

# **Upgrade of Marine Service Facilities, King Bay, Dampier**

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**Mermaid Marine Australia Ltd**

**Report and Recommendations  
of the Environmental Protection Authority**

**Environmental Protection Authority  
Perth, Western Australia  
Bulletin 964  
December 1999**

## 1. Introduction

This report provides the advice and recommendations of the Environmental Protection Authority (EPA) to the Minister for the Environment on the environmental factors relevant to a proposal by Mermaid Marine Australia Ltd to upgrade the marine services facilities at the marine supply base in King Bay, Dampier.

The EPA was advised of the proposal in October 1999. Based on the information provided, the EPA considered that while the proposal had the potential to have a significant effect on the environment, the proposal could be readily managed to meet the EPA's environmental objectives. Consequently it was notified in the *West Australian* newspaper on 16 October 1999 that, subject to preparation of a suitable Environmental Protection Statement (EPS) document, the EPA intended to set the level of assessment at EPS.

The proponent has prepared the EPS which accompanies this report (Worley Astron, 1999). The EPA considers that the proposal described can be managed in an acceptable manner subject to the commitments to the proposal being legally binding.

The EPA therefore has determined under Section 40 (1) that the level of assessment for the proposal is EPS, and this report provides the EPA advice and recommendations in accordance with Section 44 (1).

Any person who disagrees with the EPA's decision on the level of assessment may lodge an appeal with the Minister for the Environment within 14 days of the date of the decision being placed in the public record, which was 10th December 1999.

A separate right of appeal exists for any person who disagrees with the content of, or any recommendations in this report, also within 14 days of release of the report, which was 10th December 1999.

## 2. The proposal

The proposal is described in detail in Section 2 of the proponent's "Dampier Marine Services Facility - Environmental Referral" document (EPS). The proposal involves expansion of the proponent's current land development to 13.6 ha and a 20.6 ha seabed lease. The key components of the proposal are:

- slipway for vessels up to 80 m;
- 300 m long quay wall;
- laydown and storage areas;
- 240 m long breakwater;
- 12 cyclone moorings;
- 8 boat pens; and
- dredging of a basin and channel.

## 3. Consultation

During the preparation of the EPS, the proponent has undertaken consultation with government agencies and companies with a direct interest in the project and other key stakeholders. Consultation was also undertaken with the local community via a press release made to the local paper inviting comment. The organisations consulted, the comments received and the

proponent's response are included in Appendix 4 of the EPS (*Dampier Marine Services Facility Environmental Referral*, Worley Astron, 1999).

#### **4. Relevant environmental factors**

The summary of all of the environmental factors and their management is outlined in Table A of the EPS (pages xii-xvii, *Dampier Marine Services Facility Environmental Referral*, Worley Astron 1999).

In the EPA's opinion the following are the environmental factors relevant to the proposal:

- a) marine water quality;
- b) mangroves; and
- c) management of operational activities.

#### **5. Conclusions**

Section 44 of the *Environmental Protection Act 1986* requires the EPA to report to the Minister for the Environment on the environmental factors relevant to the proposal and on the conditions and procedures to which the proposal should be subject, if implemented. In addition, the EPA may make recommendations as it sees fit.

The EPA concludes that the factor of marine water quality can be managed to meet the EPA's objective of maintaining or improving the quality of marine water to ensure existing and potential uses, including ecosystem maintenance, are protected. The proponent has committed to the development of a water and sediment quality monitoring program and the implementation of site drainage and oil and sediment traps. Given the flushing characteristics of King Bay, the modelling indicates that it is highly unlikely the water quality in the bay will be affected through either stratification or stagnation.

The factor of mangroves can be managed to meet the EPA's objective of maintaining the ecological function, abundance, species diversity and geographic distribution of mangrove communities and their associated ecosystems provided that the proponent's commitment to the development of a mangrove monitoring and rehabilitation programme is implemented. In making this assessment, the EPA considered that the regional representation of mangrove communities will not be affected and any alteration of sedimentation processes in King Bay will not be of significant magnitude to affect remaining mangrove stands within the bay.

The EPA considers that the management of operational activities can be undertaken to meet the EPA's objective of maintaining environmental values of King Bay in the long term by the proponent's commitment to best practice operational management. It is noted that the proponent has made a number of commitments with regard to waste management and water quality.

The project design should recognise these commitments and include appropriate features, such as brackets on sheet piles and pylons to support sand and grit 'catch trays' to collect waste from periodic cleaning and sand blasting of marine based equipment.

Furthermore, the EPA has recommended that the proposal should be subject to the preparation and implementation of an Environmental Management System.

#### **6. Recommendations**

The EPA considers that the proponent has demonstrated, in the EPS document, that the proposal can be managed in an environmentally acceptable manner and provides the following recommendations to the Minister for the Environment:

1. That the Minister notes that the proposal being assessed is for the upgrade of facilities at the marine supply base in King Bay, Dampier.

2. That the Minister considers the report on the relevant environmental factors as set out in Sections 4 and 5.
3. That the Minister notes that the EPA has concluded that it is unlikely that the EPA's objectives would be compromised, provided there is satisfactory implementation by the proponent of the recommended conditions and proponent commitments as set out in Appendix 2, including the provision for implementation of an environmental management system.
4. That the Minister imposes the conditions and procedures recommended in Appendix 2 of this report.

## **Appendix 1**

### **References**

Worley Astron (1999) *Dampier Marine Services Facility Environmental Referral*, prepared for Mermaid Marine Australia

## **Appendix 2**

### **Recommended Environmental Conditions and Proponent's Commitments**

Recommended Environmental Conditions

**STATEMENT THAT A PROPOSAL MAY BE IMPLEMENTED  
(PURSUANT TO THE PROVISIONS OF THE  
ENVIRONMENTAL PROTECTION ACT 1986)**

**UPGRADE OF MARINE SERVICES FACILITY, KING BAY, DAMPIER**

**Proposal:** Upgrading of existing facilities to service marine vessels and provide all weather moorings.

**Proponent:** Mermaid Marine Australia

**Proponent Address:** Eagle Jetty  
20 Mews Road  
FREMANTLE WA 6160

**Assessment Number:** 1303

**Report of the Environmental Protection Authority:** Bulletin 964

The proposal to which the above report of the Environmental Protection Authority relates may be implemented subject to the following conditions and procedures.

**Procedures**

**1 Implementation**

- 1-1 Subject to these conditions and procedures, the proponent shall implement the proposal as documented in schedule 1 of this statement.
- 1-2 Where the proponent seeks to change any aspect of the proposal as documented in schedule 1 of this statement in any way that the Minister for the Environment determines, on advice of the Environmental Protection Authority, is substantial, the proponent shall refer the matter to the Environmental Protection Authority.
- 1-3 Where the proponent seeks to change any aspect of the proposal as documented in schedule 1 of this statement in any way that the Minister for the Environment determines, on advice of the Environmental Protection Authority, is not substantial, those changes may be effected.

**2 Proponent Commitments**

- 2-1 The proponent shall implement the consolidated environmental management commitments documented in schedule 2 of this statement.
- 2-2 The proponent shall implement subsequent environmental management commitments which the proponent makes as part of the fulfilment of conditions and procedures in this statement.

### **3 Proponent**

- 3-1 The proponent for the time being nominated by the Minister for the Environment under section 38(6) or (7) of the *Environmental Protection Act 1986* is responsible for the implementation of the proposal until such time as the Minister for the Environment has exercised the Minister's power under section 38(7) of the Act to revoke the nomination of that proponent and nominate another person in respect of the proposal.
- 3-2 Any request for the exercise of that power of the Minister referred to in condition 3-1 shall be accompanied by a copy of this statement endorsed with an undertaking by the proposed replacement proponent to carry out the proposal in accordance with the conditions and procedures set out in the statement.
- 3-3 The proponent shall notify the Department of Environmental Protection of any change of proponent contact name and address within 30 days of such change.

### **4 Commencement**

- 4-1 The proponent shall provide evidence to the Minister for the Environment within five years of the date of this statement that the proposal has been substantially commenced.
- 4-2 Where the proposal has not been substantially commenced within five years of the date of this statement, the approval to implement the proposal as granted in this statement shall lapse and be void. The Minister for the Environment will determine any question as to whether the proposal has been substantially commenced.
- 4-3 The proponent shall make application to the Minister for the Environment for any extension of approval for the substantial commencement of the proposal beyond five years from the date of this statement at least six months prior to the expiration of the five year period referred to in conditions 4-1 and 4-2.
- 4-4 Where the proponent demonstrates to the requirements of the Minister for the Environment on advice of the Environmental Protection Authority that the environmental parameters of the proposal have not changed significantly, then the Minister may grant an extension not exceeding five years for the substantial commencement of the proposal.

### **5 Compliance Auditing**

- 5-1 The proponent shall submit periodic Compliance Reports, in accordance with an audit program prepared in consultation between the proponent and the Department of Environmental Protection.
- 5-2 Unless otherwise specified, the Chief Executive Officer of the Department of Environmental Protection is responsible for assessing compliance with the conditions, procedures and commitments contained in this statement and for issuing formal written advice that the requirements have been met.
- 5-3 Where compliance with any condition, procedure or commitment is in dispute, the matter will be determined by the Minister for the Environment.



## **Environmental Conditions**

### **6 Environmental Management System**

6-1 In order to manage the environmental impacts of the project, and to fulfil the requirements of the conditions and procedures in this statement, prior to construction, the proponent shall demonstrate to the requirements of the Environmental Protection Authority on advice of the Department of Environmental Protection that there is in place an environmental management system which includes the following elements:

- 1 An environmental policy and corporate commitment to it;
- 2 Mechanisms and processes to ensure:
  - (1) planning to meet environmental requirements;
  - (2) implementation and operation of actions to meet environmental requirements, including environmental reporting;
  - (3) measurement and evaluation of environmental performance and reporting; and
- 3 Review and improvement of environmental outcomes.

6-2 The proponent shall implement the environmental management system referred to in condition 6-1.

### **7 Performance Review**

7-1 For the six years following the commencement of construction, the proponent shall submit triennial Performance Reviews to the Department of Environmental Protection:

- to document the outcomes, beneficial or otherwise;
- to review the success of goals, objectives and targets; and
- to evaluate the environmental performance over each three year period;

relevant to the following:

- 1 environmental objectives reported on in Environmental Protection Authority Bulletin 964;
- 2 proponent's consolidated environmental management commitments documented in schedule 2 of this statement and those arising from the fulfilment of conditions and procedures in this statement;
- 3 environmental management system environmental performance targets;
- 4 environmental management programs and plans; and/or
- 5 environmental performance indicators;

to the requirements of the Environmental Protection Authority on advice of the Department of Environmental Protection.

Following the end of this six year period, a revised timing for Performance Review is to be agreed between the Environmental Protection Authority and the proponent.

Note: The Environmental Protection Authority may recommend changes and actions to the Minister for the Environment following consideration of the Performance Review.

## **8 Decommissioning Plan**

8-1 At least six months prior to decommissioning, the proponent shall prepare a Decommissioning Plan to ensure the site is left in a suitable condition to the requirements of the Environmental Protection Authority on advice of the Department of Environmental Protection.

This Plan shall address:

- 1 removal or, if appropriate, retention of plant and infrastructure;
  - 2 (final) rehabilitation of all disturbed areas to a standard suitable for agreed new land use(s); and
  - 3 identification of contaminated areas, including provision of evidence of notification to relevant statutory authorities.
- 8-2 The proponent shall implement the Decommissioning Plan required by condition 8-1 until such time as the Minister for the Environment determines that decommissioning is complete.
- 8-3 The proponent shall make the Decommissioning Plan required by condition 8-1 publicly available, to the requirements of the Environmental Protection Authority.

### **Note**

- 1 The proponent is required to apply for a Works Approval and Licence for this project under the provisions of Part V of the Environmental Protection Act.

## Schedule 1

### The Proposal

The marine facilities are located on the northern shore of King Bay in Dampier, on the current Mermaid Marine Australia lease, incorporating vacant lease land to the east of the site and extending into King Bay (Figure 1). The facility will provide protected anchorage to allow safe berthing, cargo handling, maintenance and shelter from extreme weather events. The proposal includes:

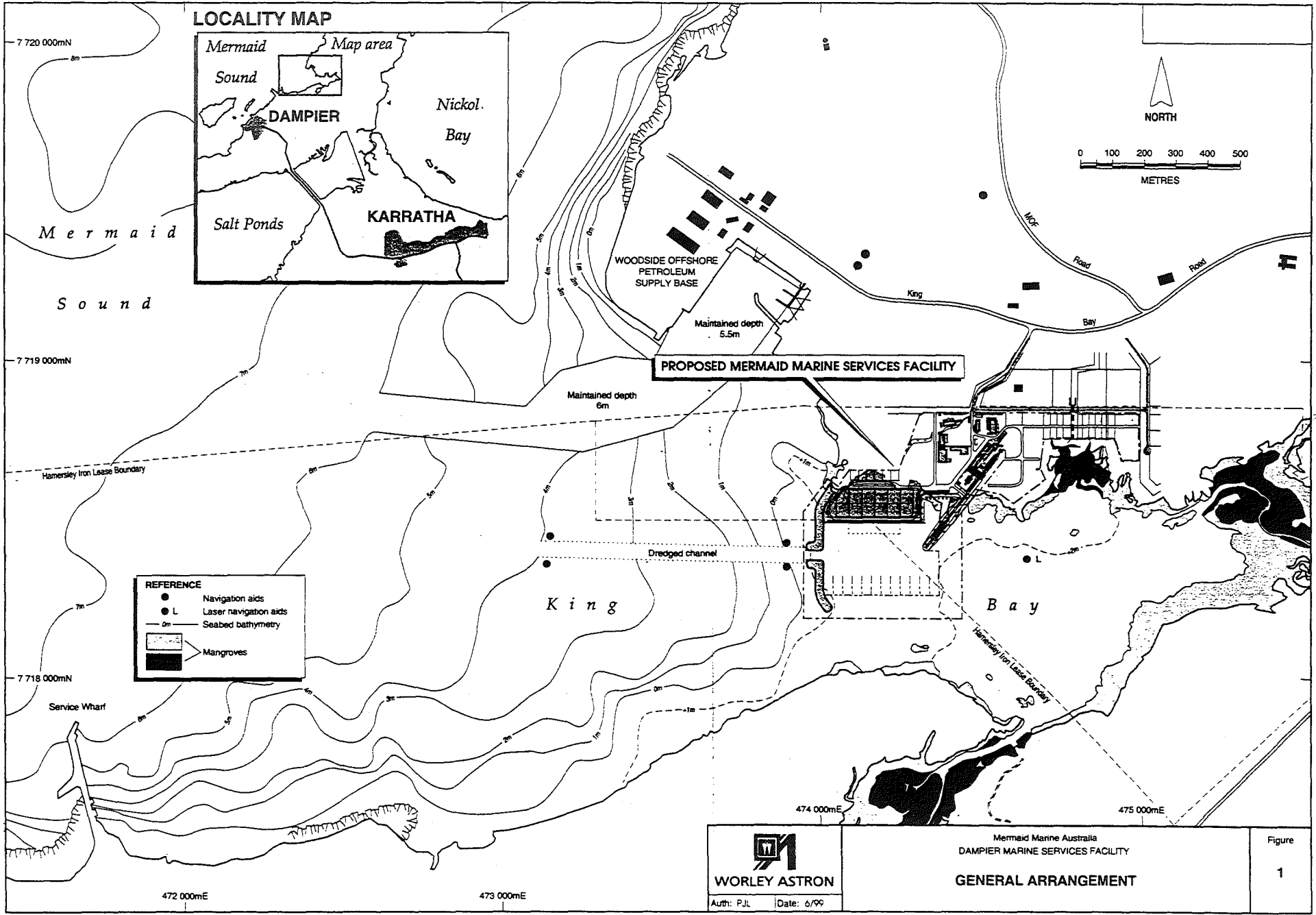
- slipway for vessels up to 80 m;
- 300 m long quay wall;
- laydown and storage areas;
- 240 m long breakwater;
- 12 cyclone moorings;
- 8 boat pens; and
- dredging.

The key characteristics of the proposal are summarised in the table below.

**Key Characteristics Table**

Element	Quantities/Description
Slipway	To service vessels up to 80 metres and 4000 tonne displacement.
Quay wall	300 metres steel sheet pile
Breakwater	240 metres long rock armour
Cyclone moorings	12 spread mooring positions
Boat pens	8 pens with pylon supported access catwalk
Dredging	Approach channel, and mooring basin, approximately 600 000 cubic metres.
Workshop / offices	Incorporating current facilities.
Vessel access towers	As required.

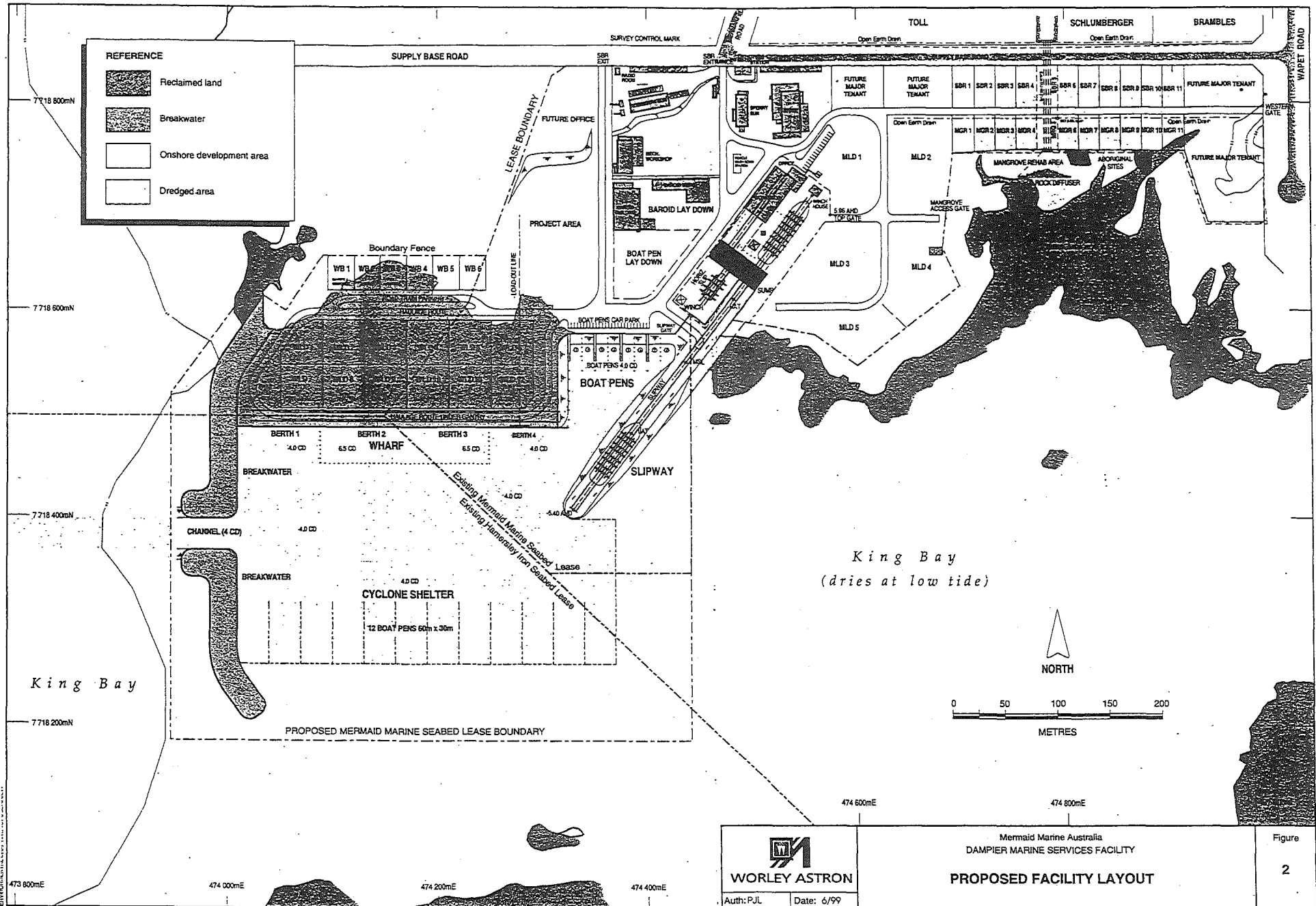
A plan of the layout of the facilities and the surrounding environment is included in Figure 2.



**WORLEY ASTRON**  
Auth: P.JL | Date: 6/99

Mermaid Marine Australia  
DAMPIER MARINE SERVICES FACILITY  
**GENERAL ARRANGEMENT**

Figure  
**1**



**Proponent's Consolidated Environmental Management  
Commitments**

December 1999

Upgrade of Marine Services Facility, King Bay, Dampier

Mermaid Marine Australia

Proponent's Consolidated Environmental Management Commitments (Mermaid Marine Australia, Pty Ltd)

No.	Topic	Commitment/Action	Objective/s	Timing	Advising Agency	Measurement/ compliance criteria
1.	Vegetation	Develop and implement mangrove monitoring plan. Plan to include a program to extend over a six year period, including baseline monitoring.	Maintain abundance and diversity of undisturbed mangrove population	Pre-construction phase and ongoing for six years, including construction and post-construction phases	CALM	Submission of monitoring programme to satisfaction of DEP. Subject to re-evaluation after six year period
2.	Vegetation	Report results of mangrove monitoring program.	Maintain abundance and diversity of undisturbed mangrove population	Annual reporting for unexpected or negative impacts. Otherwise triennial reports.		Submission of monitoring reports to DEP
3.	Vegetation	Develop and implement mangrove revegetation plan detailing a program for a minimum of six years	Rehabilitate 500 m <sup>2</sup> of degraded mangroves	Pre-construction	Murdoch University CALM	Submission of revegetation plan to satisfaction of DEP.
4.	Vegetation	Report results of mangrove rehabilitation programme	Rehabilitate 500 m <sup>2</sup> of degraded mangroves	Annual reporting for unexpected or negative impacts. Otherwise triennial reports.		Submission of monitoring reports to DEP
5.	Vegetation	Develop and implement landscaping plan.	Maintain or increase abundance of priority plant species	Pre-construction, construction and operational phases	CALM	Submission of landscaping program to DEP
6.	Vegetation	Develop and implement weed control plan. Plan to include provision for post construction monitoring as appropriate.	Prevent spread of weeds from site	Pre-construction, construction and operational phase as required.	CALM Agriculture WA	Submission of weed control program to satisfaction of DEP
7.	Water and sediment quality	Develop and implement water and sediment quality monitoring programme in King Bay. Program to include provisions for revaluation and modification as seen appropriate by proponent and/or DEP.	Maintain pre-construction water quality in accordance with draft Australian water quality guidelines (ANZECC and ARMCANZ 1999)	Pre-construction, construction and operational phases		Submission of water and sediment quality monitoring program to satisfaction of DEP
8.	Water and sediment quality	Report results of water and sediment quality monitoring	Maintain pre-construction water quality	Annually		Submission of water and sediment quality monitoring reports to DEP for review.
9.	Water quality	Develop a dredging and breakwater construction plan. Implement the above plan, ensuring dredging and breakwater construction methods will use the best practically available techniques to minimise turbidity.	Maintain pre-construction water quality	Pre-construction  Construction phase	Port and Harbour Consultants	Submission of dredging and breakwater construction plan to satisfaction of DEP.

Proponent's Consolidated Environmental Management Commitments (Mermaid Marine Australia, Pty Ltd)

No.	Topic	Commitment/Action	Objective/s	Timing	Advising Agency	Measurement/ compliance criteria
10.	Water quality	Develop and implement a program to monitor and report long term erosion around dredged basin	Confirm predictions of digital modelling. Determine remedial action if necessary. Ensure stability of dredged basin with reference to <i>Shore Protection Manual, US Army Corps of Engineers</i>	Operational phase	Port and Harbour Consultants	Submission of monitoring program to reporting requirements of the DEP.
11.	Water quality	Develop site drainage plan	Maintain pre-construction water quality	Pre-construction		Submission of design documentation to satisfaction of DEP.
12.	Water quality	Establish and maintain a competent system of pollutant entrapment (eg. oil and sediment traps and sand filter system)	Maintain a competent system of pollutant entrapment to maintain pre-construction water quality	Pre-construction, construction and operational.		Submission of design documentation to satisfaction of DEP.
13.	Water quality	TBT-based antifouling paints will not be used on any Mermaid vessel	Maintain pre-construction water quality	Ongoing		Conformance with compliance and performance review requirements as specified by the DEP.
14.	Landfill	Monitor subsidence of fill	Prevent marine contamination Prevent degradation of facilities	Construction, ongoing	Port and Harbour Consultants	Reporting of negative impacts if occur.
15.	Waste management	Store solid wastes in closed top skips or bunded areas and dispose off-site in acceptable manner	Prevent soil and water contamination in accordance with relevant National Environmental Protection Measures and appropriate requirements of the Australian Water Quality Guidelines ( <i>ANZECC and ARMCANZ 1999</i> ).	Construction and operational phases	Shire of Roebourne and Health Dept of WA	Submission of waste management plan to satisfaction of DEP, Shire of Roebourne and Health Department of WA.
16.	Waste management	Contaminated liquid waste removed from site by commercial service provider	Prevent soil and water contamination in accordance with requirements of Commitment 15.	Construction and operational phases	Shire of Roebourne and Health Dept of WA	Submission of waste management plan to satisfaction of DEP, Shire of Roebourne and Health Department of WA.
17.	Waste management	No wastes will be burnt on site	Maintain air quality	Construction and operational phases	Shire of Roebourne and Health Dept of WA	Submission of waste management plan to satisfaction of DEP, Shire of Roebourne and Health Department of WA.
18.	Waste management	On-site treatment of sewage wastes using appropriate aerated wastewater treatment facility. Re-use wastewater if possible	Prevent soil and water contamination in accordance with requirements of Commitment 15.	Construction and operational phases	Shire of Roebourne and Health Dept of WA	Submission of waste management plan to satisfaction of DEP, Shire of Roebourne and Health Department of WA.
19.	Dust management	Develop and implement dust monitoring program	Control and minimise dust generation in accordance with DEP guidelines	Pre-construction and operational phases		Submission of dust management plan to satisfaction of DEP
20.	Accidental pollution prevention	Possible contaminants on site (including oil, fuel and chemicals) will be stored and transferred in bunded areas	Minimise potential for pollution and meet requirements in accordance with the <i>Explosives and Dangerous Goods Act 1961</i> and <i>Dangerous Goods Regulations 1992</i> .	Construction, ongoing	DME	Submission of chemical and fuel storage management plan to satisfaction of DME and DEP.
21.	Accidental pollution prevention	All storage areas for liquids will be above the 100 year storm surge level	Minimise potential for pollution	Construction, ongoing	DME	Submission of chemical and fuel storage management plan to satisfaction of DME and DEP.



**Proponent's Consolidated Environmental Management Commitments (Mermaid Marine Australia, Pty Ltd)**

No.	Topic	Commitment/Action	Objective/s	Timing	Advising Agency	Measurement/ compliance criteria
22.	Accidental pollution prevention	Develop spill clean up procedures, including mechanism for implementation	Minimise potential for pollution	Pre-construction	DME	Submission of spill response strategy to satisfaction of DEP and DME.
23.	Fire	Proponent will ensure the site has an appropriate fire fighting system and that its staff are trained in its use	Ensure the safety of personnel, equipment and neighbouring facilities	Operational phase	local emergency services	Submission of emergency response strategy to relevant local authority and emergency services.

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