



MINISTER FOR ENVIRONMENT

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

FREMANTLE INNER HARBOUR DEEPENING PROJECT

FREMANTLE PORT AUTHORITY

This proposal may be implemented subject to the following conditions:

1. The proponent shall adhere to the proposal as assessed by the Environmental Protection Authority and shall fulfil the commitments made in the Public Environmental Report and in its letter to the Authority of 14 July 1988 (copy of commitments attached).
2. The proponent shall satisfy Schedules 5 and 16 of the document "Water Quality Criteria for Marine and Estuarine Waters of Western Australia", pertaining to use of water for passage of fish and for navigation and shipping, to the satisfaction of the Environmental Protection Authority.
3. Proposals for location of refuelling facilities, stormwater drainage, pumpout facilities and runoff containment shall be referred by the proponent to the Environmental Protection Authority for approval when these are finalised and before construction commences.
4. Prior to use, the proponent shall provide deep sewerage to the development.

Published On

12 OCT 1988

5. Prior to seawall construction commencing, the proponent shall prepare a detailed monitoring and management programme to the satisfaction of the Environmental Protection Authority. In addition to the commitments made in the Public Environmental Report, the programme shall also provide for:
- (1) monitoring of the extent and impact of any plume created from rock dumping during construction work, from dredging and from spoil disposal;
 - (2) monitoring of the extent of changes to Leighton and Port Beaches;
 - (3) monitoring of heavy metal concentrations in the sediments at sites both within and outside the small craft harbour (the latter as a control to enable long-term effects to be assessed), commencing before the reclamation starts and continuing for an initial period of five years;
 - (4) monitoring of dust levels during the construction phase of the operation;
 - (5) monitoring being carried out for a period of five years initially, then reviewed, with interim reports on monitoring and management submitted to the Environmental Protection Authority by the proponent on an annual basis; and
 - (6) reporting after five years of the reclamation, with reference to the monitoring results obtained during the full five year period, including interpretation of the results, recommendations relating to future requirements and with a commitment to amend management in accordance with the monitoring results.

Monitoring results obtained as a result of this condition shall be made available for public inspection following examination by the Environmental Protection Authority.

6. Any further dredging activity associated with the land reclamation not addressed within the Public Environmental Report shall be referred by the proponent to the Authority for assessment prior to commencement.
7. Prior to seawall construction commencing, the proponent shall prepare a land use management plan for the portion of North Fremantle likely to be affected by potential environmental impacts of the proposal. Specifically, the plan should address the environmental consequences of the development on other land uses, such as traffic impacts and noise. The plan should address in stages, both construction and operational phases of the proposal and be prepared in consultation with appropriate Government agencies and the City of Fremantle, to the Environmental Protection Authority's satisfaction.

When completed to the Authority's satisfaction, the land use management plan shall be made available for public inspection.

Barry Hodge, M.L.A.
MINISTER FOR ENVIRONMENT

11 OCT 1988

SUMMARY OF COMMITMENTS

Responsibility for the design, management and operation of the project lies with the Fremantle Port Authority. In the discharge of this responsibility, the FPA commits itself to:-

- * monitor the noise and dust generation, investigate any complaints and ensure that any further problems are minimised;
- * reduce turbidity to a minimum during dredging and construction through staged construction of the sea and bund walls and the timing of the dredging;
- * maintain public access to recreational areas to the greatest extent compatible with safety requirements;
- * explore the possibility of preserving or replacing the Greenup wreck as a recreational diving amenity;
- * maintain water quality in the proposed small craft harbour at an acceptable level, as defined by the competent authority;
- * promptly contain and remove any fuel spill, or other material, within the harbour;
- * maintain the integrity of all new construction;
- * ensure that all improvements to leased land meet stringent building and aesthetic standards;
- * provide deep sewerage if deemed necessary; and
- * hydromulch all exposed areas of reclaimed land as soon as practicable.

Above all, to discharge the FPA's prime responsibility of providing and operating an efficient, commercially viable port for the benefit of the State and People of Western Australia.



FREMANTLE PORT AUTHORITY

Your Ref:
Our Ref: PJS.CC

The Chairman
Environmental Protection Authority
1 Mount Street
PERTH WA 6000

Attention : Mr Colin Murray

ENVIRONMENTAL PROTECTION AUTHORITY	
- 1 AUG 1988	
File No	86/87/1 <i>EB</i> <i>cm</i>
	Initials

Dear Sir

INNER HARBOUR DREDGING & SMALL BOAT HARBOUR DEVELOPMENT
PUBLIC ENVIRONMENTAL REPORT

1. Sea Wall Construction Sequence

Further to our letter in response to the issues raised following the publication of the Public Environmental Report on the above project, I herewith enclose a copy of the Department of Marine & Harbour's Report dealing with the modelling which has been undertaken over a period of 2 months at the Floreat Park facility of the Centre for Water Research.

The Report deals in great detail with the construction sequence for the sea walls, which has been proposed as a most appropriate way to deal with the control of turbid water created by discharge of dredge material within the reclamation area.

As you are aware, the proposal called for the construction of the Northern arm of the sea wall prior to the commencement of dredging, as well as the partial construction of the bund and sea walls in a Northerly direction off North Mole to a stage where partial containment of the reclamation would have been achieved.

As you can see by examining the photographs in the Report, this sequence would have been extremely successful in containing the movement of dredge fines out of the reclamation area into the surrounding areas where wave action may have moved it Northwards. The tests were done by introducing a suspension of Bentonite clay at a pre-determined rate to represent the flow of dredge spoils. Whilst reclamation proceeds behind the bund wall little or no fines escape into the ocean and indeed it was necessary to model the point of deposition of spoils beyond the end of the partially built bund wall before any rapid dispersion of material took place.

In the subsequent series of photographs later stages of the reclamation/sea wall development have been modelled and these also show that by appropriately staging the development the question of controlling turbidity is being adequately addressed.

In a separate development, and as part of the process of writing tender documents and interfacing with Contractors tendering for the sea wall contract, it became clear to the Port Authority that an alternative construction sequence to that modelled would further reduce the effective risk of damage to the bund wall in the event that the sea wall construction was delayed and an early winter (1989) storm occurred. We therefore explored ways of modifying the construction sequence and have come up with that depicted on the revised drawing, which I enclose with this letter.

This new sequence virtually eliminates any risk of damage to the armour of the bund wall and the unprotected inside face of the sea walls whilst also providing earlier alternative access (in a loop along the bund wall and sea walls) to the end of North Mole permitting early excavation of the cut through North Mole. Final closure of the sea wall is planned to be on the North West corner. With a delayed start to dredging of 2 months (now due to commence March 1989) the sea and bund walls will be well advanced to provide complete containment of dredge spoil.

2. Dredge and Reclamation Volumes

As advised in the Public Environmental Report (Sections 5.2 to 5.4 inclusive) the maximum proposed dredging volume including overdredge tolerance is 1.8 million cubic metres and the reclamation area has been designed to accept approximately 2.0 million cubic metres. This will ensure that after allowing for contingencies and for provision of a 3 to 4 hectare settling / detention pond in the N-W corner, there is more than adequate accommodation in the reclamation area for all dredge spoil and no risk of requiring an alternative disposal site.

We are still in the process of fine tuning our design to provide the most acceptable balance between dredging and reclamation volumes and further work on the design for Inner Harbour Deepening has shown that -

the total volume in the approach channel, turning circle and berth pockets, including a realistic allowance for overdredge, and for deepening of the small boat harbour to 6M will provide a total of approximately 1.5M cubic metres of material for reclamation.

Subject to a final review of operational needs and project costs, the measures being considered to fine tune the balance between dredging and reclamation volumes as discussed with officers of the Environmental Protection Authority are -


- 1) Further strategic channel widening and deepening to improve navigation

- 2) dredging of sand material from zones 1 and 3 shown on Figure 1 of the P.E.R. to provide a buffer against the possibility of further siltation
- 3) a limited extension up river of the dredge area to provide deep water to Berth 9 and/or increased room for ship handling
- 4) a reduction in the volume of material in the reclamation area by reducing the area within the sea wall, the layout within the area or the final levels within the area.

We are also considering the possibility of utilising the contract dredge to undertake some maintenance dredging adjacent to Berth 10 to remove approximately 50,000 cubic metres of river deposited siltation material.

Final decisions will not be made until Tenders have been evaluated and we undertake to consult fully with the Environmental Protection Authority when we consider the options available.

Yours faithfully


A T Poustie
GENERAL MANAGER

July 14, 1988

Enc.