4.0 DESIGN OF MARINA STRUCTURES AND FACILITIES

The ultimate environmental performance of a properly sited coastal marina depends on the marina design, construction and operation. Guidelines for the design of marinas are currently available in Australia. 'Australian Standard AS3962-1991, Guidelines for Design of Marinas' details appropriate design and engineering standards for marinas in Queensland. However, given the World Heritage status of the GBRMP, and the sensitivity of marine ecosystems in the Park, engineering and design criteria which may meet these standards may still have unacceptable environmental consequences in the Marine Park. Subsequently, in some situations and environments the designer's job may require stricter, novel or more 'environmentally friendly' alternatives which minimise effects on the Park, as much as possible. **It should be stated here that the guidelines outlined in this section are in no way prescriptive or mandatory by law and compliance with the guidelines does not necessarily guarantee the acceptability of a development.** The following design notes are included as a helpful guide to developers as many specific approvals are the responsibility of State and Commonwealth authorities apart from GBRMPA. They have been included however because even if the marina design, construction and operation are in accordance with these standards, there is still potential for impact on the marine environment. Marina developments need to be judged on a case-to-case basis. However, it is hoped that more knowledge of the environmental implications of engineering and design recommendations as spelled out in these guidelines, will assist designers, developers and operators achieve sound, economical marina developments with acceptable environmental impacts.

The layout of marina land facilities is usually determined by the physical constraints of the particular location and the need to enable efficient material and activity flow paths. It is recommended that a land to water area ratio of between 50:50 and 40:60 be adopted for preliminary planning of a marina development, depending on the extent of shore-based facilities to be provided. However, financial viability of land/water ratio must also be carefully considered as the 'real estate' created by reclamation in many marina developments is the principal financial asset of the development.