

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, Department of the Environment and Heritage, a delegate of the Minister for the purposes of that section, approve the taking of the following action:

To construct two breakwaters along the edges of the dredged access channel at Port Hinchinbrook, Oyster Point (EPBC 2004/1826)

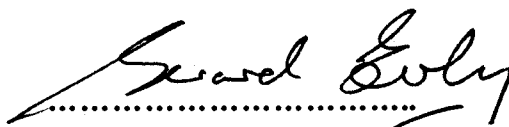
by Cardwell Shire Council subject to the conditions set out in ANNEXURE 1.

This approval has effect for:

Section 12 and 15A (World Heritage); and
Section 18 and 18A (Listed threatened species and communities); and
Section 20 and 20A (Listed migratory species) of the *Environment Protection and Biodiversity Conservation Act 1999*

This approval has effect until 31 October 2016.

Dated this 18th day of October 2006


GERARD EARLY

ANNEXURE 1

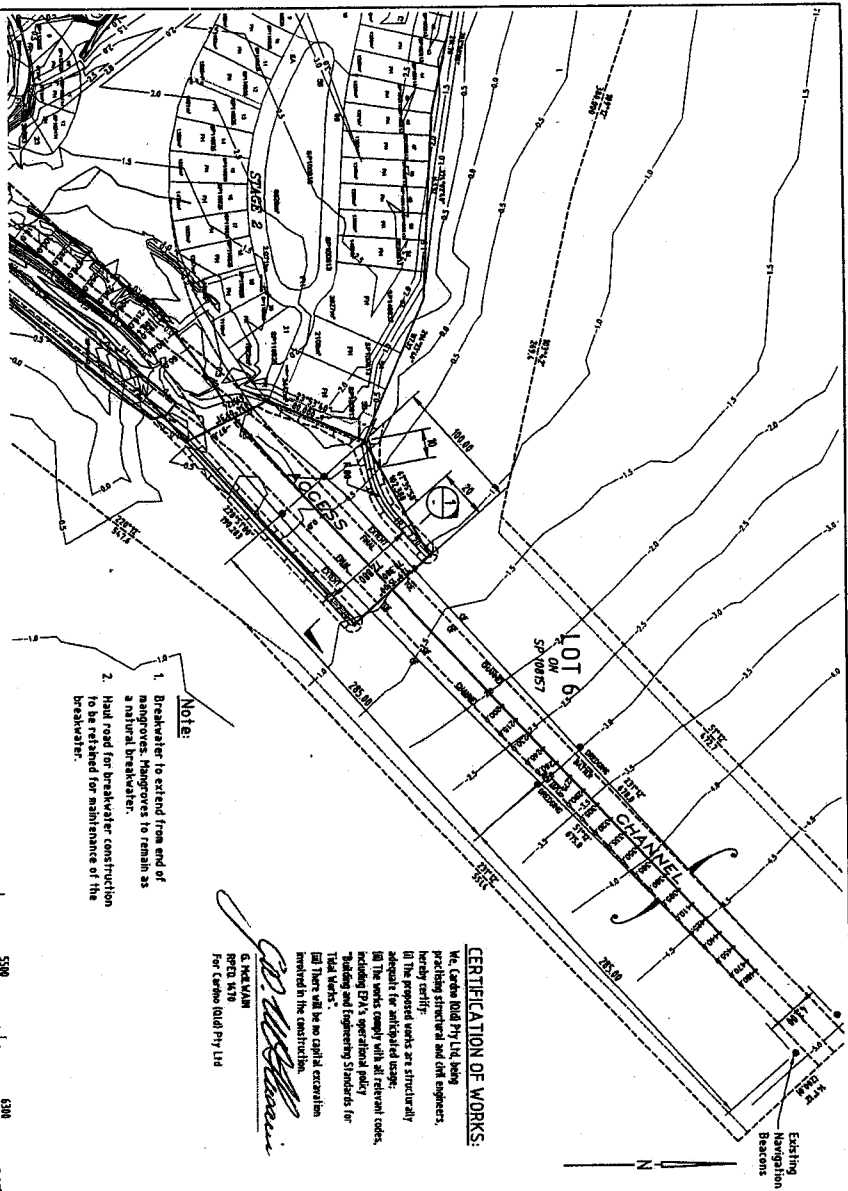
1. To protect the World Heritage Values of Hinchinbrook Channel, the person taking the action must construct a maximum of two breakwaters to the plan outlined in Annexure 2.
2. The northern breakwater must extend no more than 100m from the edge of the mangroves and the southern breakwater extend no more 200 metres from the edge of the mangroves, along the dredge access channel. The crest of the breakwaters must not exceed 2.2m Astronomical Height Datum.
3. To protect the World Heritage values, listed threatened species and migratory species, during the construction phase, the person taking the action must comply with the monitoring requirements specified in the Construction Environmental Management Plan and Monitoring Program approved in respect to Conditions 6 and 7 of the Marine Park Permit QN05/008.

Results from this monitoring must be provided to the Department of the Environment and Heritage on a fortnightly basis.

4. To protect the World Heritage values, listed threatened species and migratory species, following construction, the person taking the action must undertake:
 - a. monitoring of the surrounding water quality to establish that it is as good or better than the water quality prior to the taking of the action;
 - b. an assessment of the spatial extent and health of the seagrass meadows to establish that they have not declined since prior to the action being taken; and
 - c. monitoring of the composition of the sediment on the surrounding shoreline and in the channel to establish whether the taking of the action has caused any change.

A post-construction monitoring program based on that in the Construction Environmental Management Plan must be developed to address (a), (b) & (c). The program must be submitted prior to completion of construction of the breakwaters, must satisfy the Minister, and must be implemented once completed. Monitoring must take place for a period of no less than five (5) years from the date of the breakwaters construction being completed. All results of the monitoring must be provided to the Department of the Environment and Heritage on an annual basis.

5. To protect listed threatened marine species and migratory species the person taking the action must erect signage on or adjacent to the breakwaters which explains to users the values of the Great Barrier Reef World Heritage Area and the actions they can take to minimise their impact on these values including on threatened and migratory species in the area.
6. Construction of the breakwaters must commence within 3 years of the date of this approval.



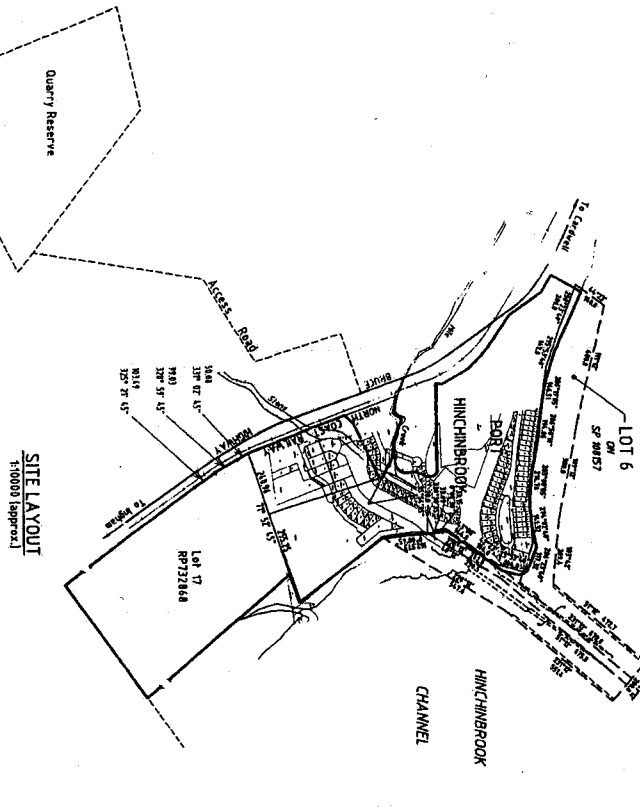
Note:

1. Breakwater to extend from end of armours; Highways to remain as a natural breakwater.
2. Haul road for breakwater construction to be retained for maintenance of the breakwater.

CERTIFICATION OF WORKS:

We, Carlo Rida Pty Ltd, being a company duly incorporated in the Republic of South Africa, hereby certify that the design and construction of the breakwater and haul road shown on the attached drawings were done in accordance with the provisions of the Engineering Act, 1985, and the Engineering Council Act, 1985, and that the design and construction of the breakwater and haul road were done in accordance with the provisions of the Engineering Council Act, 1985, and the Engineering Council Act, 1985, and that the design and construction of the breakwater and haul road were done in accordance with the provisions of the Engineering Council Act, 1985, and the Engineering Council Act, 1985.

Carlo Rida Pty Ltd
 G. M. VAN DER MERWE
 P. R. 1000
 For Carlo Rida Pty Ltd

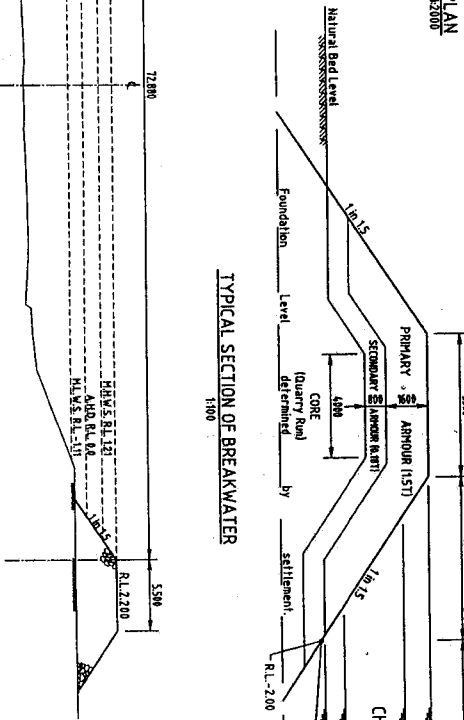
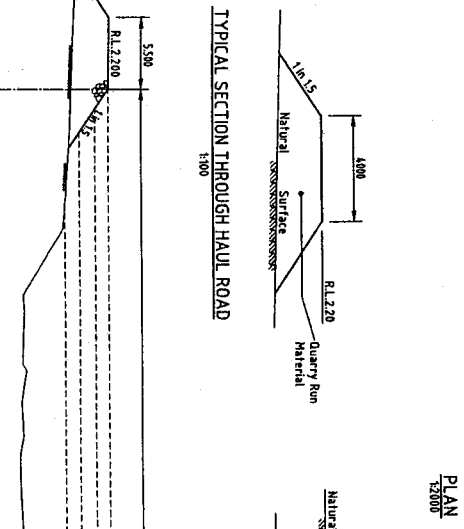
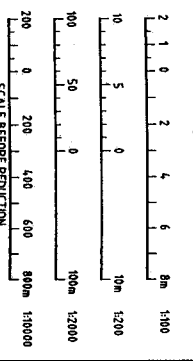


Notes:

1. Refer to Dwg No. 786/A-44 for re-entrant details.
2. Rock shall be rough angular quarry stone. It shall be igneous or metamorphic rock, dense, sound, resistant to abrasion and free of defects which would result in breakdown of the stone in marine environment.

- Shape	- Density	- Ratio of maximum dimension to minimum dimension measured at right angles, 2.0 max.
- Size and Grading	- 2600 kg/m ³ minimum	
- Rock Type		
Primary Armour	1.5 T	1.85T
Secondary Armour	0.18 T	0.23T
Revetment	32 kg	4.0 kg
		2.5 kg

Quarry run shall consist of material, not selected for armour rock or revetments and shall be well graded.



BREAKWATER DESIGN CRITERIA

Refer "Harbour Entrance and Coastal Environment" report by W&A Oceanics dated October 1993.

(a) Design wave height (H_d) - N to NE directions 1.75m
 - ENE to SE directions 1.60m

(b) Design storm tide level 2.60m (AHD)

(c) Designed for substantial overtopping

PROJECT NO.	1706/01-66
DATE	1706/01-66
CLIENT	CARDWELL PROPERTIES PTY LTD
PROJECT	PORT HINCINBROOK RESORT - CARDWELL PROPOSED BREAKWATERS PLAN AND DETAILS
DESIGNER	GARDINO MIBK
DATE	1706/01-66
SCALE	1:100
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