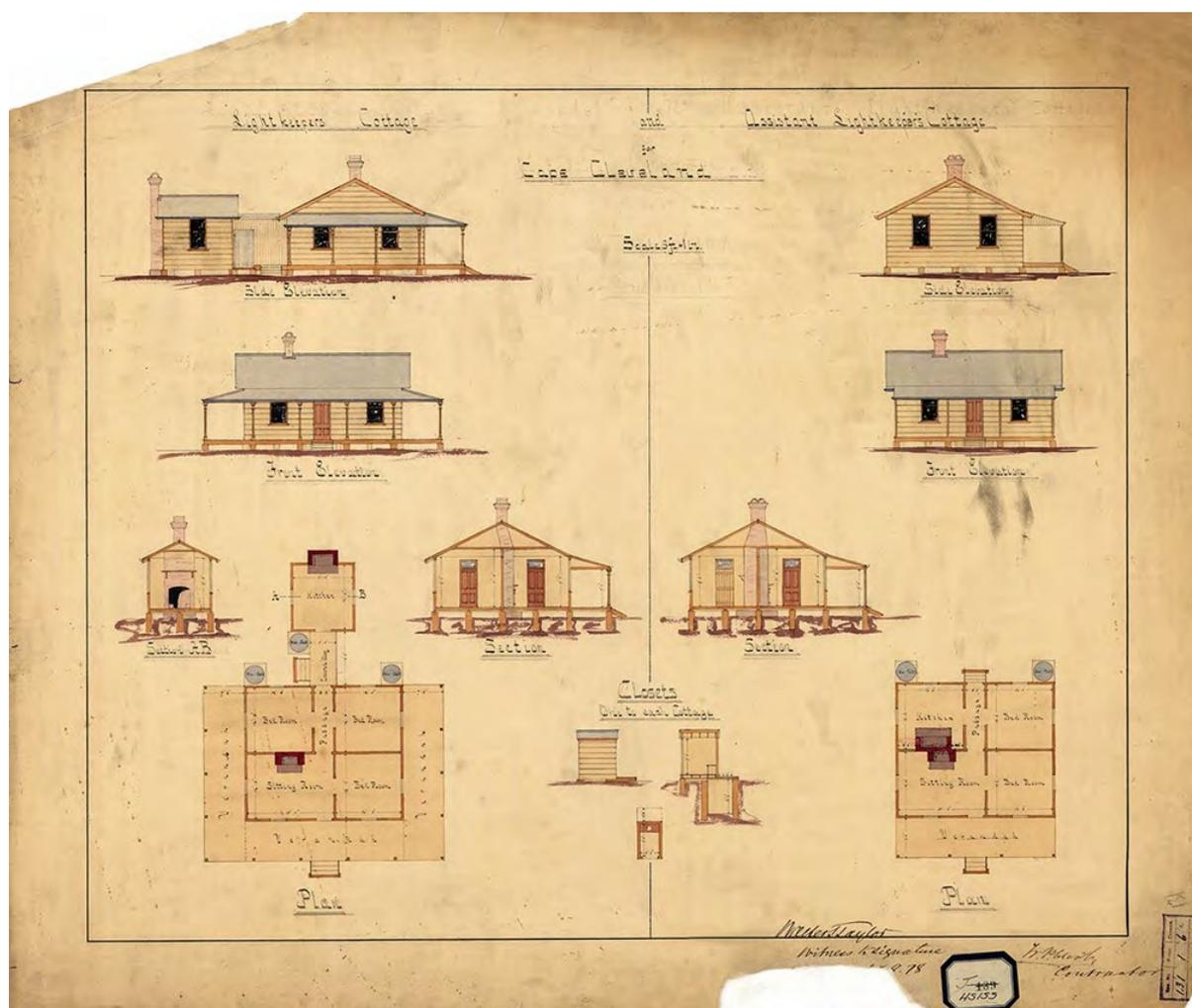


Figure 5 — Keepers' cottages at Cape Cleveland

Lightkeepers Cottage and Assistant Lightkeepers Cottage for Cape Cleveland, a contract drawing prepared in the office of the Colonial Architect, and signed by the contractor William Clark. No corresponding drawing of the original Dent Island cottages is known to survive, but it is likely that they were similar to these. (Source: National Archives of Australia, series J2775, item 1717460).

3.3.1 The lighthouse

As was typical for this series of lighthouses, the Dent Island tower was round in plan and tapered in profile, forming a truncated cone. The outer walls were framed with sawn hardwood posts and rails, bolted together with joints reinforced with wrought iron straps and brackets. The walls were lightly

braced by timber braces, which would have served to stabilise the timber structure before the iron shell was fitted. At Dent Island there was just one intermediate floor with hardwood joists and pine floorboards. In the centre of the tower was a vertical timber weight tube, which formed a central support for a winding timber stair that ran part of the way up the tower. On the upper level, where the conical tower was too small to fit a stair, there was a fixed ladder up to the level of the light room and balcony.

The tower frame was supported at the bottom by a segmented cast iron ring that formed a base, bolted to a massive concrete footing and floor cast within a low stone wall. The timber posts were bolted to lugs made as part of the iron base ring. At Dent Island, because the tower was quite short, a pit was formed in the middle of the floor to provide a longer drop for the weights that powered the clockwork that rotated the lens.

The tower was clad with a covering of wrought iron plates, about 3 mm thick, which were rolled to conform to the conical shape. The plates were lapped and riveted, and screwed to the timber framework and to the iron ring at the base. A timber door was fitted at the bottom of the tower, and glazed windows at each floor level.

At the top of the tower was a timber-framed structure, which formed the floor of the lantern room, and the projecting balcony that surrounded the lantern room. This balcony had a flooring of timber boards with a waterproof covering of lead sheet.

The lantern (the structure which enclosed the lantern room, and which protected the optical apparatus) had three main parts — the base, the glazed section and the roof. The base (sometimes called the murette) was round in plan, framed in timber, clad with iron on the outside and with timber boarding inside, and capped with an iron sill. There was a low door in the base through which the keeper could crawl out onto the balcony. Above the base was the glazed section, with flat trapezoidal glass panes in a slender framework of iron. On top was the lantern roof (sometimes called a dome or cupola) of galvanised iron sheeting on an iron frame, curved to form a hemispherical dome. At the peak of the roof was a weatherproof vent for the lamp smoke to escape. All of these parts were locally designed and made in Queensland.

The optical apparatus was mounted inside the lantern room, and was manufactured by Chance Brothers & Company, lighthouse engineers, in their factory at Smethwick near Birmingham, United Kingdom. The apparatus consisted of the rotating assembly of lenses and prisms, the kerosene lamp at its centre with a number of circular concentric wicks, and the clockwork to rotate the lens assembly.

3.4. A manned lightstation

Dent Island was occupied and used by Aboriginal people over many thousands of years and was also occupied and used by the holders of various licences and leases, as is outlined in Section 4.3, but for long periods the lightkeepers and their families were the only people on the island. The lightstation was manned between 1879–1987.

Lightstations were staffed by men who were selected for their competence and reliability. It was expected that they would be married, and houses were provided so that their wives (and children, if they had any, as many did) would have appropriate accommodation. Larger lighthouses, like Sandy Cape on Fraser Island, had three keepers and a sufficient number of children to justify the appointment of a school teacher. At Dent Island the task of teaching children probably fell to their parents. The isolation of life at the station is poignantly illustrated by the presence of children's graves at the station. One of these is marked with a plaque recording the death of Carrie Biss on 3 April 1885 at the age of 3½ years. Caroline's death certificate records the cause of death as *convulsions*, and she was buried by her father, Head Lightkeeper Edwin Biss, and Assistant Lightkeeper G R Bellairs (Blackwood 1997).



Figure 6 — Dent Island Lighthouse, 1917

Photograph of the tower, looking southward. Note the managed landscape, with the ground cleared around the tower and the native hoop pines kept clear so that the light remains clearly visible from the passage. As was normal during daylight hours, canvas curtains have been hung in the lantern house, so that the lens cannot concentrate the light from the sun and damage the lamp. (Source: AMSA).

3.4.1 Upgrading the lighthouse

When the Australian colonies federated in 1901 it was agreed that coastal lighthouses should become a Commonwealth responsibility, with states continuing to provide harbour lights. The Commonwealth engaged Commander C R W Brewis, a retired British naval surveyor, to report on the condition of existing lights and to recommend improvements. His reports set a course for the newly established Commonwealth Lighthouse Service that took over existing lighthouses in 1915. Dent Island Lightstation, along with the other coastal lights between Cape Moreton and the Torres Strait, was managed from a Commonwealth Lighthouse Service depot in Brisbane. (The establishment of the Commonwealth Lighthouse Service is outlined in Reid 1988).

The lighthouse service followed Brewis's recommendations and upgraded the light source at Dent Island in 1920 by replacing the wick burner with a much brighter pressurised burner with an incandescent mantle (Blackwood 1997). Around 1925 a Chance Brothers mercury float pedestal was

installed. This improved the efficiency of the apparatus, but required an adjustment to the lantern base to accommodate the increased height of the focal plane of the lens above the floor (Commonwealth Lighthouse Service 1925).



Figure 7 — Dent Island Lightstation, c. 1915

Dent Island Lighthouse overlooking the Whitsunday Islands off the coast of Queensland, photograph commissioned by the Queensland Government Intelligence and Tourist Bureau and published in the book *Views seen from Queensland Railways* distributed at the Panama-Pacific International Exposition, San Francisco, 1915. (Source: State Library of Queensland <<http://hdl.handle.net/10462/eadarc/6634>>).

3.4.2. Improving the facilities

A cyclone hit the Whitsunday region in early 1917. A Brisbane newspaper reported that *...no damage had been done to the lighthouse. The dwelling houses, however, required attention, and the outhouses had been flattened by a very severe hurricane. ... Trees were uprooted, and the islands in the vicinity looked as desolate as if they had been swept by fire* (Anonymous 1917). The damaged buildings were repaired and, at various times, the facilities on the station were adapted and improved.

In 1922 lighthouse service engineers surveyed the site and prepared a sketch of a derrick crane on the rocky cliff near the water's edge, and a tramway leading up the hill to a spot near the keepers' houses (Commonwealth Lighthouse Service 1922). Without such a facility it must have been a laborious business to manhandle supplies up the track from the little cove where small boats could land. Tins of kerosene, boxes of groceries, and household effects would all have had to be carried up a hill too steep for a horse and cart. It appears that the project did not proceed.

Electric lighting was introduced for the houses and to power radio equipment, with batteries charged by a diesel generator set in a small engine room building next to the lighthouse. Exactly when these changes were made has not been established, but it probably happened in the 1930s or 1940s, and the station certainly had the generator set and radio-telephone by 1951 (Commonwealth Lighthouse Service 1951). Meanwhile the lighthouse remained lit by kerosene and driven by clockwork.

The keepers had to wait until after the Second World War for any substantial improvements. In March 1952 a visiting engineer recorded that the station was *well kept*, but noted that the eight horsepower diesel generator engine had *undue vibration*. The author noted: *Houses in bad condition, particularly floors, plates + verandahs* and recorded a shortage of water in the second half of the preceding December (Commonwealth Lighthouse Service 1951).

The engineer also wrote: *New house, store shed, crane winch and tramway to be erected here*. These improvements were made, but not immediately. In December 1953 the houses were *deteriorating rapidly*, and the same observation was noted again in September 1957. In May 1958 the contractor for new houses ... *expects to have first house up by end July* (Commonwealth Lighthouse Service 1951).

The two new houses, the derrick crane, the winch house and the workshop were probably completed by around 1960, although the available documents do not provide precise dates.



Figure 8 — The lightstation, c. 1950

Undated photograph showing the original keepers' houses, with the engine room in place. Note the absence of any crane or trolley way. There is a rudimentary roof across the chasm in the cliff, presumably for protecting stores and a small boat. (Source: AMSA).

3.5. An automatic lighthouse

Developments in lighthouse technology through the 20th century made the equipment much more reliable. By the time the Commonwealth Lighthouse Service was set up in 1913 it was possible for navigation lights to operate for long periods without attention. That is, they operated automatically, fuelled with cylinders of acetylene gas and using the highly reliable equipment made by the Swedish AGA company. In 1915–1918 the Commonwealth Lighthouse Service constructed a series of seven new automatic acetylene lights to mark the shipping route between Cooktown and the Torres Strait (Ramsbotham 1919). Some manned lightstations were converted to the automatic system and de-manned — examples include the light on Pipon Reef which was converted in 1915 (Ramsbotham 1919) and the Cape Bowling Green light, which was converted and de-manned in 1920 (Australian National Maritime Museum undated).

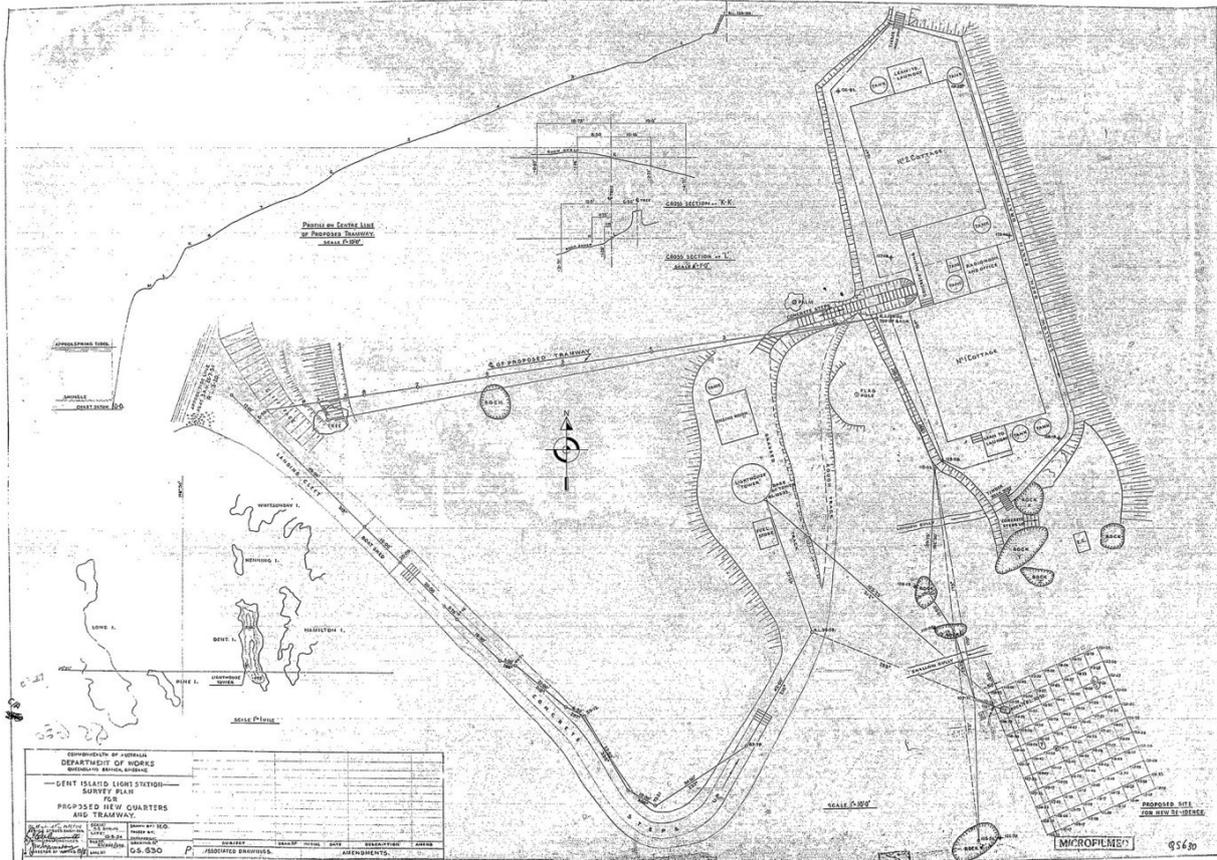


Figure 9 — The lightstation site in 1954

Dent Island Lightstation, survey plan for proposed new quarters and tramway, 10 May 1954. This plan shows the two original keepers' houses still in place, and a proposed new tramway terminating between them. To the north of the lighthouse tower is the engine room (containing the diesel generator set), and to the south of the tower is a fuel store. (Source: AMSA, drawing QS630).

Through the 1970s and 1980s, with further developments in the efficiency of solar-electric lighting systems, with the increasing importance of other aids to navigation such as radar, radio, depth sounders, and satellite global positioning systems (GPS), and with the drive for lower operating costs, the Commonwealth government proposed to automate most or all of its lighthouses. This was contentious (House of Representatives 1984). Among the vocal opponents were small boat operators who did not have radar or GPS and relied on the lighthouses and their keepers. (Buchanan 1994 gives a personal account of this period, from a Queensland lighthouse keeper's point of view).

Ultimately, the scheme to automate and de-man the Commonwealth lights went ahead. In 1983 the light was automated. The land on which the lightstations stood was handed over to other government agencies, such as the various state national parks services, and AMSA arranged to lease back the small part of each site that was needed for the un-manned lights.

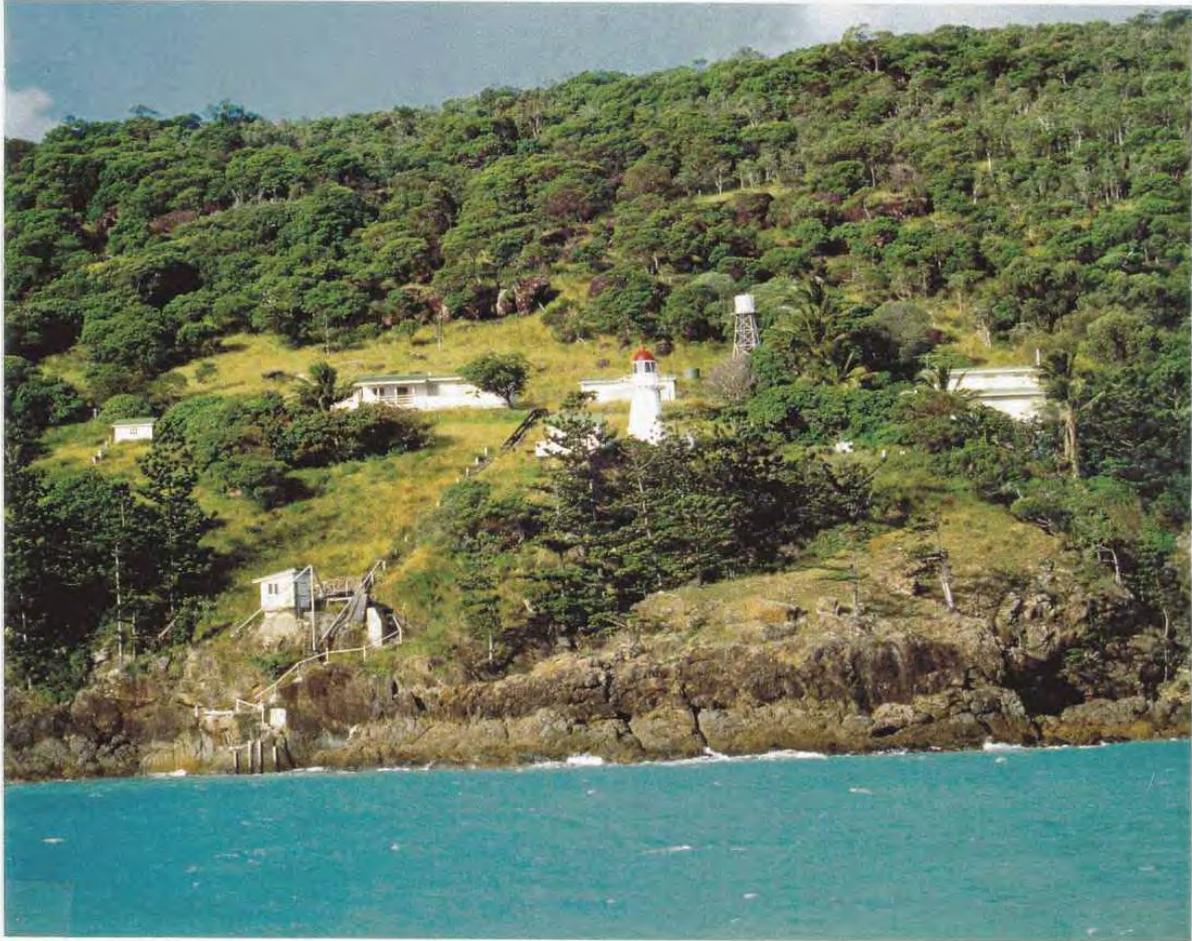


Figure 10 — The lightstation (likely to date before 1995) Note the building on the far left which has since been removed. (Source: unknown photographer, photograph supplied by Hamilton Island Enterprises)

At Dent Island the light was converted to solar power in 1983 (AMSA 2004). The old Chance Brothers clockwork and kerosene optical apparatus was removed from the lantern room, and a Tideland ML-300 beacon installed on the 1925 mercury float pedestal from which the mercury had been removed. Power for the light came from batteries inside the tower charged by an array of solar panels. In 2010 a Sabik LED 350 beacon replaced the ML-300.

The lightkeepers remained at Dent Island, maintaining and monitoring the light, until the station was de-manned in 1987.

The responsibility for Lots 3 and 4 (on Crown Plan HR2019) passed to the GBRMPA in 1994. Lots 1 and 2 (on Crown Plan HR2019) passed to the GBRMPA in 2003. AMSA leased two small pieces of land — a 58 m² area around the tower (Lot 1 on Crown Plan HR2019), and a separate 669 m² area on the edge of the cliff, retained as a possible site for a new replacement lighthouse and a helicopter landing pad (Lease A on Lot 2 on Crown Plan HR2019) (Figure 13).

The lighthouse tower remains the property of AMSA, which is also responsible for maintaining the small areas of land it leases from the GBRMPA. Lighthouse maintenance work is carried out by the AMSA maintenance contractor.

Maintenance of the former keepers' houses and other ancillary buildings is the responsibility of the private lessee.

After the keepers left in 1987, the site was unoccupied for a time. In 1994 the private lessee appointed Rob Nichols as caretaker. He and his family stayed there until 1998. John Weymouth was appointed as caretaker in 1999 and was involved in considerable restoration work on the houses and ancillary buildings, funded by the private lessee.



Figure 11 — The areas leased by AMSA
Image © 2013 Aerometrex

3.6. The golf course

In August 2009, after about three years of construction work, the Dent Island Golf Course Resort began operation. A section of the course occupies land leased by the private lessee from the Commonwealth (Lot 4, leased from the GBRMPA). Most of the golf course is on the state portion of the island (Lot 5, leased from the Queensland Department of Natural Resources and Mines). The resort includes an 18-hole golf course, a clubhouse, a maintenance compound, a marine landing facility, a heliport, services and a pump station. Future developments proposed include a 109-room five-star hotel and associated restaurant, lounge, bar, pool and tennis court, up to 38 villa sites and 172 two- and three-bedroom townhouses/apartments.

With the completion of construction and commencement of operations of the golf course, improved access to Dent Island Lightstation has been completed. Concrete roads for golf buggies and maintenance vehicles now service the developed state government owned part of the island. Access is available from the marine landing facility, the golf course helipad, around the 18 holes of the golf course and from the 12th fairway to the lightstation. The access distance of the concrete road from the 12th fairway to the lightstation is approximately 350 m, averaging 3 m in width. Access to the lightstation for works, maintenance and operations is now available in most weather conditions.

4. Dent Island

4.1. Location

Dent Island is in the Whitsunday Island Group of the Great Barrier Reef approximately 18 km south-east of Shute Harbour (20°20'21"S, 148°55'48"E) (Figure 3).

Dent Island is in the Great Barrier Reef, between the Queensland coast and the outer Reef. It is approximately 1.5 km west of the largest inhabited island in the Whitsundays, Hamilton Island, positioned about midway along the coastline between Brisbane and Cairns. The island has a surveyed area of about 312 ha.

4.2. Geology

Dent Island is a steep island with an undulating coastline rising to rounded hills. The island is dissected by small gullies and has shallow embayments on all sides. In places the shore has been cut into rocky bluffs. The geology of Dent Island comprises Whitsunday Volcanics, waterlaid acid to intermediate air-fall pyroclastics, minor pyroclastic flows and lava.

4.3. The occupation and use of Dent Island

Government archives contain records of a succession of licences, leases and transfers of property on Dent Island; however, written records of Indigenous occupation are limited.

4.3.1. Indigenous occupation and use

Coppinger (1883) counted 40 or 50 Aboriginal people on Dent Island in 1882 and stated his surprise at the large number of children. During the early post-contact period Dent Island became a refuge for many Aboriginal people. Blackwood (1997) also reports that about 50 people were living around the Dent Island Lighthouse in the early 1880s. By the 1930s most of the offshore islands were almost completely depopulated of Aboriginal people, with the exception of those people who stayed on to work at islands occupied by European settlers (Farr 1965; Blackwood 1997).

Prior to European contact, the entire Whitsunday region including all the islands had been home to the Gnaro people of the Birri-Gubba nation, at least since the last major sea level rise in the late Pleistocene period (i.e. the end of the last ice age). As a result, Gnaro people have sites of significance to them that are below the current sea level.

Throughout the Whitsunday Islands there are sites of significance such as the petroglyphs of Nara Inlet which show tangible evidence of occupation and use. Unseen, and just as significant, are the intangible sites of significance to the Gnaro people which leave no physical evidence of occupation and use. It is known that the Gnaro people have visited and occupied all the islands in the region for reasons of subsistence, shelter, seasonal changes in natural resource availability, ceremonial and other reasons. It can be said that the entire Whitsunday region is culturally significant to the Gnaro people.

4.3.2. Lightkeepers, pastoralists and tourists

The lightstation occupies only a small portion of Dent Island and the Queensland government has granted a succession of licenses and leases for the remainder (Blackwood 1997).

From 1905 until 1912 Michael Ahern held an occupation licence over the whole of the island, but it is not known what use he made of it. William Galbraith took over the lease until it lapsed in 1913. Blackwood (1997) notes that *this may have been in connection with the Commonwealth Government's decision to create a lighthouse reserve and official correspondence in 1910 shows their claiming a strip of 200 acres (81 ha) running across the island 20 chains (396 m) north and south of the lighthouse, effectively isolating the southern end of the island. By 1919 or 1920s this reserve had been extended to cover the whole of the southern half of the island (about 400 acres (160 ha)) with*

*some argument that the northern half should not be leased because of the danger that smoke from fires may obscure the light. In any event it seems that from about 1915 a reserve over the southern half was a *'fait accompli'* as in that year all lighthouse reserves passed to the Commonwealth Government.*

Between 1927 and 1933 Edward Stuart Abell held a lease over the whole island, including the southern lighthouse reserve, with a proviso that he was to fence the boundary to keep stock out of the lighthouse reserve. He built the fence, but did not run any stock or live on the island.

The lease was transferred to John James O'Hara in 1933. He ran cattle and sheep on the island and initially built a corrugated iron shack, and later a fibro house, for shelter during occasional visits. A more substantial fibro house came later, and was used by the workers who built the new lightkeepers' cottages around 1958. From 1939 O'Hara and his wife lived full-time on the island, in a building relocated from the main street of Proserpine. The lease passed to other O'Hara family members, who retained the interest until it was sold in 1968.

In 1961, the Wallace's leased 1.01 ha around the building that had been moved from Proserpine — this continues as the *Coral Art* lease (Lot 4 on CP855596) on the State part of the island.

The pastoral lease over the northern part of Dent Island passed in turn to Ronald William Vigar (1968), Sebastian Properties Pty Ltd / Normelda Developments Pty Ltd (1973), the Faust family (1974), and a private lessee (1989).

In 1989, following the de-manning of the lightstation, the Commonwealth leased the small area of land immediately around the lighthouse to AMSA, and put out to tender the lease of the remainder of the southern part of Dent Island. The lease was granted to a private lessee.

4.4. Current owners and leases

The northern part of Dent Island (about two-thirds of the island) is owned by the Queensland government and the southern part (the former lighthouse reserve) is held on behalf of the Commonwealth by the GBRMPA.

The private lessee has responsibility for the day-to-day maintenance of the land and facilities within the leased areas.

The southern Commonwealth part of Dent Island comprises five leased areas, as described below:

- *Lot 1 HR2019 (58 m²):* This small area contains the lighthouse tower and is leased from the GBRMPA by AMSA. AMSA owns the lighthouse and the associated equipment and is responsible for maintaining this structure. AMSA has rights of access to the site through the surrounding areas.
- *Lot 2 HR2019 (2836 m²):* This lease is divided into two areas:
 - o Lease A contains no structures and is leased from the GBRMPA by AMSA as a potential helipad site.
 - o Lease B contains the former lightkeepers' houses and other ancillary structures of the lightstation and is leased from the GBRMPA by a private lessee. The private lessee is responsible for the day-to-day maintenance of this Lot.
- *Lot 3 HR2019 (1.662 ha):* This area is leased from the GBRMPA by Maritime Safety Queensland as a navigation beacon reserve.
- *Lot 4 HR2019 (115 ha):* This area, the major part of the Commonwealth area in the south of the island, is leased from the GBRMPA by a private lessee. This lease includes the golf course. The lessee is responsible for the day-to-day property management of this allotment.

4.5. The heritage management plan area

This heritage management plan deals directly with the area that was historically used by the lighthouse keepers who maintained the lighthouse between 1879 and 1987 — that is, Lots 1 and 2 on HR2019, plus about 14 600m² of Lot 4 (Figure 13). It includes the lighthouse, the two keepers' houses, the store, the winch house, the workshop/store/radio-room and the engine room. Also included are the tramway, the derrick crane, various concrete paths, two graves, septic tanks, the main concrete water tank, the water header tank on its steel lattice stand, the fowl house, and the spa bath and its roof (Figure 11).

4.6. The lightstation setting

The heritage value of the lightstation could be affected adversely by changes in its visual setting — this is the area seen around the lightstation from seaward, from the shore up to the line of the ridge behind the station to the east, and extending about 300 m to the north and south of the station.

Dent Island is an area of steep and moderate vegetated slopes rising from the rocky foreshore up to a ridge that runs roughly parallel with the shore line. It is covered with eucalypt forest and woodland (*Corymbia tessellaris* and *Eucalyptus tereticornis*) open forest and vine thicket understorey on hill slopes, also present are areas of variable eucalypt dominated associations (often with *Eucalyptus drepanophylla*, *E. crebra*, *Acacia spirorbis* subsp. *solandri*, *Lophostemon confertus* and *E. exserta*) and grassland on the southern portion (*Xanthorrhoea latifolia* subsp. *latifolia* shrubland and *Imperata cylindrica* grassland, including some areas recently colonised by *Timonius timon* shrubland), with a few clumps of hoop pine (*Araucaria cunninghamii*). It contrasts with the more open landscape of the lightstation where native trees have been cleared (except for the hoop pines), the grass has been kept mown, and garden plants have been introduced.

5. Cultural significance

The cultural significance of the Dent Island Lightstation is set out in the entry in the Commonwealth Heritage List to which the lightstation was added in 2004. The cultural significance as described is discrete from the overall Aboriginal cultural significance of the entire region as noted previously. The statements from the list are reproduced below, with some comments and suggestions made on the basis of recent investigations.

5.1. Previous listings

The cultural significance of the Dent Island Lightstation was already recognised when the EPBC Act came into effect. The following listings are noted here for the record, although they do not have any legislative effect on the management or operation of the lightstation.

- The National Trust of Queensland Register — the lightstation is currently not listed by the National Trust (pers. Comm 2012, National Trust of Queensland).
- The Queensland Heritage Register — Dent Island Lighthouse was entered in the state register at the commencement of the *Queensland Heritage Act 1992* under the transitional arrangements from the *Heritage Buildings Protection Act 1990*, but was later removed after legal advice that listing in the State register was not valid for Commonwealth-owned places. As a result of receiving this advice about the Dent Island case, the Queensland Heritage Council removed from its register all other places owned by the Commonwealth (pers. comm. 2012, Queensland Department of Environment and Heritage Protection).
- The Register of the National Estate — Dent Island Lightstation was entered in this register in 1980. This listing no longer has any effect on the management of the place, since the EPBC Act has taken over the relevant functions of the *Heritage Commission Act 1975*.

5.2. Summary statement of significance

The current Commonwealth Heritage List summary is shown in *italic type* below, with comments interspersed in roman type:

Dent Lighthouse, constructed in 1879, is significant as a light tower built in response to the dramatic expansion of regular coastal shipping along the inner route of the Great Barrier Reef, following the economic development of Northern Queensland (Criterion A.4).

Concerning the name of the place, since 1879 it has been known officially as Dent Island Lighthouse or Dent Island Lightstation — that name should be used in the heritage list. While it is known that the Gnaro people may have had their own name for Dent Island, this has not been recorded on any known document.

As well as being a *response* to the expansion of shipping, the lighthouse is an important manifestation of the colonial government's policy of investing in infrastructure, such as railways and lighthouses, to *encourage* the expansion of economic activity.

The Lighthouse is significant as an intact representative example of a timber-framed, iron clad tower (Type B), an adaptation by the Queensland Government of the imported prefabricated type using components from the United Kingdom (Criterion D.2).

The design was not an adaptation of the prefabricated cast iron form as used at Bustard Head (first lit 1868) and Sandy Cape (1870). Rather, it was derived from other sources including the timber lighthouses being built in Canada, with the local invention of using boiler plate sheeting. *Type B* is not part of a recognised typology, and has no meaning here.

Dent Lighthouse is important as one of a pair of identical lighthouse towers in the Whitsunday Passage, the other being situated at Cape Cleveland (Criterion D.2).

Cape Cleveland is not in the Whitsunday Passage, but about 200 km further north. The two are no longer identical — at Cape Cleveland the stair, weight tube, and timber lining have been removed, and at Dent Island the lantern base has been modified.

The Lightstation Complex of tower, houses, store shed, engine room and combined workshop/radio room, dating from 1879 to c. 1960, are significant as a complete intact example of a Lightstation Complex in Queensland. Later stages of development have integrated with the original fabric and detail of the Lightstation, contributing to the continuum of a complex dedicated to the single aim of maintaining the navigation aid (Criterion A.4).

5.3. Cultural values

Again, the text from the current Commonwealth Heritage List is shown in *italic type* below, with comments interspersed in roman type:

5.3.1. Processes (criterion a)

Dent Lighthouse, constructed in 1879, is significant as a light tower built in response to the dramatic expansion of regular coastal shipping along the inner route of the Great Barrier Reef, following the economic development of Northern Queensland.

The Lightstation Complex of tower, houses, store shed, engine room and combined workshop/radio room, dating from 1879 to c. 1960 is significant as a complete intact example of a Lightstation Complex in Queensland. Later stages of development have integrated with the original fabric and detail of the Lightstation, contributing to the continuum of a complex dedicated to the single aim of maintaining the navigation aids.

Attributes: The lighthouse and its relationship to the houses, storage shed, engine room and combined workshop/radio room, dating from 1879 to c.1960.

5.3.2. Rarity (criterion b)

(This criterion is not referred to in the Commonwealth Heritage List)

While the lightstation might not possess sufficient rarity to meet the threshold for Commonwealth listing, the 1879 lighthouse is one of only six of its type to survive in service. Such lighthouses were never common — a total of 12 of this type were built between 1873 and 1890.² Another related aspect is the use of a type of lantern house locally designed (in the Colonial Architect's office) — ten lanterns of this design were built, of which five survive in service.³

The shore-mounted derrick crane, built around 1960, is another rare element of the lightstation. Such cranes were built at some other lightstations, but few survive as intact as the one at Dent Island.⁴

Attributes: The lighthouse tower with its timber frame, stairs, ladder, floors, partition walls, and doors; the iron plating and bronze porthole windows; the lantern house — all of these elements were locally designed and made in Queensland. Also the derrick crane with its associated winch house.

² The following six iron-plated, timber-framed lighthouses are still in service in Queensland: Low Isles (first lit 1878), North Reef (1878), Cape Cleveland (1879), Dent Island (1879), Double Island Point (1884) and Booby Island (1890). These four survive unused: Lady Elliott Island (1873), Cape Bowling Green (1874) (moved), Flat Top Island (1879) and Pine Islet (1885) (moved). These two have been demolished: Cape Capricorn (1875) and Archer Point (1883).

³ Lanterns of this type are still in service at five lighthouses: Cape Cleveland (first lit 1879), Dent Island (1879), Grassy Hill (1886), Goods Island (1886) and Sea Hill (1895). Two others survive unused: Caloundra (1896) and Flat Top Island (1879). Three have been demolished: Archer Point (1883), Cowan Cowan (date uncertain) and the Moreton Bay Pile Light (1882).

⁴ The most directly comparable derrick crane, with tubular steel spars, is at Montague Island, New South Wales.

5.3.3. Characteristic values (criterion d)

The Lighthouse is significant as an intact representative example of a timber-framed, iron clad tower (Type B), an adaptation by the Queensland Government of the imported prefabricated type using components from the United Kingdom. Dent Lighthouse is important as one of a pair of identical lighthouse towers in the Whitsunday Passage, the other being situated at Cape Cleveland.

The previous comments regarding construction type are also applicable, as are the comments about Cape Cleveland.

Attributes: The structural system and all of the fabric including timber framing and iron cladding.

5.3.4. Aesthetic characteristics (criterion e)

(This criterion is not referred to in the Commonwealth Heritage List)

While the aesthetic value may not be high enough to meet the threshold for Commonwealth listing, it is still a substantial value that warrants conservation.

Attributes: The visual impression of the buildings sitting in a partly cleared, modified and tended landscape.

5.3.5. Technical achievement (criterion f)

(This criterion is not referred to in the Commonwealth Heritage List)

While the level of technical achievement may not be high enough to meet the threshold for Commonwealth listing, it is still a substantial value that warrants conservation.

Attributes: The evidence of the local Queensland design of the timber and iron tower, and the lantern room; the evidence of local manufacture of the tower and lantern.



Figure 12 — The lighthouse in 2012

The glazed section of the lantern is blanked on the landward side, as seen in this view. (Image: Peter Marquis-Kyle)

6. The fabric of the lightstation

6.1. Introduction

In this chapter the parts of the lightstation for which AMSA is responsible are discussed separately from the parts for which the GBRMPA (through its private lessee) is responsible.

6.2. List of the elements of the lightstation

All elements of the lightstation are located to the south of the island, on the western side. The numbers in the list below correspond with those shown on Figure 14.

6.2.1. Elements within the AMSA lease (assets owned by AMSA)

- 1 Lighthouse

6.2.2. Elements within the private lease (assets held by GBRMPA on behalf of the Commonwealth)

- 2 Engine room
- 3 Winch house
- 4 Derrick crane
- 5 Landing platform
- 6 Boat platform and access ladder
- 7 Cottage 1
- 8 Workshop, store and radio room
- 9 Cottage 2
- 10 Septic pits and absorption trench
- 11 Concrete water tank
- 12 Tramline, trolley and cables
- 13 Metal water tank and stand
- 14 Paths, stairs and bridges
- 15 Polyethylene water tank
- 16 Graves
- 17 Lightstation grounds
- 18 Boulders
- 19 Access road
- 20 Spa bath and roof
- 21 Fowl house

6.3. The lighthouse (AMSA property)

Except for the lighting equipment and its energy source, the lighthouse is little changed from its original form. The original kerosene wick burner was replaced with a brighter incandescent kerosene burner in the mid-1920s. The original roller pedestal was also replaced with a mercury float pedestal around the same time, and the lens assembly may have been changed.

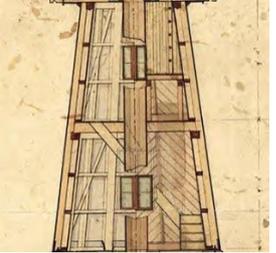
In 1983 the light was automated by removing the fourth order dioptric lens assembly and kerosene burner, and fitting a Tideland ML-300 self-contained electric beacon powered by batteries charged by solar panels attached to the balcony handrail. The electric beacon was mounted on the 1920s Chance Brothers pedestal (the mercury having been removed from the trough). A fence of galvanised iron pipe and chain wire was built around the lighthouse.

In 2010 the ML-300 beacon (lit by a tungsten halogen lamp) was replaced with a new Sabik beacon lit by light emitting diode (LED) lamps.

The wire fence was removed by AMSA in 2011. AMSA intends to remove the remnant fence post bases.

6.3.1. Elements of the lighthouse

<i>Element</i>	<i>History</i>	<i>Description and condition</i>	<i>Significance</i>
<p>Footing and tower base</p> 	<p>Built in 1879 and not substantially altered.</p>	<p>Circular mass concrete footing extending 900 mm below ground level and standing 700 mm above ground.</p> <p>Includes stone surrounding wall, two stone entry steps and central weight pit.</p> <p>All in good stable condition.</p>	<p>Highly significant for these reasons:</p> <p>The base is an essential part of the lighthouse and demonstrates a local Queensland design (criterion a).</p> <p>The base is a characteristic element of lighthouses of its type (criterion d).</p> <p>The base is an essential part of the innovative structural design of the Queensland timber and iron lighthouse towers (criterion f).</p>

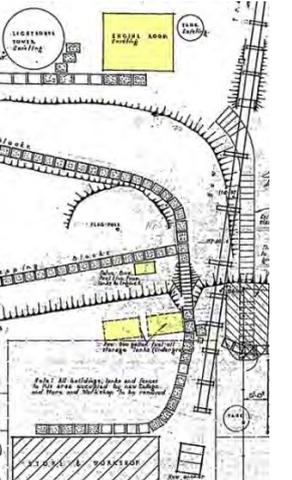
<i>Element</i>	<i>History</i>	<i>Description and condition</i>	<i>Significance</i>
Tower			
	Built in 1879 and not substantially altered. The hardwood frame was prefabricated in Brisbane, then brought to Dent Island for erection.	Frame of hardwood studs and rails with joints reinforced with forged iron straps, lined with diagonal pine tongue and groove boards. Pine tongue and groove boarded weight tube between ground floor and lantern floor. Timber stair with two straight runs and one section of winders, from ground floor to first floor. Fixed vertical timber ladder from first floor to lantern floor.	Highly significant for these reasons: The tower is an essential part of the lighthouse and demonstrates a local Queensland design (criterion a). The tower is a characteristic element of lighthouses of its type (criterion d).
		Ground floor entry door with timber framed and sheeted leaf with inset metal louvre vent panel. Internal panelled door on first floor lantern vestibule/airlock.	The tower contributes to the aesthetic value of the lighthouse (criterion e)
		Intermediate (first) floor of hardwood joists and pine floorboards. Plating of curved galvanised wrought iron of 10 gauge (3.175 mm) thickness, with lapped and riveted joints, screwed to timber frame.	The tower is an essential part of the innovative structural design of the Queensland timber and iron lighthouses (criterion f).
		Round porthole windows of cast gunmetal, with inward opening sashes. Each window has an internal copper gutter to catch any water that drips from the sash, with copper pipe to carry the water out through the plating.	
		All in good stable condition.	
	(Source: National Archives of Australia, series J2775, item 1717459)		

<i>Element</i>	<i>History</i>	<i>Description and condition</i>	<i>Significance</i>
<p>Balcony and lantern floor</p>   <p>(Source: National Archives of Australia, series J2775, item 1717459)</p> 	<p>Built in 1879 and not substantially altered. The hardwood frame was prefabricated in Brisbane and then brought to Dent Island for erection.</p>	<p>Radiating hardwood joists with outer ends cut to profile.</p> <p>Floorboards on top of joists, with rounding nosing at outer edge.</p> <p>Lead covering with radial rolled joints, and outer edge dressed over the nosing.</p> <p>Balustrade with solid wrought iron stanchions, and rails of galvanised iron pipe.</p> <p>All in good stable condition.</p>	<p>Highly significant for these reasons:</p> <p>The balcony is an essential part of the lighthouse and demonstrates a local Queensland design (criterion a).</p> <p>The balcony is a characteristic element of lighthouses of its type (criterion d).</p> <p>The balcony contributes to the aesthetic value of the lighthouse (criterion e).</p> <p>The balcony is an essential part of the innovative structural design of the Queensland timber and iron lighthouses (criterion f).</p>

<i>Element</i>	<i>History</i>	<i>Description and condition</i>	<i>Significance</i>
<p>Lantern</p> 	<p>Built in 1879. The component parts were prefabricated in Brisbane, then brought to Dent Island for assembly.</p> <p>In the late 1920s the height of the lantern base was raised to accommodate the extra height of the mercury float pedestal.</p>	<p>Timber-framed base (murette) sheeted with curved iron plate on outside, vertical boards inside. A ring of timber blocks, in segments joined with lap joints, has been inserted between the lantern base and the glazing sill, covered on the outside with lead flashing.</p> <p>Glazing of flat trapezoidal panes held in inclined astragals. Panes on the landward side are blanked.</p> <p>Part-spherical roof (dome/cupola) of sheet galvanised iron curved both ways, on curved iron rafters attached to cast iron gutter ring. Heat vent tube still in place.</p> <p>All in good stable condition.</p>	<p>Highly significant for these reasons:</p> <p>The lantern is an essential part of the lightstation, and demonstrates a local Queensland design (criterion a).</p> <p>The lantern is a characteristic element of lighthouses of its type (criterion d).</p> <p>The lantern contributes to the aesthetic value of the lighthouse (criterion e)</p> <p>The lantern demonstrates an innovative local response to the problem of economical lighthouse construction (criterion f).</p>
<p>Mercury float pedestal</p>  <p>(Image: AMSA)</p>	<p>Manufactured by Chance Brothers & Company, Birmingham, UK and installed at Dent Island c. 1927.</p> <p>In 1983 the fourth order dioptric rotating lens and kerosene lamp equipment were removed, the mercury drained from the trough, and the pedestal adapted to support an electric beacon.</p>	<p>Standard Chance Brothers & Company fourth order mercury float pedestal from which the clock, drive gear, lamp, lens and mercury have been removed.</p> <p>In good stable condition.</p>	<p>Highly significant for this reason:</p> <p>The pedestal is a rare surviving example of a small (fourth order) mercury float pedestal (criterion b).</p>

<i>Element</i>	<i>History</i>	<i>Description and condition</i>	<i>Significance</i>
<p>Solar powered equipment</p>    <p>(Image: AMSA)</p>	<p>The system was installed in 1983.</p> <p>In 2010 the ML-300 beacon was replaced with an LED beacon.</p>	<p>Three solar panels attached to the balcony handrail on aluminium frame.</p> <p>Six batteries on galvanised steel rack in the lower room of the tower, with control box and associated cables.</p> <p>LED self-contained fixed beacon mounted on the lamp pillar of the mercury float pedestal.</p>	<p>Not significant.</p> <p>This is a typical set of current standard navigation equipment of which many other examples are in service.</p>

6.4. The rest of the lightstation (GBRMPA property)

Element	History	Description and condition	Significance
<p>2 Engine room</p>    <p>(Source: AMSA, drawing no. QA11840)</p>	<p>Built at some time in the 1930s or 1940s to house a diesel electric lighting plant for lighting the cottages.</p> <p>Later adapted by successive replacement of the generator sets.</p> <p>In 1999 the two generator sets in the building were installed. These are not associated with use of the site by lightkeepers.</p>	<p>Timber-framed, gable roofed, single room building on concrete slab on ground. Roof sheeted with <i>Super Six</i> asbestos-cement, with matching accessory ridge, gable and vent pieces. Walls sheeted with flat asbestos-cement.</p> <p>Timber awning casement windows; timber framed and sheeted doors.</p> <p>The building does not contain any major equipment from the manned lightstation period, but does contain small remnants from that period.</p> <p>There is a corrugated iron rainwater tank, on a timber stand, against the northern wall of the building.</p> <p>One of the generator sets is in working order, the other is unserviceable following fire damage.</p> <p>The building is in generally sound condition.</p>	<p>Moderately significant for these reasons:</p> <p>The engine room demonstrates the development and operation of the lightstation, particularly the provision of electricity for radio operation and the keepers' domestic purposes (criterion a).</p> <p>Provision of domestic electric lighting for lightkeepers' quarters was a typical feature of lightstations from about the 1930s (criterion d).</p>

<i>Element</i>	<i>History</i>	<i>Description and condition</i>	<i>Significance</i>
3 Winch house			
	<p>Built in the late 1950s. In service until the light-station was de-manned in 1987.</p>	<p>Timber-framed, skillion roofed, single room building on suspended reinforced concrete slab floor. Roof sheeted with <i>Super Six</i> asbestos-cement, with matching accessory barge pieces. Walls sheeted with hardwood weather-boards.</p>	<p>Moderately significant for these reasons:</p> <p>The winch house and its equipment demonstrates the development and operation of the light-station, particularly the work of transferring fuel, equipment and stores from boats (criterion a).</p>
		<p>Timber casement windows, and solid timber doors and hatches.</p> <p>Inside the building is a reel winch driven by a small diesel engine, set up to control both the lifting line on the crane, and the trolley hauling line.</p> <p>The building is in a deteriorated condition.</p>	<p>The winch house and its associated components are typical elements of lightstations on elevated sites serviced from the sea (criterion d).</p>
4 Derrick crane			
	<p>Built in the late 1950s. In service until the light-station was de-manned in 1987.</p>	<p>Slewing derrick crane with tubular steel jib, post and legs, arranged to lift a load from a small boat brought up to the cliff below, and to lift it on to the landing platform or boat platform. The lifting line is operated by the reel winch in the winch house, and the jib is slewed by hand.</p> <p>The crane is in a deteriorated condition.</p>	<p>Highly significant for these reasons:</p> <p>The crane and its equipment demonstrates the development and operation of the light-station, particularly the work of transferring fuel, equipment and stores from boats (criterion a).</p> <p>The crane is a rare surviving example of a lightstation crane (criterion b).</p> <p>The crane is a typical element of lightstations on elevated sites serviced from the sea (criterion d).</p>

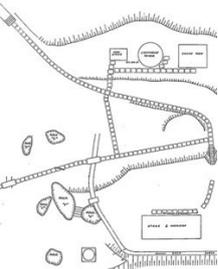
<i>Element</i>	<i>History</i>	<i>Description and condition</i>	<i>Significance</i>
<p>5 Landing platform</p> 	<p>Built in the late 1950s. In service until the lightstation was demanned in 1987.</p>	<p>Reinforced concrete floor slab. One section is supported on the ground and fill; the rest is suspended and supported on concrete posts.</p> <p>The platform is in a seriously deteriorated and dangerous condition.</p>	<p>Moderately significant for these reasons:</p> <p>The landing platform demonstrates the development and operation of the lightstation, particularly the work of transferring fuel, equipment and stores from boats (criterion a).</p> <p>The landing platform is a typical element of lightstations on elevated sites serviced from the sea (criterion d).</p>
<p>6 Boat platform and access ladder</p> 	<p>Built in the late 1950s. In service until the lightstation was demanned in 1987.</p>	<p>Steel and timber cradle to support a small boat midway between the sea and the landing platform.</p> <p>The platform and ladder are in a deteriorated condition.</p>	<p>Moderately significant for these reasons:</p> <p>The boat platform and ladder demonstrate the development and operation of the lightstation, particularly the work of handling small boats that were part of the equipment of lightstations (criterion a).</p> <p>The boat platform and ladder are typical elements of lightstations on elevated sites serviced from the sea (criterion d).</p>

<i>Element</i>	<i>History</i>	<i>Description and condition</i>	<i>Significance</i>
<p>7 Cottage 1</p> 	<p>Built in the late 1950s and completed by around 1960.</p> <p>Maintained, with minor modifications, during its service as light-keepers' quarters until the station was de-manned in 1987.</p> <p>Refurbished by the private lessee during the 2000s and currently occupied by staff of the private lessee.</p>	<p>Timber-framed detached house built on two levels stepping down the slope, connected with a single flight internal stair.</p> <p>Walls sheeted externally with hardwood weatherboards, internally with hardboard.</p> <p>Roofed with <i>Super-Six</i> asbestos-cement sheeting.</p> <p>Timber double-hung window sashes with external hinged timber cyclone shutters.</p> <p>The building is in generally sound condition.</p>	<p>Moderately significant for these reasons:</p> <p>The cottage demonstrates the development of the light-station, particularly the improvements to the keepers' living conditions made in the 1950s (criterion a).</p> <p>The cottage is a characteristic element of lightstations (criterion d).</p>
<p>8 Workshop, store, and radio room</p> 	<p>Built in the late 1950s as workshop and store.</p> <p>Used as a radio room.</p> <p>Refurbished by the private lessee during the 2000s and currently used by staff of the private lessee.</p>	<p>Timber-framed building on concrete slab on ground.</p> <p>Walls sheeted inside and out with flat asbestos-cement.</p> <p>Roofed with <i>Super-Six</i> asbestos-cement sheeting.</p> <p>Glass louvre windows, and timber framed and sheeted doors.</p> <p>The building is in generally sound condition.</p>	<p>Moderately significant for these reasons:</p> <p>The workshop building demonstrates the development of the light-station, particularly the improvements in radio communication made in the 1950s (criterion a).</p> <p>The workshop is a characteristic element of lightstations (criterion d).</p>

<i>Element</i>	<i>History</i>	<i>Description and condition</i>	<i>Significance</i>
<p>9 Cottage 2</p> 	<p>Built in the late 1950s and completed by around 1960.</p> <p>Maintained, with minor modifications, during its service as lightkeepers' quarters until the station was de-manned in 1987.</p> <p>Refurbished by the private lessee during the 2000s and currently occupied by staff of the private lessee.</p>	<p>Timber-framed detached single-storey house.</p> <p>Walls sheathed externally with hardwood weatherboards, internally with hardboard.</p> <p>Roofed with <i>Super-Six</i> asbestos-cement sheeting.</p> <p>Timber double-hung window sashes with external hinged timber cyclone shutters.</p> <p>The building is in generally sound condition.</p>	<p>Moderately significant for these reasons:</p> <p>The cottage demonstrates the development of the lightstation, particularly the improvements to the keepers' living conditions made in the 1950s (criterion a).</p> <p>The cottage is a characteristic element of lightstations (criterion d).</p>

<i>Element</i>	<i>History</i>	<i>Description and condition</i>	<i>Significance</i>
<p>10 Septic pits and absorption trench</p> 	<p>Built in the late 1950s and completed by around 1960.</p> <p>Currently servicing the two cottages.</p>	<p>Underground concrete pits, pipework and transpiration trenches — two sets, one connected to each cottage.</p> <p>In serviceable condition.</p>	<p>Moderately significant for this reason:</p> <p>The installation demonstrates the development of the lightstation, particularly the improvements to the keepers' living conditions made in the 1950s (criterion a).</p>
<p>11 Concrete water tank</p> 	<p>Built in the late 1950s and completed by around 1960, to collect and store rainwater from the roofs of the buildings.</p> <p>Refurbished with painted waterproofing membrane in 2010.</p> <p>Asbestos-cement roof sheeting replaced with steel in 2010.</p> <p>Currently servicing the two cottages.</p>	<p>Rectangular tank with floor and walls of reinforced concrete cast <i>in situ</i>.</p> <p>Corrugated steel skillion roof on timber frame.</p> <p>The tank is in generally sound condition.</p>	<p>Moderately significant for these reasons:</p> <p>The tank demonstrates the development of the lightstation, particularly the improvements to the keepers' living conditions made in the 1950s (criterion a).</p>

<i>Element</i>	<i>History</i>	<i>Description and condition</i>	<i>Significance</i>
<p>12 Tramline, trolley and cables</p>  	<p>Built in the late 1950s. In service until the light-station was de-manned in 1987.</p>	<p>Straight run of tramline, inclined over most of its length, with a level section at the top. A wire hauling rope runs on two sets of steel rollers — one set between the rails, and one outside.</p> <p>The trolley runs on two pairs of wheels, and has a flat timber tray.</p> <p>The system is generally complete and in sound condition.</p>	<p>Moderately significant for these reasons:</p> <p>The tramline and its equipment demonstrates the development and operation of the light-station, particularly the work of transferring fuel, equipment and stores from boats (criterion a).</p> <p>The tramline and its associated components are typical elements of lightstations on elevated sites serviced from the sea (criterion d).</p>

<i>Element</i>	<i>History</i>	<i>Description and condition</i>	<i>Significance</i>
<p>13 Metal water tank and stand</p> 	<p>Built around 1960 as a header tank to supply rain-water pumped up from the concrete tank.</p> <p>No longer in service.</p>	<p>Standard type galvanized steel lattice tank stand, supporting a corrugated steel tank.</p> <p>The stability of the structure has not been assessed.</p>	<p>Moderately significant for these reasons:</p> <p>The tank demonstrates the development of the lightstation, particularly the improvements to the keepers' living conditions made in the 1950s (criterion a).</p>
<p>14 Paths, stairs and bridges</p>  <p>(Source: AMSA, drawing no. QC12950)</p> 	<p>Paths laid out and paved at various times since 1879.</p> <p>Most of the paths, stairs and bridges date from the late 1950s, but the path and stairs leading down on to the boat landing are older.</p> <p>The timber bridges were replaced in 2010.</p>	<p>A series of walkways and stairs of concrete cast <i>in situ</i>.</p> <p>The timber bridges are replacements of structures dating from c. 1960.</p> <p>The paths, stairs and bridges are in sound condition, but do not all comply with current standards for width, stair dimensions, or grade.</p>	<p>Moderately significant for these reasons:</p> <p>The paths, stairs and bridges demonstrate the development and pattern of use of the lightstation, particularly the arrangements for moving around the site and handling stores before the tramway was built (criterion a).</p> <p>The arrangement of paths is a characteristic element of lightstations (criterion d).</p>

<i>Element</i>	<i>History</i>	<i>Description and condition</i>	<i>Significance</i>
<p>15 Polyethylene water tank</p> 	<p>New tank installed in 2010.</p>	<p>Cylindrical polyethylene tank, capacity about 5000 L, on a ground level pad.</p> <p>The tank is filled by pumping water from the concrete tank, and supplies water to the two cottages.</p>	<p>Not significant.</p> <p>This is a standard modern type of water tank.</p>
<p>16 Graves</p> 	<p>One grave is marked for Carrie Biss (three-year-old daughter of lightkeeper Edwin Biss) who died in 1888.</p> <p>The other grave is unmarked.</p>	<p>Carrie Biss's grave has a surround of wrought iron pickets and rails with cast iron finials. The burial details are on a marble plaque with inset lead lettering. The plaque and iron surround are in stable condition apart from minor rusting of the iron.</p> <p>The unmarked grave is of timber, with sawn hardwood posts, rails and pickets. The posts have rotted bases and mortises; the rails have rotted tenons. The structure is in a deteriorated and unstable condition.</p>	<p>Highly significant for these reasons:</p> <p>The graves demonstrate the isolated life (and death) of lightkeepers and their families in the nineteenth century (criterion a).</p> <p>The graves contribute to the aesthetic value of the lighthouse (criterion e).</p>

<i>Element</i>	<i>History</i>	<i>Description and condition</i>	<i>Significance</i>
<p>17 Lightstation grounds</p> 	<p>The site was cleared when the lightstation was established in 1879, and successive lightkeepers have maintained the grounds and introduced plants.</p>	<p>Generally sloping ground with close-cut grass, informal plantings of garden shrubs, palms and trees.</p> <p>The grounds are well tended and maintained.</p>	<p>Moderately significant for these reasons:</p> <p>The grounds form an essential part of the lightstation and demonstrate the modification and civilisation of the site by the lightkeepers (criterion a).</p> <p>Carefully tended grounds are characteristic features of manned lightstations (criterion d).</p> <p>The grounds contribute to the aesthetic value of the lightstation (criterion e)</p>
<p>18 Boulders</p> 	<p>Boulders are natural features of the hill slopes.</p> <p>Geotechnical consultants have carried out annual inspections since 2000 to monitor the boulders and assess the risk of them becoming dislodged and rolling down the hill and causing damage.</p> <p>Stabilisation works were completed in 2006 and annual monitoring continues.</p>	<p>Boulders as plotted on Figure 16 — Plan showing the location of boulders.</p> <p>The condition of the boulders is believed to be stable, but continues to be monitored.</p>	<p>Moderately significant for this reason:</p> <p>The boulders are a characteristic feature of the landscape setting of the lightstation (criterion e).</p>

<i>Element</i>	<i>History</i>	<i>Description and condition</i>	<i>Significance</i>
19 Access road			
	New road built in 2009 giving access to the lightstation from the network of roads built as part of the golf course development.	Concrete surfaced roadway. The road is in a stable condition.	Not significant, and intrusive. The access road is a visually intrusive feature whose impact could potentially be reduced by landscape modifications.
20 Spa bath and roof			
	Spa bath and shelter roof were installed after 1999 on the concrete floor slab of a previous (lightstation) outbuilding.	Timber gabled roof supported on timber corner posts, covering a standard spa bath. The structure is in a stable condition.	Not significant, and intrusive. The spa bath and roof reduce the aesthetic values of the grounds, and have the potential to confuse the evidence of the way of life of the lightkeepers. The remnant concrete floor is of moderate significance because of its evidence of previous use (criterion a).
21 Fowl house			
	Date of construction not known, but probably in the 1950s or 1960s.	Small shelter with walls sheeted with flat asbestos-cement and roofed with <i>Super-Six</i> corrugated asbestos-cement sheeting. The shelter encloses one side of a yard of wire mesh supported on galvanised pipe posts. The structure is in a stable condition.	Moderately significant for these reasons: The fowl house demonstrates the self-sufficiency of the lightkeepers who lived in circumstances where some local production was needed to ensure a supply of fresh food (criterion a). The fowl house is a characteristic element of manned lightstations (criterion d).

Images in table by Peter Marquis-Kyle unless otherwise stated

7. Operational requirements

7.1. Requirements for aids to navigation

AMSA is responsible, under the *Navigation Act 2012*, for maintaining a network of aids to navigation around Australia's coastline assisting mariners to make safe and efficient passages. AMSA's present network of 500 aids to navigation includes traditional lighthouses (like the Dent Island Lighthouse), beacons, buoys, racons, Differential Global Positioning System (DGPS) and Automatic Identification System (AIS) stations, broadcasting tide gauges and a current meter.

Technological developments in the area of vessel traffic management have also contributed to increase the safety of navigation and helped promote marine environment protection. AMSA, in partnership with Maritime Safety Queensland (MSQ), has implemented a number of initiatives covering the Torres Strait and the inner shipping route of the Great Barrier Reef as part of the Great Barrier Reef and Torres Strait Coastal Vessel Traffic Service (REEFVTS).

7.1.1. Lighthouse performance standards

AMSA aims to meet international standards for the reliability of lighthouses set by the International Association of Marine Aids to Navigation and Lighthouse Authorities (IALA). The Dent Island light is designated as an IALA Availability Category 2 aid to navigation (within a scale of Category 1 to Category 3 and where Category 1 aids are the most important). Category 2 aids have an availability target of 99.0%.

7.1.2. Access to the lighthouse

One practical effect of this performance standard is that the operational equipment and structure of the light need to be kept in good repair by regular preventative maintenance, and that equipment that fails while in service is repaired quickly. Routine maintenance and emergency repairs are carried out by AMSA's maintenance contractor. The contractor needs to have a reliable way to get access to the site for this work, and AMSA officers also need access for occasional inspections of the site including for auditing of the contractor's performance.

Service personnel coming to the lighthouse generally travel via the nearby Hamilton Island airport. Since the golf course has been developed, people attending the lighthouse have had convenient access, with the help of Hamilton Island staff, by ferry and car. Previously a visit required a helicopter, or access by sea.

7.2. AMSA Heritage Strategy

The *AMSA Heritage Strategy 2005–2008* is currently being reviewed and updated. In its present form, the strategy provides for close cooperation with other agencies including the GBRMPA. It sets out the procedures that AMSA will follow to meet its obligations under the EPBC Act.

7.3. Great Barrier Reef Heritage Strategy

The *Great Barrier Reef Heritage Strategy* is currently being reviewed and updated. The current strategy states that any action the GBRMPA or its lessees might take that is likely to impact on the heritage values of a Commonwealth Heritage place will be consistent with the Commonwealth heritage management principles. This heritage management plan is intended to be consistent with these principles and aims to identify, protect, conserve, present and transmit to all generations the heritage values of the place.

7.4. Other plans and management considerations

In addition, the use of the lightstation is covered under several existing management controls. These include Commonwealth Island zoning, the leases and permit requirements. Ongoing consultation with the private lessee takes place as part of these controls to ensure any new proposals for use or pressures on the precinct are addressed through the appropriate management framework. The Great

Barrier Reef Heritage Strategy includes a dispute resolution process to deal with works proposals that might impact on heritage values. Early consultation with the Heritage and Wildlife Division in the Department of Sustainability, Environment, Water, Populations and Communities in the planning stage of proposals can assist with assessments of likely impacts on the heritage values of the place. These matters are expanded upon in this document's conservation policies.

7.5. Statutory requirements

7.5.1. Commonwealth legislation

This heritage management plan has been prepared in accordance with the requirements of the EPBC Act and the EPBC Regulations, and with consideration for the *Great Barrier Reef Marine Park Act 1975* (GBRMP Act) the *Great Barrier Reef Marine Park Regulations 1983*, the *Navigation Act 2012* and the *Australian Maritime Safety Authority Act 1990*.

The main object of GBRMP Act is to provide for the long term protection and conservation of the environment, biodiversity and heritage values of the Great Barrier Reef Region.

The EPBC Act requires the GBRMPA and AMSA to prepare management plans that satisfy the obligations included in the EPBC Regulations. The principal features that a management plan must provide are:

- A description of the place, its heritage values, their condition and the method used to assess its significance;
- An administrative management framework;
- A description of any proposals for change;
- An array of conservation policies that protect and manage the place;
- An implementation plan; and
- The ways that the policies will be monitored and how the management plan will be reviewed.

7.5.2. Great Barrier Reef Marine Park zoning

Under the *Great Barrier Reef Marine Park Zoning Plan 2003*, part of Dent Island is designated a Commonwealth Islands Zone and may be used or entered without permission for low impact (non-extractive) activities; photography, filming, sound recording, traditional use of marine resources, and limited educational programs. All other activities require written permission. The waters surrounding Dent Island are designated a Habitat Protection (Dark Blue) Zone. The Dent Island Lightstation Heritage Management Plan is consistent with the objectives of the Commonwealth Islands Zone to ensure minimal environmental impact.

7.5.3. State legislation

The whole of the lightstation and its setting are owned by the Commonwealth, so the place is not entered in the Queensland Heritage Register and the (State) *Queensland Heritage Act 1992* does not apply.

7.5.4. GBRMPA management requirements and agency mechanisms

Heritage management considerations and principles have been incorporated within the GBRMPA's administration of the Marine Park. The GBRMPA Board has included heritage matters within the GBRMPA Corporate Plan 2011–2014. In this regard, the GBRMPA adopted the following objectives to adhere to legislative, regulatory and reporting requirements, including heritage obligations.

The GBRMPA has several mechanisms in place to ensure appropriate implementation of heritage management plans. In addition to the Dent Island Lightstation Heritage Management Plan, conservation of heritage values are managed through:

- Commonwealth Islands zoning, permits and impact assessment requirements
- policies relating to the protection and values of Dent Island
- lease requirements for the protection of heritage values.

7.6. Dent Island lease arrangements

Three lessees have lease arrangements with the Commonwealth for the Commonwealth part of Dent Island.

- The private lease relates to the use of the island for the maintenance and operation of a golf course (including ancillary services associated with the operation of the golf course), accommodation for caretakers, education and interpretative services, and any other purpose approved in writing by the GBRMPA, and requires the lessee to comply with the requirements set out in this heritage management plan.
 - Part of Lot 2 (Lease B) – Lightstation Area commenced on 7 September 2006 with GBRMPA.;
 - Lot 4 – Resort Area commenced on 7 September 2006 with GBRMPA.
- The AMSA lease for Lot 1 and the rest of Lot 2 (Lease A) relate to the ongoing operation of the lighthouse. It runs from 3 June 2003 for 99 years. The lease stipulates that AMSA retains ownership of the lighthouse and is responsible for its maintenance.
- The Maritime Safety Queensland (MSQ) lease for Lot 3 for aid to navigation purposes initially commenced in 1994 and runs for 50 years.

7.6.1. Private lease

Conditions of the lease ensure that the lessee must assist with conserving and maintaining the lightstation to the reasonable standard required by a heritage management plan. The lessee must give the GBRMPA prior notice before commencing any works and GBRMPA must assess potential impacts. The lessee is currently using the former lightkeepers' cottages for staff accommodation, and the associated buildings are used for storage.

7.6.2. AMSA lease

AMSA leases Lot 1 (58 m²) and small area (i.e. Lease A) of Lot 2 (Figure 11 — The areas leased by AMSA). Lot 1 contains the lighthouse and AMSA personnel and contractors need to cross the surrounding area in order to access this lighthouse. Easements over the surrounding lease permit this.

7.6.3. MSQ lease

Maritime Safety Queensland leases Lot 3 which is a 1.662 ha area. This is for the purpose of future aids to navigation and contains an option for the installation of a helipad in a position approved by the GBRMPA.

8. Heritage management policies

The following conservation policies are provided to guide the management of the Commonwealth heritage values for the Dent Island Lightstation, in a manner consistent with the Commonwealth Heritage management principles.

In this chapter the *words in italics* have the meanings defined in the *Burra Charter* — definitions of these terms are reproduced in Appendix 10.2. The policies aim to protect and conserve the heritage values. To assist this objective, where necessary, the policies are supported by implementation strategies. A commentary is also provided to explain the context of each policy.

8.1. Principles

8.1.1. Issue 1: Basis for decisions

Policy 1: The cultural significance of the lightstation will be the basis for deciding how to manage it

Commentary

The matters to be conserved are the Commonwealth heritage values of the *place*. Although the heritage values of the place (its *cultural significance*) may be expressed in intangible terms, these values can usually be related to, or can be seen to be represented by, the *fabric* of a place. Actions to *conserve* the *fabric* will therefore largely conserve the *significance* of the place.

Implementation strategy

- *Conserve* the lightstation to protect and interpret its historical significance.
- Ensure the continuation of past residential and current *uses* that maintain the original fabric of the site.
- Use the *Burra Charter* as the primary guide for the treatment of *fabric* (The *Burra Charter* is the primary reference for managing the heritage values of historic places).

8.1.2. Issue 2: The lightstation setting

Policy 2: Protect the visual setting of the lightstation by maintaining its natural character

Commentary

Historically, the lightstation was an intensely used and modified landscape, in contrast to its setting, which showed fewer signs of human modification.

Implementation strategy

- Do not permit the intrusion of new structures or alterations in the landscape around the lightstation (300m²).

8.2. Processes

8.2.1. Issue 3: Planning conservation works

Policy 3: Seek expert heritage advice and apply best heritage practice when considering works proposals or changes to the lightstation or when considering major changes to resort facilities

Commentary

The development of this heritage management plan has involved consultation with stakeholders and the public.

At appropriate times, advice may be sought from the Australian Heritage Council, from the Department of Sustainability, Environment, Water, Population and Communities — Heritage and Wildlife Division, or from the Minister. Advice will be sought if significant impact on the heritage place

is expected, or if there is conflict between the management of heritage values and the operational requirements of the GBRMPA or its lessees.

The GBRMPA will seek heritage advice, where required, upon receipt of any proposals for development, adaptive re-use, or notification of damage to the heritage values of the lightstation or archaeological discoveries. This ensures that the integrity of the heritage values of the lightstation is maintained. Advice may be from an internal source, other government agencies, the Minister or from an independent expert source, as appropriate.

As required under the *Great Barrier Reef Marine Park Act 1975*, any approved activities on the Commonwealth portion of the island are managed to reduce the potential for adverse effects on the heritage values of the lightstation. Potential activities on Dent Island are detailed in the lease agreements. AMSA intends to continue to use the lighthouse as a marine aid to navigation for the foreseeable future. The private lessee intends to continue to use the residential buildings for caretaker accommodation only. Any proposals for development or adaptive re-use of the lightstation must be approved in writing by the GBRMPA.

Implementation strategy

- Consult with the Heritage Division of Sustainability, Environment, Water, Population and Communities (SEWPaC) at an early stage when considering proposals involving intervention in fabric or significant change.
- Use the self assessment tool as contained in *Working Together: Managing Commonwealth Heritage Places* (DEWHA 2008) to measure the likely extent of impact of a proposal.
- Consider the significance of any major proposal in the context of the referral provisions in the EPBC Act.
- Use the *Matters of national environmental significance, Significant Impact Guidelines 1.1, EPBC Act 1999* (DEWHA 2009) to assist in identifying the significance of impacts.
- Prepare a heritage impact statement using expert advice identifying alternatives considered and the level of impacts on the heritage values, in line with the GBRMPA's Environmental Impact Management processes.
- Continue the maintenance and use of the lighthouse as a marine aid to navigation.
- Continue to allow lessee to use the residential buildings for staff accommodation.

8.2.2. Issue 4: Community consultation

Policy 4: Undertake community, Traditional Owner and stakeholder consultation in the preparation, management and review of the management plan and where actions are likely to impact on the heritage values of the place

Commentary

The development of a heritage management plan involves stakeholder and public consultation. Once a heritage management plan has been approved and implemented, consultation becomes part of the monitoring process. During reviews of the heritage management plan, further consultation will occur. The GBRMPA has a range of established methods of community and stakeholder consultation, which it continues to use to satisfy this process.

Advisory committees

The GBRMPA aims to provide Australians with effective and meaningful consultation on heritage matters related to the Great Barrier Reef Marine Park. Part of this important process is achieved through regular meetings with the relevant Reef Advisory Committee (RAC) representing expertise-based stakeholders and the relevant Local Marine Advisory Committees representing the local communities. Communication with stakeholders also takes place as ongoing interaction between both lessees and the GBRMPA, and through a broader community engagement process.

Traditional Owners

The GBRMPA values the importance of involving Traditional Owners in the management processes of the Great Barrier Reef Marine Park. This value is reflected in the Great Barrier Reef Heritage Strategy and the GBRMPA Corporate Plan 2011–2014. These documents identify that the traditional affiliations, culture, heritage values and rights in relation to Traditional Owners must be taken into

account in the management of the Marine Park.

The locality and the surrounding area are culturally significant to the Gnaro people who in turn are part of the Birri-Gubba nation. While there is no current native title claim over Dent Island nor the surrounding lands and seas of the Whitsunday region, the Gnaro people are widely acknowledged as the Traditional Owners of the Whitsunday region.

The GBRMPA will maintain consultation with Traditional Owners through existing arrangements to ensure their continued involvement in the heritage management plan. Traditional Owner consultation for the Whitsunday Islands area is achieved in many ways, for example, through one-on-one consultation with Elders, contact with Field Management staff from the GBRMPA and the Queensland Parks and Wildlife Service, involvement on the Local Marine Advisory Committee and contact through the North Queensland Land Council Aboriginal Corporation (NQLCAC).

The GBRMPA's Indigenous Partnerships Group regularly meets with Traditional Owners and their representative bodies. The GBRMPA notifies of possible actions in relation to permit applications (to the GBRMPA or the National Parks, Recreation, Sport and Racing (NPRSR)) in accordance with the *Native Title Act 1993*.

Government

The GBRMPA recognises that maintaining strategies for liaison with all Commonwealth and State agencies with a relevant interest in heritage matters in the Great Barrier Reef Marine Park is crucial to the effective management of Commonwealth heritage values. Consequently, an ongoing action for the GBRMPA is to maintain this contact through formal and informal mechanisms.

Ongoing consultation with SEWPaC and AMSA occurs for the purposes of heritage management, environmental management and ongoing maintenance of aids to navigation. Consultation at the early stages of project development or initiation of works proposals has the advantage of avoiding unnecessary delays and costly plan revisions. Consultation with heritage experts can also minimise or mitigate significant impacts on heritage values.

Lessees

The GBRMPA will maintain consultation with lessees utilising the Dent Island Lightstation. Where significant impacts are a possibility, consideration will be given by the GBRMPA as to whether a referral under the EPBC Act is required. This includes the consideration of impacts to the environment that can occur away from the affected place. In the case of Dent Island Lightstation for example, other works and development to the golf course could have impacts on the aesthetic values of the place.

Consultation by AMSA

AMSA conducts consultation with the maritime industry through the Navigational Services Advisory Group (NSAG). NSAG is the peak consultative body to AMSA for matters relating to AMSA's responsibilities for the safety of navigation in Australian waters.

The role of the committee is to provide expert maritime industry advice on requirements for aids to navigation and other nautical and navigational safety matters. The committee is co-chaired by AMSA's Manager Nautical and Regulation Safety and Manager Aids to Navigation. Its members include representatives of ship owners, operators and pilots; the Royal Australian Navy Australian Hydrographic Service; and officers of AMSA.

Implementation strategy

- Undertake community consultation when reviewing the heritage management plan in accordance with Section 341X of the EPBC Act.
- Continue to liaise as necessary with the Reef Advisory Committee, the relevant Local Marine Advisory Committees and local Indigenous communities in the management of the heritage values of the lightstation.
- Seek advice from local Indigenous communities when dealing with sensitive information and refer to the document *Ask first: a guide to respecting Indigenous heritage places and values* (AHC 2002) to guide consultations.
- Apply standard Commonwealth privacy and security requirements, for the management of sensitive information.

- Consult respective stakeholders in matters where sensitive or commercial-in-confidence information is involved in the management of the place.

8.2.3. Issue 5: Review

Policy 5: Review the plan within five years of its adoption by the Minister as a plan consistent with Commonwealth heritage management principles

Commentary

A management plan is affected by changes over time such as when administrative arrangements change, where leases require amendment and where there are technological advances. This heritage management plan needs to be kept under review to take into account any change that might alter the basis for its application. Legislative requirements oblige Commonwealth agencies to review a management plan for a Commonwealth Heritage place once within every five-year period. This review will be undertaken in accordance with the EPBC Act and Regulations.

The GBRMPA has a list of information needs for management available for searching at its website (see: <http://www.gbrmpa.gov.au/>). Several questions pertain to management of islands and cays, some of which are applicable to Dent Island. The GBRMPA reviews this list regularly and information needs in relation to Commonwealth Heritage matters will be added as required.

Implementation strategy

- Review this heritage management plan as required, or no later than five years after its adoption.

8.2.4. Issue 6: Reporting and monitoring

Policy 6: Report and monitor on an annual basis using the GBRMPA and AMSA existing administrative arrangements any change or impact on the heritage values of the place

Commentary

The success of conservation will be monitored through regular reporting, inspections and the use of the agencies' databases.

In accordance with the EPBC Act (s. 341ZB), the GBRMPA and AMSA will each maintain a register containing information on Commonwealth Heritage places they own or control including the Dent Island Lightstation. Information that will be included in these registers are:

- A description of the Commonwealth heritage values.
- The current condition of the Commonwealth heritage values as reported by the tenants and from inspections by the GBRMPA representatives.
- A record of all work carried out on the lightstation — this will include photographs, written documentation and drawings/plans.
- A record of all proposals for development or adaptive re-use of the lightstation.
- A record of all actual developments or adaptive re-use of the lightstation.
- A record of all past and present heritage management plans for the lightstation.

All the above information will be entered into the registers as soon as practicable after receipt.

The private lessee will be required under the terms of the lease to report to the GBRMPA on the state of the Commonwealth heritage values on an annual basis. Visual inspections of the heritage values will be conducted annually by relevant GBRMPA/QPWS representatives.

Implementation strategy

- Use of databases in the management of the lightstation.

8.2.5. Issue 7: Recording decisions

Policy 7: The GBRMPA and AMSA will ensure that adequate records of the processes for making decisions about the conservation of the Dent Island lightstation are created and kept

Commentary

As part of the proper process for managing change in significant places, the *Burra Charter* points out the importance of making records before any change, and advocates placing the records in a permanent archive, and making them available where this is appropriate (Australia ICOMOS 1999, article 27.2 [Managing change] and article 32 [Records]).

Implementation strategy

1. The GBRMPA and AMSA to maintain records through existing administrative arrangements.

8.3. Skills

8.3.1. Issue 8: Expert advice

Policy 8: The GBRMPA and AMSA will ensure that appropriate knowledge, skills and advice are applied in the conservation of the lightstation

Commentary

The *Burra Charter*, in article 4.1, calls for using all the knowledge, skills and disciplines which can contribute to the study and care of a place. Relevant technical knowledge and skills are held by practitioners in various conservation disciplines, such as archaeologists, historians, engineers, architects and landscape architects.

Article 26.3 deals with the contribution of people who have associations with the place — in this case, people who lived at the lightstation or were involved with its operation are important sources of knowledge and advice.

Implementation strategy

2. Expertise will be sourced as appropriate.

8.3.2. Issue 9: Staff training

Policy 9: Develop and implement a staff and community awareness training program to improve the knowledge and respect for the heritage values of the place

Commentary

Relevant staff will be trained in the legislative requirements that pertain to heritage matters and, where necessary, appropriate training and material on heritage matters will be provided to managers and administrators who have responsibility for heritage management (including relevant stakeholders).

Implementation strategy

- Where necessary, and where resources and priorities permit, conduct appropriate training on heritage matters for managers and administrators who have responsibility for heritage management including relevant stakeholders.

8.4. Use of the lighthouse

8.4.1. Issue 10: Continuity of the aids to navigation

Policy 10: AMSA will continue to operate the Dent Island Lighthouse for as long as it is required for safety of navigation by the commercial shipping industry that pays the Marine Navigation Levy

Commentary

The Dent Island light is designated as a Category 2 aid to navigation under the IALA Availability performance standards Category 2 aids have an availability target of 99.0%. This rating is an indication that the Dent Island light is an important part of the system of aids to navigation in the area.

Implementation strategy

- Continue regular operation and servicing of the lighthouse.

8.4.2. Issue 11: Maintaining clear view of the light from the sea

Policy 11: Trees which intrude between Dent Island Lighthouse and vessels in the Whitsunday Passage will be removed

Commentary

Although the vegetation growing in the lightstation and its setting contribute to the heritage value of the place, allowing trees to obstruct mariners' sight of the light would conflict with the effective use of the site for its significant function. Because of the steep slopes only a few trees are potentially obstructive.

Implementation strategy

3. AMSA to monitor the trees, and request the GBRMPA to arrange for removal of any that intrude.

8.4.3. Issue 12: Access to the lighthouse

Policy 12: The interior of the lighthouse is to be accessible only to people authorised by AMSA

Commentary

The situation of the Dent Island Lighthouse, and the nature of its fabric, make its interior unsuitable for access by the public. The lighthouse is likely to be visited several times each year, either by officers of AMSA or by maintenance contractors — these people are authorised by AMSA and trained in the appropriate safety procedures.

Implementation strategy

- Continue present arrangements for access to the lighthouse by AMSA officers or people authorised by AMSA.
- AMSA to manage access to its leased area including the lighthouse in accordance with AMSA's workplace health and safety policies and procedures.

8.5. Use of the rest of the lightstation

8.5.1. Issue 13: Occupation of the cottages

Policy 13: Both of the cottages should continue in use as dwellings

Commentary

Continuous occupation of the houses, by people who understand the heritage values of the lightstation, is an excellent conservation measure. Residents can constantly observe and monitor the condition of the structures, and facilitate timely maintenance. The lessee's staff, chosen for their aptitude and interest, can be good custodians of the cottages, ancillary buildings and the grounds.

8.5.2. Issue 14: Access to the lightstation

Policy 14: Secure and protect the lightstation from unauthorised access

Commentary

The relative remoteness of Dent Island makes access challenging and provides the lightstation with a natural security buffer. Most visitors to the island now arrive by ferry from Hamilton Island. Access to the island and precinct is limited by the Commonwealth Island zoning, lease and permit requirements.

The private lessee controls access to the buildings within the lightstation.

AMSA personnel and contractors periodically visit the AMSA lease to inspect and maintain the lighthouse. Previous access was via helicopter, now with improved access from Hamilton Island (by boat), AMSA will transport equipment and material to the island via boat thus when reaching the island, will require access through the golf course and the historic lightstation area to reach the AMSA lease.

Implementation strategy

- Ensure that island visitors are aware of the heritage values of the lightstation by making available appropriate information, such as excerpts from this heritage management plan.
- Ensure the heritage values of the lightstation are protected through controls on access to all buildings within the lightstation.
- Protect access to the lightstation to comply with workplace health and safety measures.

8.5.3. Issue 15: Special interest visits

Policy 15: Allow occasional visits to the lightstation by small numbers of people with a particular interest, to the extent this is compatible with continued occupation of the cottages

Commentary

There are groups of people, including formally incorporated bodies such as Lighthouses of Australia Inc., who are interested in the history and conservation of lightstations like Dent Island. Such groups make up a very knowledgeable and appreciative audience, who would value the opportunity of visiting the site.

AMSA has a practice of opening otherwise closed lighthouses for public access. This is primarily done to coincide with major events in the life of the lighthouse, such as 100th and 150th anniversaries. However AMSA reserves the right to decide whether such events occur, based on the findings of a risk analysis and the availability of personnel.

More generally, the decision to open the lightstation (but not the lighthouse) for occasional visits is a matter for the GBRMPA and its private lessee. Again, a decision to do so would need to be based on the findings of a risk analysis and the availability of personnel.

Implementation strategy

4. The GBRMPA and AMSA develop and adopt, in consultation with the private lessee, a protocol for approving and conducting special interest visits to the lightstation.

8.6. Conserving the lighthouse

8.6.1. Issue 16: Ongoing maintenance

Policy 16: Continue the scheduled periodic maintenance of the lighthouse

Commentary

The good condition of the lighthouse reflects the continuous maintenance it has received, carried out by the resident lightkeepers from 1879 to 1983, then by visiting Commonwealth staff, and more recently by AMSA's contractors.

Implementation strategy

5. AMSA to arrange for maintenance to be carried out to the lighthouse as required while the lighthouse continues to operate as an AMSA aid to navigation.

8.6.2. Issue 17: Equipment changes and upgrades

Policy 17: Install and operate equipment in the lighthouse, so that it continues to function as an effective marine aid to navigation, in such a way as to cause the least possible harm to the significant fabric

Commentary

The 1879 tower has proved to be a versatile and durable structure, which has been adapted to accommodate changes in lighthouse technology. Future generations of equipment should be installed in a reversible manner (so that it can, in turn, be replaced by the next generation, without damage to significant fabric).

Implementation strategy

6. Continue replacement and upgrading of aids to navigation in the lighthouse as required to meet AMSA's service commitment, in a manner that *preserves* the early *fabric* of the lighthouse.
7. AMSA to maintain information on the heritage fabric of the lighthouse, including any changes to the fabric, in a heritage fabric register.

8.7. Conserving the other lightstation elements

8.7.1. Issue 18: Protection and management of significant fabric

Policy 18: Protect and conserve the significant external and internal fabric of the lightstation, including existing buildings, layout and setting

Commentary — conservation, repair or restoration

To protect and conserve fabric and elements expert conserving processes may be needed. The application of these processes is often technically complicated and may require expert advice and work skills. Particular care is needed when repairing, restoring or reconstructing historic fabric to ensure as much significant fabric is retained as possible.

The significance of the place and its heritage values can be made more visible by removing more modern elements if the opportunity arises and when priorities and resources permit (e.g. when adaptive works are contemplated or future technology allows). If practical, original fabric or items removed from the place may be considered for retrieval and installation if appropriate.

Implementation strategy

- *Conserve* all the elements identified as significant in the table of physical elements (Section 6.2) and their setting.
- If and when identified and necessary, seek expert materials conservation advice when considering *repair*, *restoration* and *reconstruction* of historic *fabric*.

Commentary — maintaining the fabric of the lightstation

Maintenance of heritage places sometimes involves the need to replace decayed or damaged fabric. The *Burra Charter* recommends doing only as much as necessary but as little as possible.

Implementation strategy

- Minimise the extent of any intervention in significant fabric by removing only those parts requiring replacement for structural or safety reasons.
- Replace or patch the damaged or decayed fabric with like but easily identified as new fabric inserted into the structure or material (see *Burra Charter*).

Commentary — the setting

The history of changes to vegetation — including the results of past clearing, grazing, household gardening and revegetation — is part of the cultural significance of the Dent Island Lightstation. Where the protection of cultural values is inconsistent with other conservation aims, such conflicts should be resolved by finding a subtle balance. Instances of possible conflict include the coconut palm trees that hang over the roofs of the houses — these mature trees are significant for their evidence of the lightkeepers' adapting their surroundings, but they now pose a risk of damaging the brittle asbestos-cement roof sheeting in times of strong winds. In this case it might be appropriate to remove the trees as they approach senescence and replace them with younger specimens. Another possible conflict concerns introduced garden plants, which demonstrate the pattern of household gardening by the lightkeepers, some of which are invasive and threaten the native vegetation.

Implementation strategy

- Maintain evidence of significant vegetation patterns by timely removal and replanting, with appropriate expert advice.
- In the process of planning the management of vegetation on Dent Island, take account of the cultural significance of plant material.
- Recognise the importance of maintaining the lightstation as a significant landmark feature seen from the sea. Structures that obscure or distract from these views should not be constructed.

- For planning purposes the area around the lightstation seen from the Whitsunday Passage, from the foreshore to the sky and extending 300 m north and south of the lightstation, should be treated as an area of particular sensitivity in relation to heritage values associated with the lightstation.

8.7.2. Issue 19: Adaptation

Policy 19: Consider only new adaptive re-uses for the place that are compatible with its cultural significance

Commentary

Heritage places are often subject to change over time to provide for new uses. Making use of a heritage place is often the most effective measure to ensure its conservation. Adaptation can also have an adverse impact if a new use requires intrusive adaptation to the significant fabric. Adaptation of a lighthouse area for a new use is not always an easy or suitable way to manage the place because of its distinctive form and because a new use often requires additional accommodation that confuses the stand-alone quality. Adaptation for new uses must therefore be tempered to ensure that the new use does not diminish the capacity for its easy interpretation.

Changes to the lightstation area may be allowed to implement reasonable use of the lightstation area, consistent with its heritage significance, provided the heritage management plan policies are followed.

Elements of the fabric of the lightstation area, which are deemed to have a hazardous or harmful effect (for example, asbestos-related materials in a decayed, frayed or unstable condition or lead-based paint), may require containment, modification or, if there is no feasible or prudent alternative, its removal. If removal is necessary because of its hazardous state, legislative requirements govern this process. Where asbestos is not in an unstable condition its retention and maintenance, as part of the significant fabric, is appropriate.

Adaptation of the fabric may be permitted provided the cultural significance of the lightstation is not adversely affected. Such *adaptation* may include changes to bring the accommodation up to reasonable modern standards.

Implementation strategy

- Conserve the current colour scheme and distinctive character of the place by:
 - not permitting any additional structures to be built, or structural changes, visible from the Whitsunday Passage, from the foreshore to the sky and extending 300 m north and south of the lightstation
 - collecting, prior to and immediately following any *conservation, maintenance, preservation or adaptation* work, photographic evidence of the *fabric* for historical records and interpretive use
 - undertaking paint scrapes to identify original colour coatings used on historic fabric
 - using protective coatings in the colours found by the paint scrape technique.
- Consider for the purposes of *conservation*, a viable economic use for the lightstation area, to ensure the *maintenance* of all significant fabric and its protection from non-action.
- Do only what is necessary for the continued use and care of the place.
- Make changes apparent on close inspection, to protect the authenticity of the place.
- Make changes reversible, so that their impact can be removed in future.
- Approval in writing must be granted for any proposals for development or adaptive re-use.
- Consider any proposed alterations or adaptations that impact on the heritage values of the place.
- Use and comply with:
 - Approved Maintenance requirements.
 - The approved Environmental Management System (to be implemented under the lease and permits for the private lessee for Dent Island).
- Compatible with the original fabric of the place and current workplace health and safety requirements:
 - Retain *in situ* asbestos material that is stable, and contained to the extent that it is not in a hazardous condition.

- Remove hazardous, unstable and frayed asbestos in accordance with Australian legislative requirements.
- Replace removed hazardous asbestos with materials of the same profile, thickness and size as the fabric removed.
- Remove lead-based paint found to be in an uncontained, unstable or decaying condition.
- Upgrade the kitchen and bathroom facilities compatible with the fabric of the place.
- Install air-conditioning equipment in a discreet, visually benign and appropriate place.

8.7.3. Issue 20: Below-ground fabric

Policy 20: In the event of unforeseen discoveries or disturbances (for example, works that expose any archaeological remains), cease work until appropriate advice is obtained

Commentary

The Environmental Management System to be implemented under the lease and permits for the private lessee for Dent Island will outline the response to emergencies and new discoveries on the island. Well-documented records of the lightstation assist in this process.

In the case of potential or actual damage to the heritage values of the lightstation or archaeological discoveries, the GBRMPA and AMSA will seek heritage advice.

Implementation strategy

- Seek appropriate heritage advice and apply best heritage practice in the event of unforeseen discoveries or disturbances.

8.7.4. Issue 21: Services

Policy 21: Keep new piped and wired services distribution lines underground, and plan for least disturbance of below-ground evidence

Commentary

Recent works carried out by the private lessee have included installation of underground power cables, telephone cables and water supply lines.

Implementation strategy

- Coordinate installation of services to occupy common trenches as far as possible.
- Plan the location of trenches to avoid areas formerly occupied by structures.

8.7.5. Issue 22: Hazardous materials

Policy 22: Avoid the release of hazardous materials by avoidance, encapsulation or replacement

Commentary

Most of the lightstation buildings include at least some asbestos-cement components, such as corrugated roof sheeting and accessories, and wall and ceiling linings. Another potentially hazardous material is paint containing lead pigment.

Implementation strategy

- Safely remove or encapsulate lead paint.
- Stabilise or avoid disturbance of asbestos-cement.
- Investigate replacement of asbestos-cement with non-hazardous alternatives.

8.7.6. Issue 23: Vegetation

Policy 23: Maintain the evidence of historical landscape management practices such as clearing of native vegetation and the introduction of garden plants, while protecting against the propagation of weeds outside of the immediate lightstation area

Commentary

The GBRMPA obtains advice from the QPWS on fire management plans for Dent Island, and will include Dent Island in regional pest and weed management strategies. Appendix 10.9 lists introduced garden plants at the lightstation.

Implementation strategy

- Manage the vegetation in the lightstation area in ways that keep the evidence of cultural practices.

8.7.7. Issue 24: The engine room

Policy 24: Maintain and conserve the engine room, while adapting it for use as the electrical distribution point for the lightstation

Commentary

The building contains a mixture of equipment, some of which was introduced after the station was automated and de-manned — this later equipment is not significant.

Implementation strategy

- Leave *in situ* any equipment associated with the operation of the manned lightstation.
- Install new equipment in a reversible manner.

8.7.8. Issue 25: The winch house and derrick crane

Policy 25: Maintain and conserve the winch house, derrick crane and associated structures

Commentary

These structures — including the winch house, landing platform, landing stage, derrick crane, boat platform and access ladder — are to be *conserved* in accordance with an engineer's report prepared in 2012.

Implementation strategy

- Stabilise the concrete slab of the landing platform.
- *Conserve* the derrick crane and winch house.
- *Preserve* the machinery.

8.7.9. Issue 26: The cottages

Policy 26: Maintain and conserve the two cottages, with minor adaptation to support continued use

Commentary

Following extensive refurbishment carried out by the private lessee, with the approval of the GBRMPA, the houses are in sound and secure condition, and fit for use by the staff who live in them.

Implementation strategy

- Continue regular *maintenance* of the two cottages.
- *Adapt* the cottages in a reversible manner to facilitate continued domestic use.

8.7.10. Issue 27: The septic system

Policy 27: Maintain the septic system

Commentary

The two cottages are connected to a drainage system, intended to deal with liquid waste from kitchens, bathrooms and toilets. This system was installed when the cottages were built, and it continues in service.

Implementation strategy

- Prevent disposal of waste material that is incompatible with the septic system.

- Monitor the performance of the system, and do periodic maintenance as required for proper operation.

8.7.11. Issue 28: The concrete water tank

Policy 28: Maintain the concrete water tank to ensure an adequate supply of water

Commentary

The concrete water tank has recently been refurbished by the private lessee. It stores rainwater from the roofs of the houses. Water is pumped from this tank up to a new header tank on the hill behind the houses, from where it feeds by gravity to the houses.

Implementation strategy

- Periodically inspect the tank to ensure the soundness of the structure and safety of the water supply.

8.7.12. Issue 29: The tramline

Policy 29: Preserve the fabric of the tramway, trolley and cable

Commentary

The tramway and its associated equipment demonstrates the historical pattern of use of the site by the keepers. It was an important facility, along with the winch and crane, for the safe handling of fuel, stores and equipment delivered by sea.

Implementation strategy

- Move the trolley to the top of the tramway, and protect it with a removable lightweight cover.
- Protect the two steel turning blocks (presently lying on the ground) by moving them to a location on site that is under cover.

8.7.13. Issue 30: The paths, stairs and bridges

Policy 30: Preserve the paths, stairs and bridges. Adapt them to the minimum extent necessary for the safe occupation of the cottages.

Commentary

These paths and stairs have been laid out and built in stages, and they demonstrate the historical pattern of use of the site by the keepers. The present arrangement generally reflects the state of the lightstation after the two cottages were built in the 1950s. The stairs are narrow, and their inconsistent dimensions do not meet current design standards. However, only some of the routes are in regular use now, since the lighthouse and the winch house are not in use. The safety of the paths and stairs that give access to the cottages is a current issue.

Implementation strategy

- Add standard galvanised steel tubular railings (as used for functional structures at Hamilton Island) where needed for safe use of the paths next to the cottages.

8.7.14. Issue 31: The polyethylene water tank

Policy 31: Allow native vegetation to mask the views of the tank

Commentary

The header tank recently installed by the private lessee on the hill behind the cottages is visible at present.

Implementation strategy

- Plant appropriate vegetation around the tank.

8.7.15. Issue 32: The graves

Policy 32: Preserve the fabric and evidence of the graves

Commentary

The two grave surrounds — one of wrought iron, the other of timber pickets — are poignant reminders of life and death on remote lightstations.

Implementation strategy

- Repair the wooden enclosure, reconstructing any missing or unsound parts to match the detail of the original, and causing the least possible disturbance of the ground.
- Protect the graves and the area around them from disturbance.

8.7.16. Issue 33: The lightstation grounds

Policy 33: Maintain the character of the grounds, and their evidence of use

Commentary

The lightstation grounds — with their tended grass and introduced plants — reflect the ordered life of the keepers and their families.

Implementation strategy

- Continue mowing and maintenance of the grass.
- Remove overgrown or senescent plantings.
- Maintain an unobstructed view of the lighthouse from seaward.

8.7.17. Issue 34: The boulders

Policy 34: Continue stabilisation and monitoring of the boulders on the hill behind the lightstation

Commentary

There have been several campaigns of work to ensure the boulders are not dislodged, as recorded in the drawing by Cardno Ullman & Nolan, geotechnical engineers, reproduced in Appendix 10.8.

Implementation strategy

- Monitor the positions of the boulders annually in accordance with the geotechnical engineer's recommendations.

8.7.18. Issue 35: The access road

Policy 35: Allow native vegetation to soften the visible edges of the road. Do not develop any structured garden bed or plantings along the line of the road.

Commentary

The concrete roadway is visually intrusive. It can be made less intrusive with vegetation that merges with the surrounding landscape.

Implementation strategy

- Remove exotic plantings from beside the road, and encourage informal growth of native vegetation.

8.7.19. Issue 36: The spa bath

Policy 36: Remove the spa bath and shelter, keeping the remains of the base of the old shed

Commentary

The spa is not currently used, and is visually intrusive.

Implementation strategy

- Remove the spa bath and shelter.

8.7.20. Issue 37: The fowl house

Policy 37: Preserve the fowl house and run

Commentary

The fowl house and fenced enclosure demonstrate the practice of keeping chickens for eggs and meat.

Implementation strategy

- Protect the structure from disturbance.

8.8. Interpretation

8.8.1. Issue 38: Explaining the history of the site

Policy 38: Collect and organise documentary material that explains the historical use and development of the lightstation and make it available to people who use or visit the site or who have an interest

Commentary

The site is remote, and is not proposed to be developed for regular public visiting. There is only a small audience for interpretation — staff who live at the lightstation, plus very occasional special interest visitors.

There is a wider audience of people who are interested to know about the lightstation, although they are unlikely to visit — this is a potential audience for books, magazine articles, online pieces or other media.

Implementation strategy

- Dent Island Lightstation Heritage Management Plan available on site and associated artefacts and documents maintained on site.

9. Implementation plan

Key Issue	Ref No.	Task	Priority	Primary Responsibility	Duration
Cultural significance	8.1.1	Conserve the lightstation	High	GBRMPA and AMSA	2013
	8.2.3	Review the heritage management plan within five years	Low	GBRMPA and AMSA	2018-2019
Cultural values	8.8.1	Organise documentary material regarding historical use	Medium	GBRMPA	Ongoing
Visual setting	8.1.2	No intrusion of new structures or landscape alteration	High	GBRMPA	Ongoing
Community consultation	8.2.2	Community, Traditional Owner and stakeholder consultation	Medium	GBRMPA and AMSA	As required
Reporting	8.2.4	Report and monitor on an annual basis	High	Lessee, GBRMPA and AMSA	Ongoing
	8.2.5	Ensure adequate records are kept	Medium	GBRMPA and AMSA	Ongoing
Expert heritage advice	8.2.1	Apply best heritage practice when considering works	High	GBRMPA and AMSA	Ongoing
	8.3.1	Ensure appropriate knowledge, skills and advice	Medium	GBRMPA and AMSA	As required
Staff & community awareness	8.3.2	Staff and community awareness training program	Low	GBRMPA and AMSA	Ongoing
Adaptive re-use	8.7.2	Any new uses must be compatible with cultural significance	Medium	GBRMPA	As required
Lighthouse	8.4.1	Continued use by AMSA as an aid to navigation	High	AMSA	Ongoing
	8.4.3	Interior access only if AMSA authorised	High	AMSA	Ongoing
Lighthouse Maintenance	8.6.1	Scheduled periodic maintenance	High	AMSA	Ongoing
	8.6.2	Continue as an effective marine aid to navigation	High	AMSA	Ongoing
Lightstation	8.5.1	Use of cottages as dwellings	Medium	GBRMPA	Ongoing
	8.5.2	Secure against unauthorised access	High	Lessee	Ongoing
	8.5.3	Special occasion visits	Low	Lessee	As required
Lightstation Maintenance	8.7.1	External and internal fabric of lightstation	High	Lessee	Ongoing
	8.7.3	Discovery of archaeological remains	Medium	Lessee	As required

Key Issue	Ref No.	Task	Priority	Primary Responsibility	Duration
	8.7.4	Underground services	Medium	Lessee	As required
	8.7.5	Avoid release of hazardous materials	High	Lessee	Ongoing
	8.7.7	Conserve and adapt the use of engine room	Medium	Lessee	2013 and ongoing
	8.7.8	Winch house and derrick crane	High	Lessee	2013 and Ongoing
	8.7.9	Conserve two cottages	High	Lessee	Ongoing
	8.7.10	Maintain septic system	Medium	Lessee	Ongoing
	8.7.11	Maintain concrete water tank	Medium	Lessee	Ongoing
	8.7.12	Tramway, trolley and cable	High	Lessee	2013 and ongoing
	8.7.13	Paths, stairs and bridges	High	Lessee	2013 and ongoing
	8.7.15	Preserve fabric of graves	High	Lessee	2013 and ongoing
	8.7.17	Stabilisation of boulders	High	Lessee	Ongoing
	8.7.19	Spa bath and shelter	Low	Lessee	2014
	8.7.20	Fowl house and run	Medium	Lessee	2013-2014
Vegetation	8.4.2	Dent Island light not obstructed by vegetation	High	Lessee	As required
Vegetation management	8.7.6	Maintain the evidence of historical landscape	Medium	Lessee	Ongoing
	8.7.14	Vegetation to mask the tank	Medium	Lessee	Ongoing
	8.7.16	Maintain character of grounds	High	Lessee	Ongoing
	8.7.18	Native vegetation along road	Medium	Lessee	Ongoing

10. Appendices

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10.2. Definitions of terms from the *Burra Charter*

These definitions are quoted from article 1 of *The Burra Charter: the Australia ICOMOS charter for places of cultural significance*, 1999.

Adaptation means modifying a *place* to suit the existing *use* or a proposed *use*.

Associations mean the special connections that exist between people and a *place*.

Compatible use means a *use* which respects the *cultural significance* of a *place*. Such a use involves no, or minimal, impact on cultural significance.

Conservation means all the processes of looking after a *place* so as to retain its *cultural significance*.

Cultural significance means aesthetic, historic, scientific, social or spiritual value for past, present or future generations. Cultural significance is embodied in the *place* itself, its *fabric*, *setting*, *use*, *associations*, *meanings*, records, *related places* and *related objects*. Places may have a range of values for different individuals or groups.

Fabric means all the physical material of the *place* including components, fixtures, contents, and objects.

Interpretation means all the ways of presenting the *cultural significance* of a *place*.

Maintenance means the continuous protective care of the *fabric* and *setting* of a *place*, and is to be distinguished from repair. Repair involves *restoration* or *reconstruction* and should be treated accordingly.

Meanings denote what a *place* signifies, indicates, evokes or expresses.

Place means site, area, land, landscape, building or other work, group of buildings or other works, and may include components, contents, spaces and views.

Preservation means maintaining the fabric of a *place* in its existing state and retarding deterioration.

Reconstruction means returning a *place* to a known earlier state and is distinguished from restoration by the introduction of new material into the *fabric*.

Related place means a *place* that contributes to the *cultural significance* of another *place*.

Related object means an object that contributes to the *cultural significance* of a *place* but is not at the *place*.

Restoration means returning the existing *fabric* of a *place* to a known earlier state by removing accretions or by reassembling existing components without the introduction of new material.

Setting means the area around a *place*, which may include the visual catchment.

Use means the functions of a *place*, as well as the activities and practices that may occur at the *place*.

10.3. Entry in the Commonwealth Heritage List, with recommended corrections

The following excerpt from the Australian Heritage Database is marked to show suggested revisions based on the findings of this heritage management study. The original text was retrieved from the website on 5 July 2012 <http://www.environment.gov.au/cgi-bin/ahdb/search.pl?mode=place_detail;place_id=105369> and is shown in *italic type*. Recommended additions to the text are shown in **bold italic type**, and text to be removed is shown ~~struck out~~.

Summary Statement of Significance

*Dent Island Lighthouse, constructed in 1879, is significant as a light tower built in response to, **and to further encourage**, the dramatic expansion of regular coastal shipping along the inner route of the Great Barrier Reef, following the economic development of Northern Queensland (Criterion A.4). The Lighthouse is significant as ~~a~~**an** intact representative example of a timber-framed, iron clad tower (Type B), ~~an adaptation by the Queensland Government of the imported prefabricated type using components from the United Kingdom~~**an innovative structural system designed in the office of the Queensland Colonial Architect and typical of Queensland lighthouses of the time** (Criterion D.2). Dent Island Lighthouse is important as one of a pair of identical lighthouse towers ~~in the Whitsunday Passage~~**built at the same time**, the other being situated at Cape Cleveland (Criterion D.2). The Lightstation Complex of tower, houses, store shed, engine room and combined workshop/radio room, dating from 1879 to c. 1960, **is** significant as a complete intact example of a Lightstation Complex in Queensland. Later stages of development have integrated with the original fabric and detail of the Lightstation, contributing to the continuum of a complex dedicated to the single aim of maintaining the ~~aids to navigation~~**aid to navigation** (Criterion A.4).*

Official Values

Criterion A Processes

*Dent Island Lighthouse, constructed in 1879, is significant as a light tower built in response to, **and to further encourage**, the dramatic expansion of regular coastal shipping along the inner route of the Great Barrier Reef, following the economic development of Northern Queensland.*

*The Lightstation Complex of tower, houses, store shed, engine room and combined workshop/radio room, dating from 1879 to c. 1960 is significant as a complete intact example of a Lightstation Complex in Queensland. Later stages of development have integrated with the original fabric and detail of the Lightstation, contributing to the continuum of a complex dedicated to the single aim of maintaining the ~~aids to navigation~~**aid to navigation**.*

Attributes

The lighthouse and its relationship to the houses, storage shed, engine room and combined workshop/radio room, dating from 1879 to c. 1960.

Criterion D Characteristic values

*The Lighthouse is significant as **an** intact representative example of a timber- framed, iron clad tower (Type B), ~~an adaptation by the Queensland Government of the imported prefabricated type using components from the United Kingdom~~**an innovative structural system designed in the office of the Queensland Colonial Architect and typical of Queensland lighthouses of the time**. Dent Island Lighthouse is important as one of a pair of identical lighthouse towers ~~in the Whitsunday Passage~~**built at the same time**, the other being situated at Cape Cleveland.*

Attributes

The structural system and all of the fabric including timber framing and iron cladding.

Description

Dent Island is one of the group of islands that form the eastern edge of the Whitsunday Passage. The light provides navigational guidance for ships passing through the narrow passage between Whitsunday Island and the islands adjacent to the mainland.

The construction of lighthouses along the Queensland coast in the second half of the nineteenth century was in response to the quite dramatic expansion of regular coastal shipping along the inner route of the Great Barrier Reef following 1870. Prior to this period the major users of the inner route had been international shipping. The first imported prefabricated **cast iron** lighthouse in Queensland was erected at Bustard Head in 1867, with Sandy Cape Lighthouse (also imported) being erected in 1870.

The next phase of construction of light towers took on a different method ~~in that the tower was erected around~~ **with** a timber frame of colonial hardwood **covered with a**. ~~The conical boiler plate casing is non-structural.~~ This new system (~~Type B~~), became the ~~normal~~ **standard** Queensland construction technique and was significantly cheaper than the Sandy Cape/Bustard Head technique. The frame could be prefabricated in Brisbane before being erected on site.

Many lighthouses were built in ~~the Type B~~ **this** style, including those at Dent Island, Cape Cleveland, Lady Elliot Island, Low Isles, Double Island Point and Booby Island.

Commander George Poynter Heath, the Chairman of the Queensland Marine Board, wrote to the Colonial Treasurer in February 1878 recommending the construction of lights on both Cape Cleveland and Dent Island. Formal approval was granted in April and tenders were subsequently called. William P Clark was awarded the contract to erect the tower **on Dent Island** and two ancillary cottages for 1820 pounds. Building was completed in September 1879.

The ~~six~~ **seven** buildings associated with the tower (two residences, a winch house **and derrick crane, store shed, storeroom**, engine room and combined workshop/radio room) are constructed variously of weatherboard and fibro sheeting on timber frames, with ~~galvanised iron~~ **corrugated asbestos-cement** roofs. The lighthouse is situated on the south-west tip of Dent Island approximately 55 nautical miles north of Mackay. ~~The 160ha island is owned by the Commonwealth and designated a Lighthouse Reserve.~~ **The southern part of Dent Island, an area of 116.946 ha, which includes the Dent Island Lightstation, is held by the Great Barrier Reef Marine Park Authority on behalf of the Commonwealth. The northern part of the island, 196.01 ha, is owned by the state of Queensland.** Access is obtained by motor launch.

The red domed, white conical tower of timber-framed, iron clad construction stands 10 m high. ~~A circular cast iron stair case runs inside the tower to the light platform.~~ **A timber stair winds around the weight tube up to the first floor; above this a fixed ladder gives access to the lantern floor.** A fourth order lens and oil wick burner were originally installed in the light. In 1925, the burner was replaced by a 35 mm incandescent kerosene mantle and the intensity of the light increased from 4000 to 225,000 candelas.

Two years later the original lens was replaced by a reconditioned fourth order lens from Cape Cleveland. In 1982 the light was converted to electric operation and down-graded from 18 nautical miles to 10 nautical miles. ~~It is presently surmounted by a 6ft 7.75in diameter lantern manufactured by Chance Brothers of Birmingham, England.~~ **It is enclosed by a lantern locally made to a Queensland standard design.** The present optical apparatus consists of a self-contained electric beacon mounted on the ~~handrail of the tower balcony.~~ **1920s Chance Brothers mercury trough pedestal.** It is powered by banks of solar cells ~~housed on a north facing prefabricated stand erected close to the tower.~~ **attached to the balcony handrail.** The apparatus gives a character of flashing every five seconds with an intensity of 1310 candelas resulting in a nominal visible range of 10 nautical miles.

Accommodation consists of two timber-framed, ~~fibrocement~~ cottages erected in 1960.

Cottage 1 is a two level building with three bedrooms and a bathroom located on the lower level and living room, kitchen, storage room, toilet, laundry and enclosed verandah on the upper level.

Cottage 2 is of single level construction with three bedrooms, living room, dining, kitchen, laundry, toilet, bathroom and store room and open front verandah. Just up the hill from the tower is a tiny, white picket fence enclosing the grave of a new born baby (apparently the first born of an early lightkeeper). **A second grave, of lightkeeper's daughter Carrie Biss who died at the age of three years in 1885, has a surround of wrought iron pickets and rails with cast iron finials. The burial details are on a marble plaque with inset lead lettering.**

*Other structures on the site (store shed, engine room and combined workshop/radio room), have concrete floors, are timber-framed and have flat asbestos-cement external wall cladding. A boat ramp is provided at the base of the cliff and concrete steps have been erected to provide access to the upper level. Domestic power is supplied by two diesel alternator sets located in a fibro powerhouse. Associated buildings include a weatherboard bulk fuel store and winch shed located adjacent to the crane landing and haulage way. A diesel powered winch ~~is~~ **was** used to transfer stores from ship to shore.*

It is possible that the place may have Indigenous heritage value. The National estate value of this aspect of the site's heritage significance has yet to be assessed.

10.4. Table demonstrating compliance with the EPBC Act 1999

Environment Protection and Biodiversity Conservation Regulations 2000	
Schedule 7A – Management Plans for Commonwealth Heritage Places	
Legislation	Satisfied within
A management plan must:	
(a) Establish objectives for the identification, protection, conservation, presentation and transmission of the Commonwealth Heritage values of the place; and	Section 2 – Heritage management plan objectives
(b) Provide a management framework that includes reference to any statutory requirements and agency mechanisms for the protection of the Commonwealth Heritage values of the place; and	Section 7 – Operational requirements
(c) Provide a comprehensive description of the place, including information about its location, physical features, condition, historical context and current uses; and	Section 4 – Dent Island; and Section 6 – The fabric of the lightstation.
(d) Provide a description of the Commonwealth Heritage values and any other heritage values of the place; and	Section 5 – Cultural significance
(e) Describe the condition of the Commonwealth Heritage values of the place; and	Section 6 – The fabric of the lightstation
(f) Describe the method used to assess the Commonwealth Heritage values of the place; and	Section 1 – Preparation of this heritage management plan
(g) Describe the current management requirements and goals including proposals for change and any potential pressures on the Commonwealth Heritage values of the place; and	Section 7 – Operational requirements; and Section 8 – Heritage management policies (Policy 3 & 6)
(h) Have policies to manage the Commonwealth Heritage values of a place, and include in those policies, guidance in relation to the following:	
i. The management and conservation processes to be used;	Section 8 – Heritage management policies (Policy 1)
ii. The access and security arrangements, including access to the area for indigenous people to maintain cultural traditions;	Section 8 – Heritage management policies (Policy 12 and 14)
iii. The stakeholder and community consultation and liaison arrangements;	Section 8 – Heritage management policies (Policy 4)
iv. The policies and protocols to ensure that indigenous people participate in the management process;	Section 8 – Heritage management policies (Policy 4)
v. The protocols for the management of sensitive information;	Not applicable
vi. The planning and management of works, development, adaptive re-use and property divestment proposals;	Section 8 – Heritage management policies (Policies 8, 10, 13 and 19)

vii.	How unforeseen discoveries or disturbances of heritage are to be managed;	Section 8 – Heritage management policies (Policy 20)
viii.	How, and under what circumstances, heritage advice is to be obtained;	Section 8 – Heritage management policies (Policy 3 and 8)
ix.	How the condition of Commonwealth Heritage values is to be monitored and reported;	Section 8 – Heritage management policies (Policy 6)
x.	How records of intervention and maintenance of a heritage places register are kept;	Section 8 – Heritage management policies (Policy 6 and 7)
xi.	The research, training and resources needed to improve management;	Section 8 – Heritage management policies (Policy 9)
xii.	How heritage values are to be interpreted and promoted; and	Section 8 – Heritage management policies (Policy 15 and 38)
(i)	Include an implementation plan; and	Section 9 – Implementation plan
(j)	Show how the implementation of policies will be monitored; and	Section 9 – Implementation plan
(k)	Show how the management plan will be reviewed.	Section 8 – Heritage management policies (Policy 5)

10.5. Map of Dent Island tenure

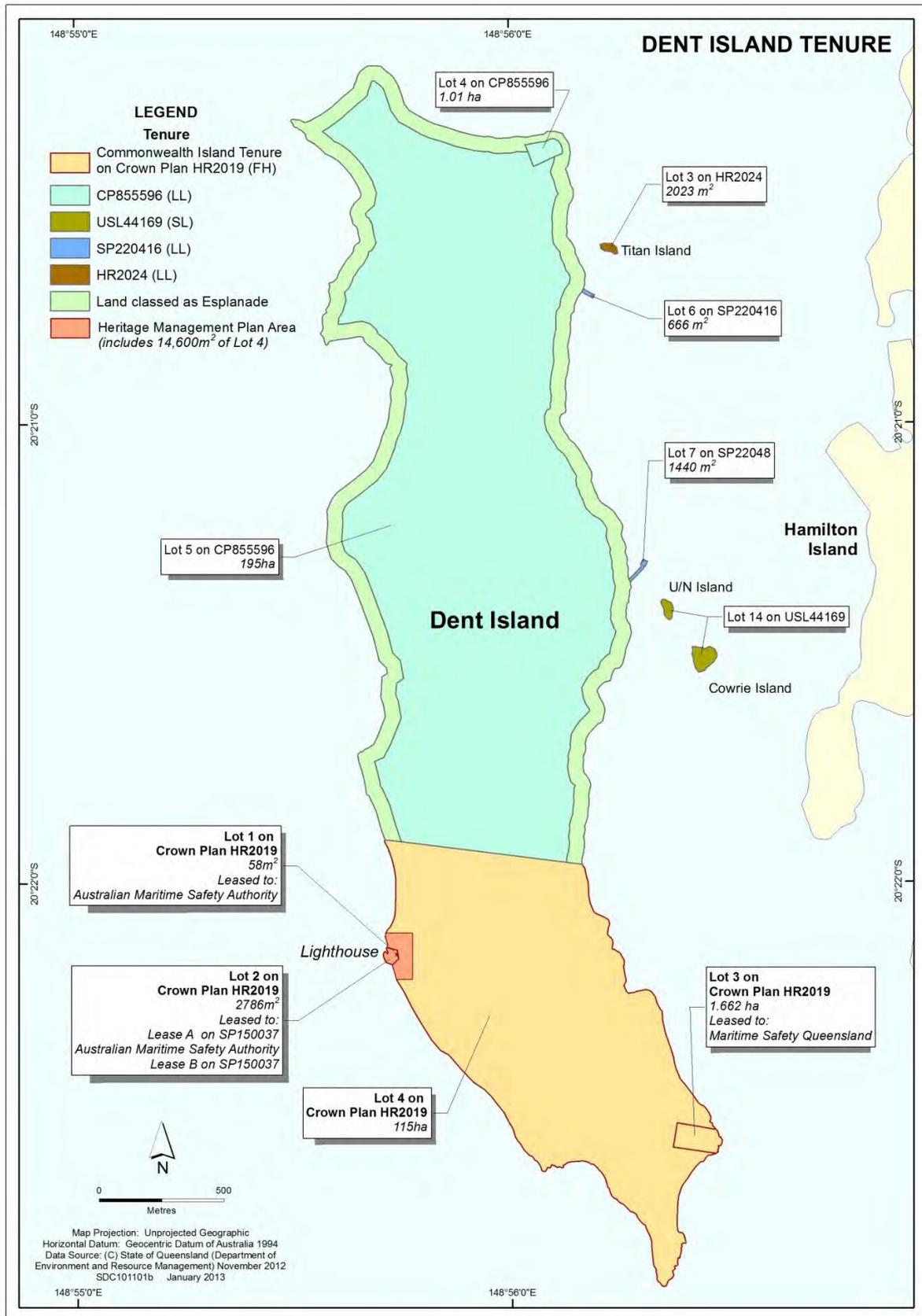


Figure 13 — Map of Dent Island land tenure including Commonwealth and State jurisdiction
 (Source: GBRMPA)

10.7. Lease plans of the Commonwealth part of Dent Island

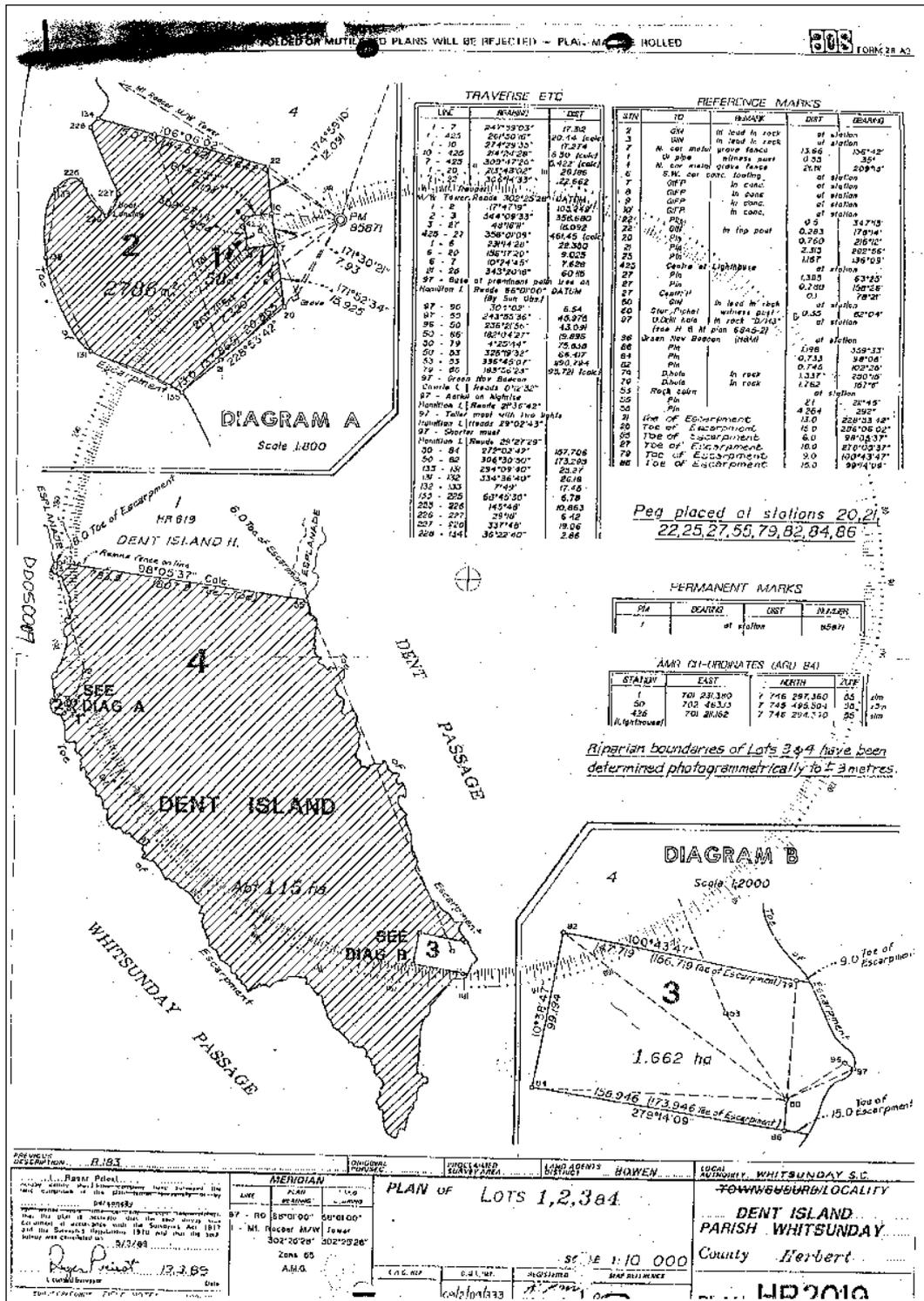


Figure 15 — Lease plans of the Commonwealth part of Dent Island

(Source: Queensland Land Registry, plan HR2019)

10.8. Dent Island boulders geotechnical inspection March 2010

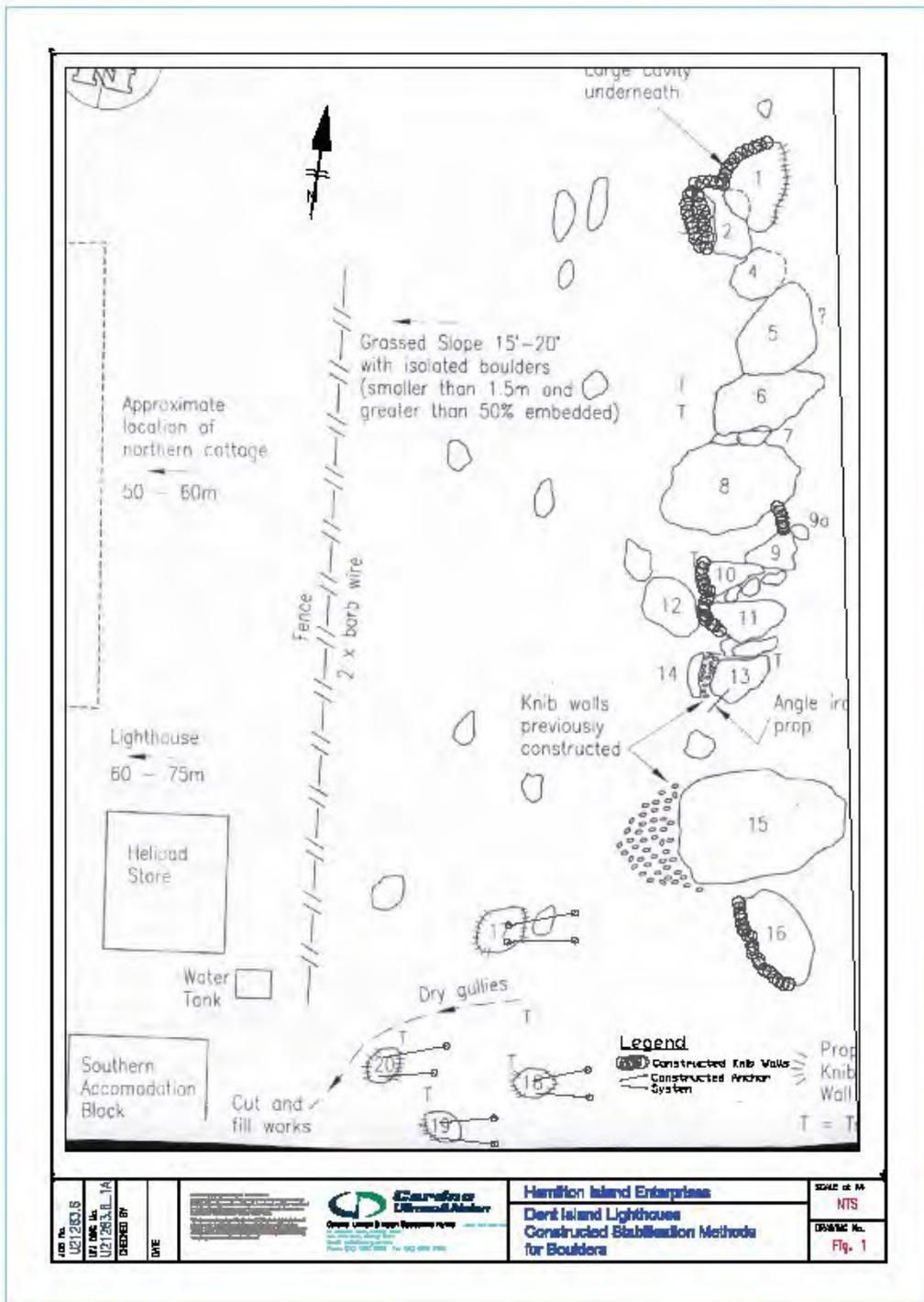


Figure 16 — Plan showing the location of boulders (Source: Cardno Ullman & Nolan)

10.9. List of introduced plants

This list of plants was made by Hugh Clelland, Manager Resort Presentation, Hamilton Island Enterprises, November 2010.

The following plantings (mostly non-native to Dent Island) were found around the lightstation buildings, and have been planted by various lightkeepers and caretakers.

Palms

- Cocos nucifera* — coconut palm
- Livistona decipiens* — cabbage palm
- Ptychosperma elegans* — elegant palm
- Dypsis lutescens* — golden cane palm
- Calamus* species — wait-a-while palm
- Arecastrum romanzoffianum* — queen palm

Trees

- Plumeria* species — frangipani (three colours)
- Macaranga tanarius*
- Olea* species — olive
- Citrus* species — citrus fruit
- Syzygium leuhmannii* — lilly pilly
- Ficus opposita* — sandpaper fig
- Schefflera actinophylla* — umbrella tree

Shrubs

- Pentas lanceolata*
- Brunfelsia calycina*
- Thevetia thevetioides* — yellow oleander
- Bougainvillea* species
- Nerium oleander* — oleander
- Hibiscus* species — hibiscus

Others

- Hymenocallis* species — spider lily
- Nephrolepis cordifolia* — fishbone fern
- Adiantum* species — maidenhair fern
- Lomandra* species
- Phyllostachys nigra* — black bamboo
- Bamboo species (three types)

Appendix E – Local Provenance Species

List of species for use in landscapes on Dent Island

Species Name	Common Name	Form
<i>Drynaria rigidula</i>	Basket Fern	fern
<i>Microsorium punctatum</i>	A fern	fern
<i>Nephrolepis cordifolia</i>	Fishbone Fern	fern
<i>Xanthorrhoea johnsonii</i>	Forest Grass Tree	grass tree
<i>Alloteropsis semialata</i>	Cockatoo Grass	grass/forb
<i>Crinum pedunculatum</i>	Swamp Lily	grass/forb
<i>Cymbopogon refractus</i>	Barbwire Grass	grass/forb
<i>Lomandra multiflorum</i>	Mat Rush	grass/forb
<i>Lomandra longifolia</i>		
<i>Themeda australis</i>	Kangaroo Grass	grass/forb
<i>Imperata cylindrica</i>		
<i>Gynura drymophila</i>		herb
<i>Helichrysum albicans</i>	White everlasting	herb
<i>Peperomia blanda</i> (<i>P. leptostachya</i>)	Native Peperomia	herb
<i>Pimelea latifolia</i>		herb
<i>Wedelia spilanthisoides</i>		herb
<i>Cycas media</i>	Cycas	palm/cycad
<i>Livistonia decora</i>		palm/cycad
<i>Ptychosperma elegans</i>	Elegant Palm	palm/cycad
<i>Acacia simsii</i>		shrub
<i>Argusia tomentosa</i>	Octopus Bush	shrub
<i>Bursaria tenuifolia</i>	Blackthorn	shrub
<i>Cordyline murchisoniae</i>	A Palm Lily	shrub
<i>Guettarda speciosa</i>	Beach Gardenia	shrub
<i>Indigofera pratensis</i>		shrub
<i>Pittosporum pauciflorum</i> (syn. <i>Citriobatus pauciflorus</i>)	Orange Thorn	shrub

Species Name	Common Name	Form
<i>Pogonolopus reticulates</i>		shrub
<i>Scaevola sericea</i>		shrub
<i>Sophora tomentose</i>	Sophora	shrub
<i>Tabernaemontana orientalis</i>		shrub
<i>Trema tomentosa (T. aspera)</i>	Wild Peach	shrub
<i>Acacia spiorbis ssp. solandri</i>		tall shrub
<i>Acacia longissima</i>		tall shrub
<i>Acacia melanoxylon</i>	Blackwood	tall shrub
<i>Aglaiia elaeagnoidea</i>		tall shrub
<i>Allocasuarina littoralis</i>	Black She Oak	tall shrub
<i>Canthium buxifolium</i>		tall shrub
<i>Canthium coprosmoides</i>	Coast Canthium	tall shrub
<i>Diospyros geminata</i>		tall shrub
<i>Ficus fraseri</i>	A Sandpaper Fig	tall shrub
<i>Leea indica</i>		tall shrub
<i>Pouteria sericea</i>		tall shrub
<i>Timonius timon</i>		tall shrub
<i>Vitex trifolia var bicolour</i>	Coastal vitex	tall shrub
<i>Alphitonia excelsa</i>	Red Ash	tree
<i>Alstonia scholaris</i>	Milky Pine	tree
<i>Araucaria cunninghamii</i>	Hoop Pine	tree
<i>Corymbia intermedia</i>	Pink Bloodwood	tree
<i>Corymbia tessellaris</i>	Moreton Bay Ash	tree
<i>Erythrina variegata</i>	Batswing Coral Tree	tree
<i>Eucalyptus drepanophylla</i>	Ironbark	tree
<i>Eucalyptus exserta</i>	Queensland Peppermint	tree
<i>Eucalyptus platyphylla (syn. E. alba)</i>	Poplar gum	tree
<i>Ficus microcarpa</i>		tree
<i>Ficus oblique</i>	Small-leafed Fig	tree

Species Name	Common Name	Form
<i>Hibiscus tiliaceus</i>	Cotton Tree	tree
<i>Homalium sp. (South Molle Island JA Gresty AQ208995)</i>		tree
<i>Jagera pseudorhus</i>	Foam Bark Tree	tree
<i>Lophostemon confertus</i>	Brush Box	tree
<i>Mallotus philippensis</i>	Red Kamala	tree
<i>Melaleuca viridiflora</i>	Broadleaf Paperbark	tree
<i>Neolitsea australiensis</i>		tree
<i>Neolitsea dealbata</i>	White Bolly Gum	tree
<i>Niemeyera antiloga</i>		tree
<i>Pandanus tectorius</i>	Screw Pine	tree
<i>Paraserianthes toona</i>	Pencil Cedar	tree
<i>Pittosporum venulosum</i>		tree
<i>Planchonia careya</i>	Cocky Apple	tree
<i>Pongamia pinnata</i>	Pogamia Tree	tree
<i>Schefflera actinophylla</i>	Umbrella Tree	tree
<i>Terminalia catappa</i>	Sea Almond	tree
<i>Thespesia populnea</i>		tree
<i>Cissus Antarctica</i>	A native grape	vine
<i>Cissus opaca</i>	A native grape	vine
<i>Geitonoplesium cymosum</i>	Scrambling Lily	vine
<i>Hoya australis</i>	Wax Flower	vine
<i>Ipomoea pescaprae</i> <i>subsp. Brasiliensis</i>	Goats Foot	vine
<i>Mucuna gigantea</i>	Burny Bean	vine
<i>Sarcostemma australe</i>	Caustic Vine	vine

Appendix F – Exotic Species and Treatment

Known exotic species present on Dent Island and treatments

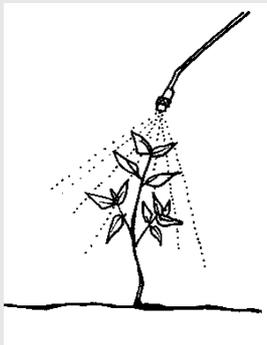
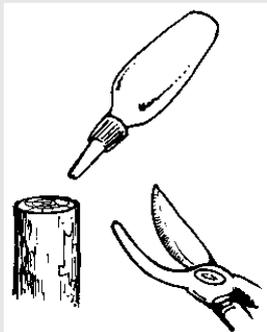
Species Name	Common Name	Treatment
<i>Ageratum houstonianum</i>	Billy Goat Weed	Utilise spot spraying with a selective herbicide plus wetting agent. Products containing furoxypyr (starane) are recommended.
<i>Brachiaria mutica</i>	Para Grass	Will require constant monitoring and management to ensure grasslands and the understorey in Eucalypt communities are not degraded. A Glyphosate product applied through spot spraying is recommended.
<i>Bryophyllum tubiflorum</i>	Mother of Millions	Will require constant monitoring and management to ensure grasslands and the understorey in Eucalypt communities are not degraded. Grazon Extra or equivalent product applied through spot spraying is recommended.
<i>Desmodium uncinatum</i>	Silver-leaf Desmodium	Will require constant monitoring and management. Utilise spot spraying with a selective herbicide plus wetting agent. A product containing metsulfuron methyl (Brush-off) is recommended.
<i>Lantana camara</i>		Will require constant monitoring and management. Best control techniques for Lantana include: Cut stump application of a Glyphosate product. Cut stump or basal bark application with access and diesel. Splatter gun application of a glyphosate product. Foliar spot spraying with a selective herbicide containing Picloram + Trichlopyr + aminopyralid (Grazon Extra).
<i>Melinis minutiflora</i>	Molasses Grass	Search for existing specimens in grasslands for eradication. Utilise spot spraying with Glyphosate.
<i>Passiflora foetida</i>	Stinking Passionfruit	Utilise spot spraying with a selective herbicide plus wetting agent. Products containing furoxypyr (starane) or Picloram + Trichlopyr (Grazon) are recommended.
<i>Ruellia tuberosa</i>		Utilise spot spraying with a selective herbicide plus wetting agent. A product containing metsulfuron methyl (Brush-off) is recommended.
<i>Sporobolus jacquemontii</i>		Will require constant monitoring and management to ensure grasslands and the understorey in Eucalypt communities are not degraded. Utilise spot spraying with a product containing flupropanate (Kennock).
<i>Stachytarpheta sp.</i>	Snake Weed	Will require constant monitoring and management. Utilise spot spraying with a selective herbicide plus wetting agent. Products containing furoxypyr (starane) are recommended.

Species Name	Common Name	Treatment
<i>Triumfetta rhomboidea</i>	Chinese Burr	Will require constant monitoring and management. Utilise spot spraying with a selective herbicide plus wetting agent. Products containing furoxypyr (starane) or Picloram + Trichlopyr (Grazon) are recommended
<i>Sphagneticola trilobata</i> (syn. <i>Wedelia trilobata</i>)	Singapore Daisy	Will require constant monitoring and management. Utilise spot spraying with a product containing Metsulfuron Methyl (Brush-Off) with PULSE penetrant.
<i>Chloris virgata</i>	Feathertop rhodes grass	Will require constant monitoring and management to ensure grasslands and the understorey in Eucalypt communities are not degraded. A Glyphosate product applied through spot spraying is recommended.
<i>Megathyrus maximus</i>	Guinea grass	Will require constant monitoring and management to ensure grasslands and the understorey in Eucalypt communities are not degraded. Particular attention should be paid to control following fire. A Glyphosate product applied through spot spraying is recommended.
<i>Melinis repens</i>	Red Natal grass	Will require constant monitoring and management to ensure grasslands and the understorey in Eucalypt communities are not degraded. A Glyphosate product applied through spot spraying is recommended.
<i>Bidens pilosa</i>	Cobblers peg	Utilise spot spraying with a selective herbicide plus wetting agent. Products containing furoxypyr (starane) are recommended.
<i>Cascabela thevelia</i>	Yellow oleander	When encountered specimens should be treated by cut stump application of access herbicide and diesel.
<i>Catharanthus roseus</i>	Periwinkle	Utilise spot spraying with a selective herbicide plus wetting agent. Products containing furoxypyr (starane) or Picloram + Trichlopyr (Grazon) are recommended.
<i>Clitoria ternatea</i>	Butterfly pea	Utilise spot spraying with a selective herbicide plus wetting agent. Products containing furoxypyr (starane) or Picloram + Trichlopyr (Grazon) are recommended.
<i>Melia azedarach</i>	White cedar	When encountered specimens should be treated by cut stump application of access herbicide and diesel.
<i>Mimosa pudica</i>	Sensitive weed	Utilise spot spraying with a selective herbicide plus wetting agent. Products containing furoxypyr (starane) or Picloram + Trichlopyr (Grazon) are recommended.
<i>Rhoeo</i> sp.	Moses in the cradle	Utilise spot spraying with a product containing Metsulfuron Methyl (Brush-Off) with PULSE penetrant

Species Name	Common Name	Treatment
<i>Sansevieria trifasciata</i>	Mother in law tongue	Utilise spot spraying with a product containing Metsulfuron Methyl (Brush-Off) with PULSE penetrant
<i>Sida cordifolia</i>	Flannel weed	Utilise spot spraying with a selective herbicide plus wetting agent. Products containing furoxypyr (starane) or Picloram + Trychlopyr (Grazon) are recommended.
<i>Thunbergia alata</i>	Black-eyed Susan	Utilise spot spraying with a selective herbicide plus wetting agent. Products containing 2,4-D amine are recommended.
<i>Furraea selloa</i>	Variegated false agavae	Utilise spot spraying with a product containing Metsulfuron Methyl (Brush-Off) with PULSE penetrant All plants in infested area should be controlled once yearly.

Appendix G – Weed Control Techniques

Weed control techniques

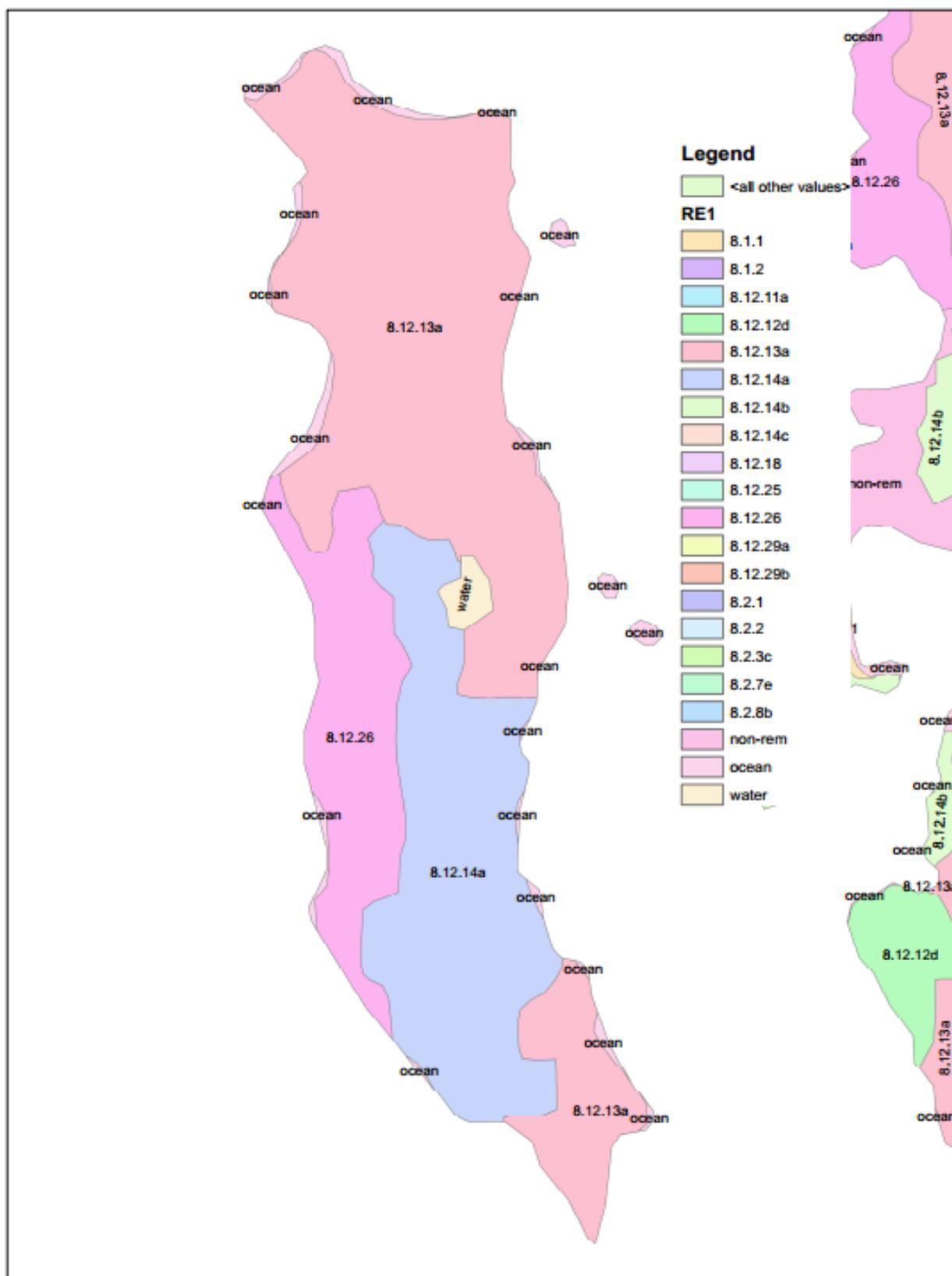
Diagram	Technique
	<p>Hand Removal</p> <p>Removal of small weeds by hand. To be employed for weeds where the entire root system can be easily removed by hand whilst minimising soil disturbance. Care is necessary to ensure seed is not disbursed. Plants likely to restrike (e.g. Singapore Daisy) or set propagules should be removed from site.</p>
	<p>Spraying</p> <p>Care must be undertaken to avoid drift by selecting appropriate nozzles, adjusting droplet size, spraying in low wind conditions and keeping the spray head close to the target plant.</p> <p>Spot spraying: Undertaken manually with a knapsack or motorised spray unit. Knapsack foliar spraying will be employed for the preparation of planting areas, the selective target of individual weeds in planting beds or rehabilitation areas as part of bush rehabilitation and part of on-going maintenance. Tall dead standing grass and herbaceous weeds should be slashed prior to ripping and planting of rehabilitation areas.</p>
	<p>Cut stump method</p> <p>This method is ideal for woody plants and vines without aerial tubers:</p> <ul style="list-style-type: none">• cut the stem close to the ground, if possible below the lowest branch; and• immediately (within 30 seconds) apply herbicide using a small squeeze bottle to the cut surface.

Appendix H – Periodic Monitoring Summary Table

Aspect	Monitoring Description	Frequency	Parameters	Document
Erosion Sediment Control	Inspect pipeline trenches	Daily (during Earthworks)		
	Inspect monitoring of ESC devices	Quarterly	Structural Integrity and Performance	
	Inspect stormwater infrastructure	Annual	Structural Integrity and Performance	
Water Quality				
	Water quality monitoring at the spillway of the lower dam during discharge	Annual	Physical water quality parameters: Electrical Conductivity, Turbidity, pH, Dissolved Oxygen and Redox Total Recoverable Hydrocarbons (TRH) Oil and Grease Total Phosphorus Total Nitrogen 8 metals	
	Inspect the Maintenance Depot and Barge Ramp	Quarterly	Evidence of hydrocarbon spillages; Integrity of fuel storage area bunding	
Flora				
	Inspect flora along trafficable areas and adjacent to fairways	Quarterly	Visual signs of degradation	Soils and Vegetation Inspection Checklist

Aspect	Monitoring Description	Frequency	Parameters	Document
Marine Land Facility				
	Inspection of landing facilities structures	Annual	Structural Integrity and Performance	
Irrigation Management				
	Soil sampling at three representative greens within the irrigation areas to monitor nutrient levels in the soil.	Annual	pH (1:5 soil/water extract) Electrical Conductivity (1:5 soil/water extract) Total Nitrogen (N) Total Phosphorus (P) Exchangeable Sodium Percentage (ESP) Organic Carbon and Chloride	

Appendix I – Regional Ecosystem Map of Dent Island



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