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THE PARLIAMENT OF THE COMMONWEALTH OF AUSTRALIA

Parliamentary Standing Committee on Public Works

J. R. O'Gien
Clerk of the Senate

REPORT

relating to the proposed construction of a

PATROL BOAT BASE

at

Cairns, Queensland

(FOURTH REPORT OF 1979)

~~TABLED PAPER~~

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THE PARLIAMENT OF THE COMMONWEALTH OF AUSTRALIA
PARLIAMENTARY STANDING COMMITTEE ON PUBLIC WORKS

R E P O R T

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PATROL BOAT BASE

at

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(Fourth Report of 1979)

Australian Government Publishing Service
Canberra 1979

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(Twenty-fifth Committee)

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EXTRACT FROM
THE VOTES AND PROCEEDINGS OF THE HOUSE OF REPRESENTATIVES
NO. 89 DATED 28 MARCH 1979

- 11 PUBLIC WORKS COMMITTEE - REFERENCE OF WORK - PATROL BOAT BASE, CAIRNS, QLD: Mr. Groom (Minister for Housing and Construction), pursuant to notice, moved - That, in accordance with the provisions of the Public Works Committee Act 1969, the following proposed work be referred to the Parliamentary Standing Committee on Public Works for investigation and report: Construction of patrol boat base, Cairns, Qld.

Mr. Groom presented plans in connection with the proposed work.

Debate ensued.

Question - put and passed.

WITNESSES

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P.O. Box 808, Cairns, North Queensland

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Department of Housing and Construction,
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PARLIAMENTARY STANDING COMMITTEE ON PUBLIC WORKS

PATROL BOAT BASE,
CAIRNS, QUEENSLAND

R E P O R T

By resolution on 28 March 1979, the House of Representatives referred to the Parliamentary Standing Committee on Public Works for investigation and report to the Parliament the proposal for the construction of a patrol boat base for the Royal Australian Navy at Cairns, Queensland.

The Committee has the honour to report as follows:

THE REFERENCE

1. The proposal is for the construction of facilities necessary to accommodate and maintain the new Fremantle class patrol boats, which will come into service from October 1980, and other small naval vessels providing coastal surveillance and survey work in Northern Australian waters.

2. The works consist of:

- a jetty and wharf providing four alongside berths for vessels of the size that will normally be based at Cairns and fitted with necessary services to berthing points including fuel;
- a covered maintenance berth for two Fremantle class patrol boats;
- a workshop;
- a store to accommodate items in constant use or requiring special storage;
- a command/administration building;
- miscellaneous small facilities including a small boat shed and ramp, flammable store, security control post and covered parking for service vehicles;

- dredging;
- site preparation and services.

3. The estimated cost of the proposal when referred to the Committee was \$8.8 million at February 1979 prices.

THE COMMITTEE'S INVESTIGATION

4. The Committee received written submissions and drawings from the Department of Defence and the Department of Housing and Construction and took evidence from their representatives at a public hearing in Cairns on 27 April 1979. The Committee also received written submissions and took evidence from the Cairns City Council, the Cairns Harbour Board, the Cairns Chamber of Commerce, the Far North Queensland Promotion Bureau and North Queensland Engineers and Agents Pty Ltd.

5. Prior to the public hearing the Committee inspected the existing facilities at H.M.A.S. Cairns, existing wharf facilities, the facilities of North Queensland Engineers and Agents Pty Ltd and the site for the proposed facility.

6. The Committee wishes to express its appreciation to Mr. J. Buchanan, Assistant Director, Projects, Department of Housing and Construction, Western Australia, who was the Committee's Assessor for this inquiry and to the Department of Housing and Construction for making his services available.

7. The Committee's proceedings will be printed as Minutes of Evidence.

EXISTING FACILITIES

8. Since 1971, three Attack class patrol boats have been based at Cairns. The hydrographic ship H.M.A.S. Flinders has also been based there since 1974. Patrol boats from Darwin and Papua New Guinea are refitted in Cairns by a commercial contractor and use Navy facilities for contract administration, post refit trials and work-ups.

9. The existing support arrangements are as follows:

- No. 1 wharf in Cairns harbour is used on a 'grace and favour' basis. The Cairns Harbour Board agreed to this on the understanding that it was a temporary arrangement pending provision of permanent naval berthing facilities elsewhere. Limited 50 Hz power supplies have been installed at the wharf at Navy expense.

2.

- Two buildings in Grafton Street, Cairns, constructed in 1943 as stores, have been converted to provide offices, stores, workshops, communications etc.

- Depot level repair of the boats (refit and major repair) is contracted out to local commercial companies. This procedure has proved satisfactory and will be continued.

- Stores are held at Grafton Street and in a recently acquired warehouse in Lake Street near the Grafton Street depot.

- Single accommodation for officers and sailors is provided by leasing of rooms in local hotels or by paying living-out allowance to sailors who provide their own accommodation. These arrangements for single personnel are proving satisfactory and it is proposed to continue them for the time being.

- Houses for married personnel have been acquired or provided under the Commonwealth/State Housing Agreement. However, there is a shortage of Navy owned houses in Cairns and this will be exacerbated by the introduction of the new patrol boats. The means of providing additional houses is currently being investigated and does not form part of this reference. There are currently 53 base personnel at H.M.A.S. Cairns. This will be increased to approximately 90 with the upgrading of the facilities. There will be a small increase in seagoing personnel as a result of the introduction of the Fremantle class patrol boats.

- Ammunition is stored at the local State explosives depot although normally naval ammunition is stored in a Defence controlled explosives depot. These arrangements are currently under review.

- Fuelling is carried out at No. 10 berth via a pipeline from the Navy oil fuel installation at Edge Hill some 8 km away, or at No. 1 berth using road tankers.

THE NEED

10. The use of No. 1 wharf on a 'grace and favour' basis means that it is not always available to the Navy and when it is, double and treble berthing

3.

is sometimes necessary, increasing the risk of accidents. The Committee was informed that in 1978 there were two major collisions involving patrol boats and trawlers at No. 1 wharf requiring shipyard repairs. There were also a number of minor collisions.

11. Being a commercial cargo wharf the services that are available are inadequate for base support of naval vessels. The limited 50 Hz power supplies which have been installed by Navy will be of no use to the new Fremantle class boats which require 60 Hz supplies. The new boats are also designed to discharge sewage into the town system when in harbour but the required shore connections are not available at No. 1 wharf.

12. There are various makeshift arrangements at Grafton Street. The buildings are already inadequate and will become seriously deficient with the introduction of the Fremantle class boats which require special testing and storage facilities for their more modern ship-board equipment. The storage facilities available are inadequate and being remote from the berthing area lead to inefficient employment of personnel and transport, particularly in respect of items required at short notice or subject to a high turnover rate.

13. No. 10 berth is the main fuelling wharf at Cairns and is not always available to Navy. When it is not, fuelling must be carried out using road tankers which is inconvenient and time wasting. The existing oil storage installation at Edge Hill and the pipeline to No. 10 berth were built in 1943. The pipeline is in an uncertain state of repair and an investigation is underway to determine its suitability for continued long term use. However, the works in this reference provide only for a pipeline from No. 10 berth to the proposed new wharf at No. 11 berth.

14. Commencing with periodic deployments to Cairns during 1980 and the subsequent permanent basing of one boat from January 1981, four new Fremantle class patrol boats will eventually replace the three Attack class boats. In addition, it is planned to base four survey motor launches at Cairns to support the hydrographic ship H.M.A.S. Flinders.

15. The Committee's Conclusion There is a need to provide a new patrol boat base in North Queensland. The existing temporary facilities at Cairns are inadequate for the support of the Attack class patrol boats and would be unable to support satisfactorily the new Fremantle class patrol boats.

THE PROPOSAL

16. It is proposed to construct on a site known as No. 11 berth, Cairns, the following facilities.

17. A wharf providing four alongside berths will be constructed for vessels of the size that will normally be based at Cairns and fitted with the following ship-to-shore services:

- 50 Hz electrical power for existing vessels and welding, portable power tools, etc;
- 60 Hz electrical power for the new patrol boats;
- salt water for fire fighting;
- fresh water for ship's tank replenishment;
- diesel fuel;
- compressed air for tools;
- telephones;
- sewage discharge;
- defuelling;
- oily wastes discharge.

18. A covered maintenance berth will be provided for two Fremantle class patrol boats to allow efficient and effective maintenance and stores replenishment during wet weather.

19. A workshop approximately 1600 square metres in area, and a store approximately 1000 square metres in area to accommodate items in constant use, with a high turnover rate and likely to be required at short notice or requiring special storage facilities, will be constructed. Storage in the Lake Street warehouse will continue for slower moving items.

20. A command/administration building approximately 1200 square metres in area will be provided, along with miscellaneous small buildings, including a small boatshed, boat ramp, a flammable store, a security control post and covered parking for service vehicles.

21. The site could be inundated by a storm surge during a cyclone and protection for all facilities would be prohibitively costly. Therefore, the possibility of storm surge damage to facilities at ground level has been

accepted and the location of facilities required to function immediately after a cyclone, such as communications, has been planned accordingly.

22. There is space available on the site to accommodate some increase in the scale of activities of the patrol boat base.

CONSTRUCTION

23. Design Controls The proposed development has been discussed with and approved by the Cairns City Council, the Cairns Harbour Board and the State Department of Harbours and Marine, subject to the following conditions:

- no wharf or structures to encroach beyond the quay line, as indicated on the site plan;
- the existing Harbour Board road across the site to be diverted to provide vehicle access to the No. 10 berth fuel wharf;
- disposal of spoil will be as directed by the Harbour Board.

The construction documents will provide for these conditions.

24. Buildings, structure and services will comply with the appropriate regulations of the Queensland Building Act 1975, Cairns Council Sewerage Ordinances and the Queensland Fire Safety Act 1974-76. Buildings will be designed to withstand a basic wind velocity of 63.25 metres per second (141.5 mph) calculated in accordance with the Australian Standard Code.

25. The wharf will be designed to withstand the berthing and mooring forces of a Flinders class vessel and to withstand the operating loads required by the Department of Defence. The jetty and maintenance berth wharf will be designed to withstand the berthing and mooring forces of patrol boats and to withstand the operating loads required by the Department of Defence. The workshop and store will be located to allow for possible future expansion of the base, as shown on the site plan.

26. Harmony in building style will be established by using similar modern materials and common details to achieve a contemporary industrial character. Buildings will be sited to minimise sun penetration and to take advantage of prevailing south to south-easterly breezes to facilitate natural ventilation of work areas. Reflective glass will be installed in all windows except those protected by cyclone debris/sun screens.

27. The first floor of the command/administration building will be provided with a concrete roof slab and screens to windows for protection against debris, to enable this area to be of use immediately after cyclone activity.

28. Structure The wharf will be 115 metres long by 10 metres wide with an access jetty 110 metres long by 7 metres wide; both will consist of a reinforced concrete deck supported above high water on tubular steel piles; cathodic protection will be provided to all immersed steelwork to minimise corrosion. The maintenance berth will provide two 50 metre long by 6 metre wide parallel berths covered with a roof and side walls for weather protection.

29. Services to ship berths will be supported in cradles under the wharf deck and enclosed in ducts suitably protected against corrosion and damage. A small covered work area will be provided at the south end of the wharf.

30. The command/administration building will be a two-storey reinforced concrete framed building on pile foundations with reinforced concrete floor slabs and debris slab over the first floor.

31. The workshop and store will be steel framed with reinforced concrete floor slabs.

32. The maintenance berths will be covered by a steel framed building founded on the maintenance berth wharf piles.

33. The guard house will be constructed in reinforced concrete block walls, with reinforced concrete floor and floor slab. Windows will be of bullet-proof glass.

34. The flammable goods store/boat shed will be constructed in reinforced concrete block walls with reinforced concrete floor. A floor bund, access for fire suppression and concrete slab sub-roof will be provided to the flammable goods store in accordance with Commonwealth Fire Board recommendations. Covered vehicle shelters for 16 naval vehicles will be constructed of steel framing.

35. Internal Finishes Internal faces of external walls will be the prefinished metal inner face of the insulated cladding panels. Concrete block work will be painted. Steel stud partitions will be lined with plasterboard in office areas and asbestos cement sheets in wet areas.

Fire-rated partitions will be steel stud lined with double layers of fire rated plasterboard. Walls to shower cubicles, splash backs above basins and sinks will be clad with glazed tiles. Floors to wet areas will be ceramic tiled. Floors to workshop and stores will be non-slip oil resistant concrete.

36. External Finishes External cladding will generally be pre-finished corrosion resistant metal sheeting. Both steel and aluminium sheeting are being considered. Roofs will generally be insulated pre-finished metal decking.

37. Electrical Services Light and power including power to machines and special equipment will be provided to all buildings. Self-contained emergency lighting and exit lighting will be installed where required for safety purposes. All buildings will be provided with internal telephone cabling and intercoms; the telephone exchange equipment will be located on the first floor level of the command/administration building. A small diesel generator will be installed to provide approximately 100 kW emergency power for the command/administration, communications and operations areas.

38. Shore connection points will be provided to the wharf and maintenance berths incorporating 60 Hz supply, 50 Hz supply, welding outlets and telephone connections. 60 Hz supply will originate from rotary converters located in the upper level of the workshop.

39. The full Commonwealth contribution for the high voltage line to the site, transformer and switch gear will be the subject of further negotiation with the Far North Queensland Electricity Board.

40. All reticulation within the site environs will be run underground in consideration of interference to radio equipment, safety for high vehicles and cranes and for aesthetic reasons. Street lighting and security lighting to buildings, wharf and perimeter fence will be provided.

41. Mechanical Services The special equipment store, workshop areas, administration offices and duty cabins will be air conditioned. Powered ventilation exhaust systems will be provided in battery rooms, process areas, and toilet areas. All areas not air conditioned will have natural ventilation assisted by electric ceiling fans.

42. Grit blasting facilities, sawdust extraction system and dust extractor will be provided in the workshop in accordance with health regulations. Silencers will be fitted to minimise noise nuisance.

43. Hot water to all wash basins, sinks and showers will be provided from electric hot water units.

44. Refuelling facilities will be provided to the wharf at each berth fed with diesel fuel from the existing facility at No. 10 fuel wharf. Engine lubricating oil replenishment and drainage will be provided by mobile trolleys complete with tanks and compressed air operated oil supply and suction pumps. Compressed air will be reticulated to each berth from the central compressor.

45. Hydraulic Services Sewerage facilities will be provided to serve all buildings and berths. The sewerage system will comprise a raw sewage pumping well on shore with gravity sewerage lines to the well from all on-shore sewage sources and a pressure line from the berthing points. Facilities will be provided to accept oily waste from vessels at each berth. A salt water pumping installation and reticulation to wharf hydrants will be provided. The pumping station will be housed within the covered maintenance berth and will comprise two pumping units to provide an operating pressure at the wharf of 940 kPa. One pump will be electrically operated and one diesel powered as standby. Mains water will be connected to each berth point on the wharves. Stormwater drainage, including pipes and pits, will be provided to discharge directly to the sea.

46. Civil The site will be filled with rock fill approximately 1 metre deep to a level consistent with the wharf level. Draper Street will be extended approximately 450 metres to the proposed entrance, partly at the cost of the Commonwealth. An existing access road and underground services crossing to the site will be relocated. Internal bitumen roads, hardstanding and parking for 37 cars, including 6 car parks for visitors will be provided. The car parks will be located adjacent to the command/administration building and in between the covered vehicle area and the boat shed. Concrete pavements for fork lift operation will be provided at workshop, store, maintenance berth and wharf access.

47. The site will be enclosed by a manproof corrosion resistant security fence.

48. Fire Protection A salt water auxiliary pressure main and hydrants will be provided to the wharf and maintenance berth. Automatic sprinklers will be installed in the store and workshop with fire hose reels in all buildings and hydrants throughout the site. Automatic thermal or early warning detection systems will be provided in buildings not fitted with automatic

fire sprinkler systems, all buildings will be fitted with manual fire call points and the necessary security provisions will be installed. All fire alarm signals will be monitored at the guard house.

49. The Site Evidence to the Committee indicated that alternative sites other than Cairns had been examined but the Department of Defence had assessed that Cairns adequately fulfilled the major requirements of a base for surveillance craft in Northern Australian waters. The Committee accepts this assessment.

50. The Committee was informed that four possible sites were considered in Cairns in the Trinity Inlet area:

- a site on Admiralty Island;
- two sites on Smith's Creek - Smith's Creek north and Smith's Creek south; and
- No. 11 berth - (the selected site).

51. The site on Admiralty Island would have allowed a larger base to be established. However, the Department of Defence does not see a need to develop a larger base than that proposed in this reference. The Committee was also informed that there would be an additional cost of approximately \$7 million to provide access and services to the Admiralty Island site.

52. The sites on Smith's Creek were rejected because of serious navigational problems due to space limitations. Smith's Creek is acceptable to the Navy as a shelter under slight cyclonic conditions but is not considered suitable for an operational base.

53. The Department of Housing and Construction informed the Committee that neither the Admiralty Island site nor the Smith's Creek sites possessed any advantages from a construction point of view over the No. 11 berth site.

54. The Committee questioned the Department of Defence as to the suitability of the No. 11 berth site due to the close proximity of the Fuel Oil Wharf (berth No. 10) to the north and the Sugar Terminal (berth No. 12) to the south and the difficulties this may cause when berthing, particularly inboard of the proposed wharf. The Department of Defence replied that it regarded the space available for berthing as adequate and that berthing could be carried out at all tidal stages if necessary. However, it is recognised that berthing inboard of the wharf will need to be carried out with some care particularly when the tidal stream is running.

55. The No. 11 berth site comprises 2.7 hectares of undeveloped land 2 km south-east of the Cairns City Centre on Trinity Inlet and is in an area zoned for heavy industrial purposes in the Cairns Town Plan. Soil investigations reveal loose dry fill over mud with underlying stratas of soft to medium clays and sand. Mathematical modelling is in hand to forecast possible storm surge levels during cyclones to enable reasonable protection to be provided to the structures.

56. The Committee was informed at the public hearing that the site is owned by the Cairns Harbour Board and that agreement had been reached between the Commonwealth and Queensland Governments whereby the land will be made available at no capital cost to the Commonwealth. The Commonwealth will pay an annual sum of approximately \$100 000 to the Queensland Government to defray the Commonwealth's component of harbour maintenance. It has also been agreed that the site will revert to the Queensland Government at no capital cost if the Commonwealth ceases to use the site for maritime defence purposes.

57. Committee's Conclusion The site selected is suitable.

58. Dredging Dredging will be carried out as indicated on the site plan in-shore of the wharf and at the maintenance berth to a depth of 4.5 metres at low tide. Approximately 160 000 cubic metres of spoil removed by dredging will be pumped to an existing reclamation area adjacent to Smith's Creek as directed by the Cairns Harbour Board. The present depth of 5 metres at low tide on the seaward side of the wharf is satisfactory for ship berthing and will be maintained by annual dredging carried out by the Cairns Harbour Board. Investigations have indicated that siltation will occur at the in-shore basin and the maintenance berth requiring annual dredging of approximately 25 000 cubic metres by a small dredge. The Cairns Harbour Board has agreed to the pumping of this spoil into the main channel for removal during their annual port maintenance dredging.

59. Craneage The store and the covered maintenance berths will each be provided with one 10-tonne capacity electric overhead travelling crane. The store will also be provided with a 1-tonne hoist and monorail. The workshop will be provided with three 1-tonne hoists and monorails and one 3-tonne hoist and monorail in the gun area. A free standing heavy duty commercial type vehicle hoist of 3 tonnes capacity will be provided at the transport facility.

60. Environmental Impact The former Department of the Environment, Housing and Community Development, now the Department of Science and the Environment, determined that the proposals under consideration will not have major environmental impacts and that no Environmental Impact Statement was required provided the following safeguards are adhered to:

- restriction of pile-driving operations to normal working hours, in order that noise be masked as far as possible by other harbour background noises;
- restriction of truck movements by contractors to normal working hours and to routes which avoid residential areas or the Central Business District;
- compliance with relevant State environment protection standards in the disposal of oily wastes and vapour emissions to atmosphere.

61. The Department of Science and the Environment has confirmed the above advice with the further proviso that the requirements of the Water Quality Council of Queensland are taken into account.

62. Foreshore Protection The foreshore at the rear of the maintenance berth and on each side of the maintenance berth will be protected by armour stones over layers of rock filter material.

63. Landscaping Grasses, trees and shrubs, either native to the area or which are known to flourish under similar conditions, will be chosen to keep maintenance to a minimum. Screening by planting will be provided between service areas, car parks and the command/administration building.

64. Committee's Conclusion The Committee recommends the construction of the work in this reference.

OTHER OBSERVATIONS

65. Urgency of Proposed Works H.M.A.S. Fremantle, which was constructed in the United Kingdom, will deploy to Cairns periodically during 1980 for necessary builders' comparisons and operational evaluations. The remaining 14 Fremantle class patrol boats will be constructed at Cairns by North Queensland Engineers and Agents Pty Ltd. A Fremantle class boat will be permanently based at Cairns from January 1981 and another from May of that year. Some new facilities will therefore be required from October 1980 for trials and work-up of the first boat. To achieve this, it will be necessary to

authorise the initial phase of work (roadworks and site filling) by June 1979. Accordingly, special approval of Cabinet was given to design and documentation of the works proceeding concurrently with examination by the Committee.

66. The Committee was informed by the Department of Defence that the delay in referring the work was caused principally by difficulties in finalising matters relating to the site, particularly terms of tenure that were acceptable to both the Commonwealth and Queensland Governments.

67. While appreciating the reasons given by the Department of Defence, the Committee is disturbed that it has been placed in the situation whereby its approval is required almost simultaneously with the programmed commencement of the initial site works.

68. Standard of Evidence Presented to the Committee The submission presented to the Committee by the Department of Defence lacked the detail which the Committee would expect in a project of this nature, e.g. no mention was made of the difficulties encountered in acquiring a site, a matter of considerable importance and which directly affected the timing of the reference to the Committee.

69. Berth Services The proposal as presented to the Committee allowed for treble berthing at the wharf to the extent that three outlets would be provided at each berth for power and salt water fire services. All other services would be provided via a single outlet.

70. Following a request from the Committee to review the number of service outlets to be provided, the Department of Defence has advised the Committee that it is now proposed to limit power and salt water outlets on the inside face of the wharf to two per berth. However, the Department of Defence believes that there will be occasions when boats are berthed three abreast, particularly at the outside berths and it will be necessary to provide three power and salt water outlets to each outside berth so that shipboard generators can be shut down.

71. 60 Hz Power Requirement The proposal as presented included the installation of four rotary converters each of 250 KVA capacity based on an eventual peak 60 Hz power demand of 1000 KVA with an average demand of 750 KVA. At the request of the Committee, the Department of Defence has re-examined the necessity for the provision of four rotary converters. It is now proposed to instal three converters at this stage based on a peak demand of 750 KVA with an average demand of 500 KVA. This arrangement will

allow servicing of one converter during periods of average demand. Space and cabling will be provided for a fourth converter when the load requires it.

72. Piling At the public hearing, the Department of Housing and Construction informed the Committee that recent site investigations indicated that it may be possible to raft two of the proposed buildings - the workshop and store - and that piling of these structures would not be necessary. It was estimated that an additional cost of \$270 000 would be incurred if the workshop and store were to be fully piled. As a result of the concern expressed by the Committee at the possible effect of subsidence of the site, the Department of Housing and Construction agreed to re-examine this matter. The Department has now advised the Committee that it considers the most appropriate solution is to fully pile the workshop and store.

73. The Committee understands that as a result of the cost savings in power and berth services and other modifications during detailed design, the additional \$270 000 can be contained within the limit of cost estimate of \$8.8m.

ESTIMATE OF COST

74. The estimated cost of the work when referred to the Committee was \$8.8 million at February 1979 prices made up as follows:

	\$
Building works	3 430 000
Wharf and dredging	2 920 000
Electrical	950 000
Mechanical	525 000
Civil	590 000
Hydraulics	355 000
Landscaping	30 000
	<u>8 800 000</u>

PROGRAM

75. The work has been planned to a time scaled activity network developed on the basis of work being progressively completed from October 1980 to mid-1981, with necessary approval being given by June 1979.

The overall program is:


- Site works commencing July 1979;
- Dredging works commencing August 1979;

- Building commencing October 1979;
- Wharf and workshop completion October 1980;
- Overall completion by Mid-1981.

RECOMMENDATIONS AND CONCLUSIONS

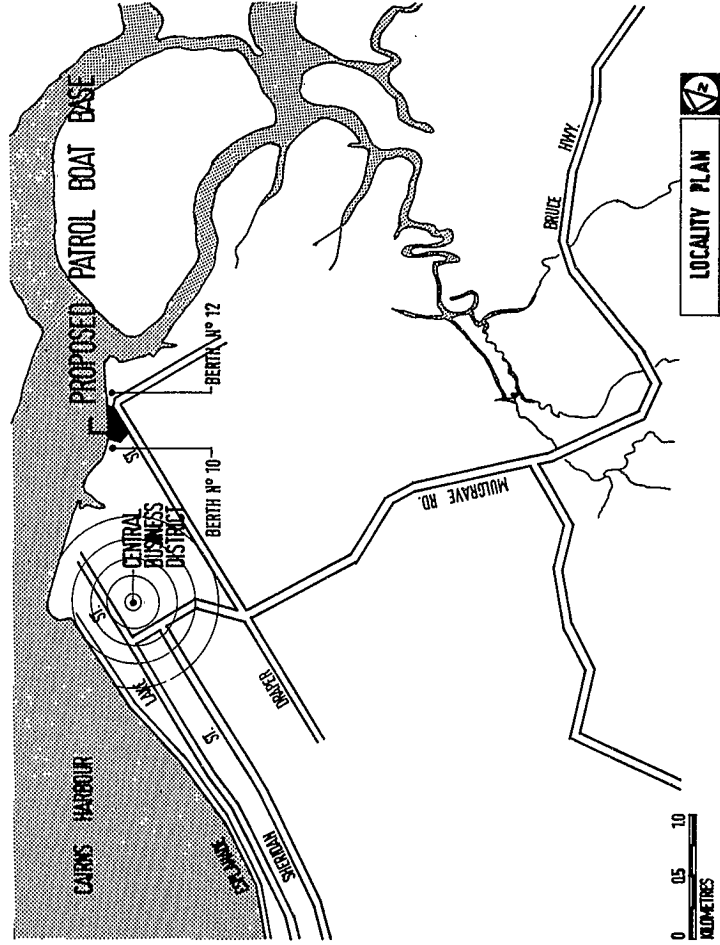
76. The summary of recommendations and conclusions of the Committee are set out below. Alongside each is shown the paragraph in the report to which it refers.

	<u>Paragraph</u>
1. THERE IS A NEED TO PROVIDE A NEW PATROL BOAT BASE IN NORTH QUEENSLAND.	15
2. THE EXISTING TEMPORARY FACILITIES AT CAIRNS ARE INADEQUATE FOR THE SUPPORT OF THE ATTACK CLASS PATROL BOATS AND WOULD BE UNABLE TO SUPPORT SATISFACTORILY THE NEW FREMANTLE CLASS PATROL BOATS.	15
3. THE SITE SELECTED IS SUITABLE.	57
4. THE COMMITTEE RECOMMENDS THE CONSTRUCTION OF THE WORK IN THIS REFERENCE.	64
5. THE ESTIMATED COST OF THE WORK WHEN REFERRED TO THE COMMITTEE WAS \$8.8 MILLION AT FEBRUARY 1979 PRICES.	74

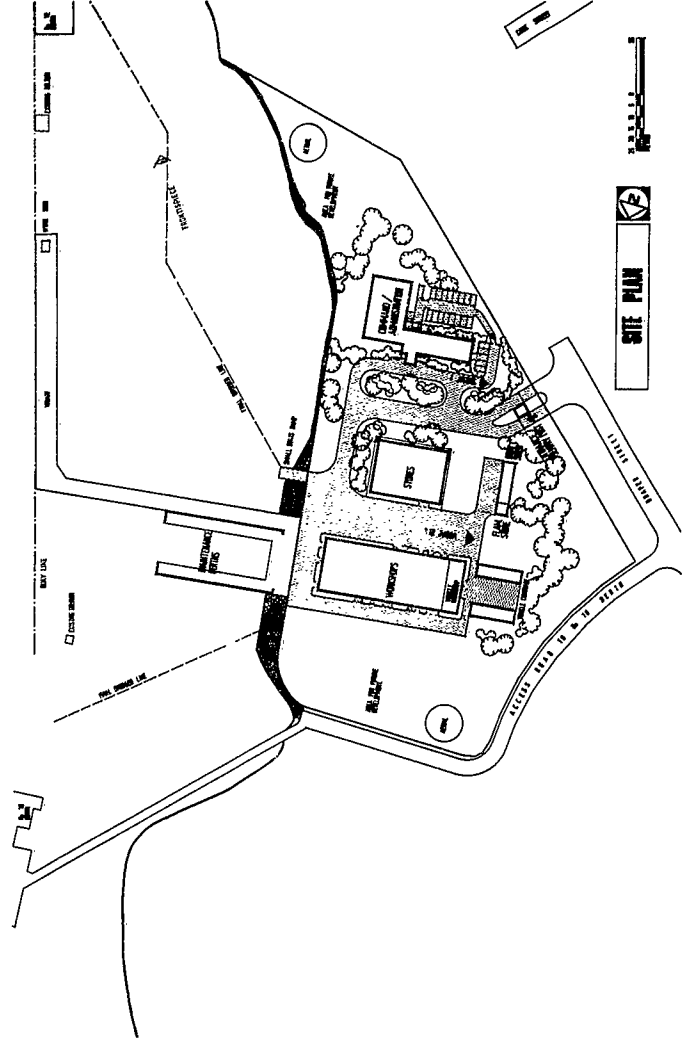

(M.H. BUNSEY)
Chairman

Parliamentary Standing Committee on Public Works,
Parliament House,
CANBERRA, A.C.T.

22 May 1979.



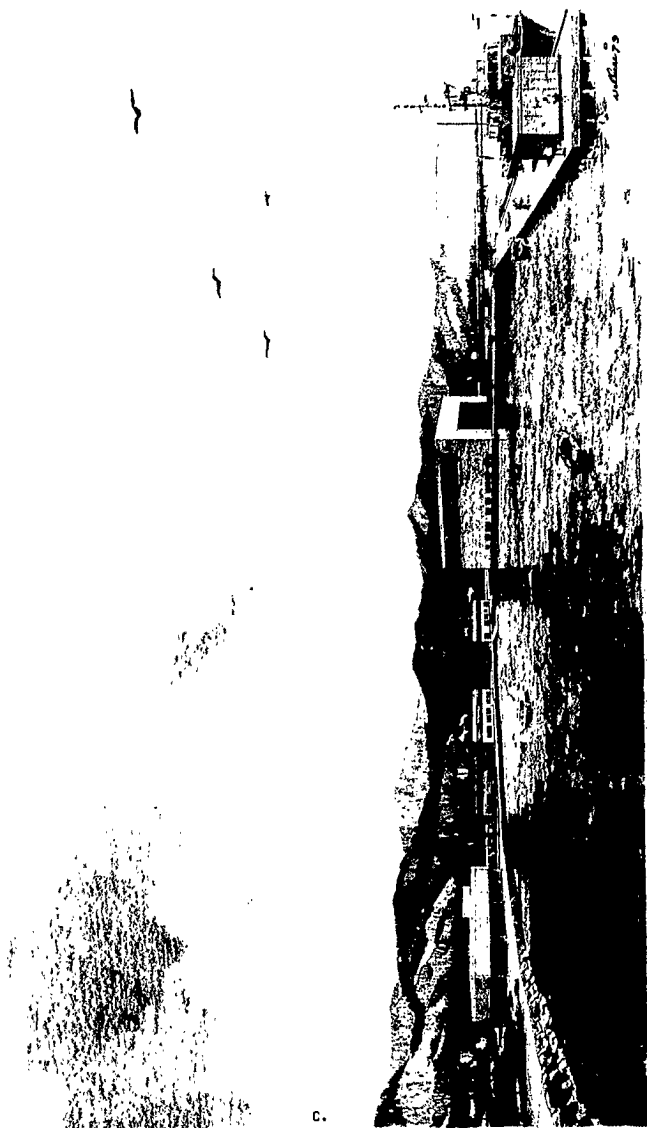
A.



SITE PLAN



B.



C.