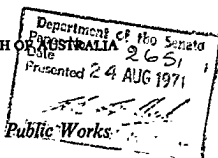


1971

THE PARLIAMENT OF THE COMMONWEALTH OF AUSTRALIA



Parliamentary Standing Committee on Public Works

REPORT

relating to the proposed construction of a

TACTICAL TRAINER BUILDING

at

H.M.A.S. Watson, South Head
Sydney, New South Wales

(NINTH REPORT OF 1971)

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PARLIAMENTARY STANDING COMMITTEE ON PUBLIC WORKS

TACTICAL TRAINER BUILDING, H.M.A.S. WATSON
SOUTH HEAD, SYDNEY, NEW SOUTH WALES

R E P O R T

By resolution on 22 April 1971, the Senate referred to the Parliamentary Standing Committee on Public Works for investigation and report to the Parliament the proposal for the construction of a tactical trainer building at H.M.A.S. Watson, South Head, Sydney, New South Wales.

The Committee have the honour to report as follows:

THE REFERENCE

1. The proposal referred to the Committee is for the construction of a building to house the Action Information Organization and Tactical Trainer (known as an AIO/TT), the Submarine Command Team Trainer (SCTT) and the Naval Tactical School at H.M.A.S. Watson, the naval shore establishment located on South Head, Sydney.

2. The work is estimated to cost \$3.2 million.

THE COMMITTEE'S INVESTIGATION

3. The Committee received written submissions and drawings from the Departments of the Navy and Works and we took evidence from their representatives at public hearings at H.M.A.S. Watson on 18 May 1971.

At the same hearings a submission was jointly made to the Committee on behalf of the New South Wales Government by the Chairman of the State Planning Authority and the Director of the National Parks and Wildlife Service.

4. The Committee inspected the training facilities of H.M.A.S. Watson and the site for the proposed building.

H.M.A.S. WATSON

5. Functions The principal function of H.M.A.S. Watson is to conduct the following training schools for the Royal Australian Navy:

- the Navigation/Direction School;
- the Torpedo Anti-Submarine School;
- the Tactical School.

6. The Navigation/Direction School is responsible for training in

- navigation and allied subjects such as the rule of the road, ship handling and pilotage, officer of the watch duties and navigation in naval gunfire support;
- action information organization including radar reporting and plotting, operations room management and presenting the tactical situation to the command;
- air defence with particular emphasis on fixed and rotary wing aircraft control.

The school was first established at H.M.A.S. Watson in 1942 as the Radar School.

3.

7. The Torpedo Anti-Submarine School is responsible for training in

- anti-submarine weapon systems, particularly sonar and weapon control equipment;
- oceanography;
- demolitions on shore and explosive ordnance disposal;
- mine warfare and countermeasures.

The Torpedo School was originally located at H.M.A.S. Cerberus in Victoria and the Anti-Submarine School at H.M.A.S. Rushcutter in Sydney. The two were combined at H.M.A.S. Rushcutter in 1948 and subsequently moved to H.M.A.S. Watson in 1956.

8. The Tactical School originally taught anti-submarine tactics for which it was and still is equipped with an Action Speed Tactical Trainer, a device which is primarily of World War II origin. The Tactical School is now responsible for training in

- anti-submarine, anti-air and anti-surface tactics;
- inshore operations;
- investigation of tactical problems and assisting in the analysis and evaluation of fleet exercises.

9. H.M.A.S. Watson also provides a number of supporting facilities and services for ships operating out of Sydney including

- equipment checks and calibrations;
- the conduct of harbour and sea plotting exercises;

- refresher training and provision of specialist officers for trials and efficiency tests;
- staff officers for the Flag Officer Commanding the East Australian Area.

It also operates the Command education centre and central reference library and provides facilities for the Sydney Port Division of the Naval Reserves and the Naval Reserves Cadets - New South Wales Division.

10. To perform its functions, H.M.A.S. Watson has a complement of 288 officers, sailors and W.R.A.N.S. and the number of personnel in training varies between 100 and 150 each week.

11. Location and Facilities H.M.A.S. Watson currently occupies an elongated area on the western side of South Head adjoining Army occupied land on the western side and the northern point of the headland. The total area occupied by the two Services is 71 acres.

12. The Navy's area is broadly divided into two main sections. To the north are located the senior and junior sailors' and W.R.A.N.S.' accommodation and amenities area as well as the sick bay and dental surgery, the Torpedo Anti-Submarine School, the site for the building in this reference, the memorial chapel and the administration building. The southern area contains a wardroom, Port War Signal Station, Navigation/Direction School, the Reserves' administration and training area and the radar building and special communications building. The western boundary adjoins the Army's personnel depot.

13. The buildings in the northern area are generally in recent permanent construction and the same applies to the wardroom. Most of the remaining buildings in the southern section are of older timber framed construction.

14. A plan has been agreed for the Army to vacate the land it occupies and for the Navy's facilities to be consolidated to permit some 33 acres to be transferred on a permissive occupancy basis to the New South Wales Government for use by the public. The consequence of this action will be that the Navy will need to vacate some buildings in its southern area which will be demolished after the facilities have been relocated.

15. Among the facilities of the Navigation/Direction School in the southern area which will need to be relocated is the Action Information Organization Training Centre. This is now housed in a timber and fibro building and is to occupy part of the proposed new building.

THE TACTICAL TRAINER BUILDING

16. The Requirement The AIO/TT is required to provide tactical training for operations personnel in obtaining, evaluating and presenting data required for the most efficient tactical operation of ships and use of their weapons. Training is also required for command and control officers in decision making, formulating and evaluating tactics and co-ordinating operations.

17. The Committee were told that the use of shore training simulators is an important factor in preparing personnel for their duties at sea where exercises and experience can bring them to full efficiency. Because of the sensitive, costly and complex nature of ships' equipments,

personnel must be trained to a high level of skill ashore before undertaking duties at sea, otherwise there may be serious loss of fleet efficiency.

18. The proposed facility will provide training in procedures and tactics that cannot be carried out effectively at sea because of safety considerations and limitations on ship availability and cost. It will be able to simulate realistically larger exercises that can only be conducted at sea using the whole fleet and has the advantage of being able to represent any type of allied or potential enemy unit that R.A.N. ships might encounter. It is to contain models of ships' operations rooms in which ships' teams can be trained in Action Information Organization and cubicles representing ships, submarines or aircraft in which personnel and command teams can carry out tactical exercises and training. Simulated radar, sonar and other information is to be realistically presented and the trainer will be computer controlled to work out and display the information necessary to carry out any kind of operations exercise. A projection and large screen display system will record the progress of the exercise for control and for debriefing afterwards. The trainer staff will have facilities to monitor and control exercises and the trainer will have its own communications system.

19. The trainer will partly replace and supplement existing facilities at H.M.A.S. Watson and will be a primary training aid for all three schools there. As the trainer is an integral part of the schools, it is essential that they be located together.

20. There is also a shore training requirement for submarine operations' personnel. The SCTT is designed to fulfil this requirement being similar to the AIO/TT but on a smaller scale. Both should be located together so that they can be integrated in combined exercises and to enable common facilities and staff to be shared. The SCTT will have a single submarine operations room and visual periscope simulation.

21. The tactical trainer area is to comprise a tactical floor on which general operations are demonstrated and debated, a projection system for films etc., lecture and syndicate rooms and exercise preparation areas. A large part of the building requires special design and environmental features because of the type of equipment to be used, much of which is sensitive to dust, temperature variation, humidity or vibration. Air conditioning and installation arrangements permitting ready access to all units and cabling are needed to effectively maintain the system. Office and administrative facilities, plant maintenance and store facilities are also needed.

22. The Committee were told that the trainer facilities are expected to be in almost constant use $4\frac{1}{2}$ days per week for the full training year, the remainder of the time being used for maintenance. They will be manned by an instructional and operating team of five officers and eight other ranks supplemented by instructors and operators from user schools as necessary depending on the type of exercises being conducted.

23. Present Facilities It has already been mentioned that the Action Training Centre, which is a temporary building, is to be removed and the land released to the State. The facilities of the Centre are outmoded and of limited use only in present day circumstances and the building housing it is less than satisfactory.

24. Tactical training is carried out on an action speed tactical teacher in the Torpedo Anti-Submarine School. These facilities are out of date also and have only limited application to modern weapons systems. They will, however, be retained for basic training while advanced tactical training will be carried out in the new complex.

25. There is no submarine operations trainer in Australia, officers requiring this type of training receiving it in the United Kingdom. This situation will prevail until the new facility is available.

26. Committee's Conclusion The Committee concluded that owing to the inadequacies of the present training facilities and accommodation, there is a need for a new building to accommodate the R.A.N.'s Action Information Organization and Tactical Trainer, the Submarine Command Team Trainer and the Naval Tactical School.

THE SITE

27. The Committee noted that the functional needs of the Tactical Trainer Building require it to be located in a coastal situation with clear seaward arcs, adjoining the schools it serves and in proximity to the main fleet base. H.M.A.S. Watson meets these requirements and its closeness to the fleet base enables operations teams from ships in Sydney to attend daily for instruction and still meet many of their shipboard responsibilities. The schools have been located for considerable periods at H.M.A.S. Watson which also provides the support facilities and services they require. The Committee noted that the replacement cost of the existing buildings and facilities at H.M.A.S. Watson is of the order of \$8 million.

28. The question of the transfer to the New South Wales State Government of Commonwealth-owned land being held or used for defence or other purposes has been the subject of discussion between the two governments for some time. For its part, the State has been anxious to incorporate in a Sydney Harbour National Park the whole of the Commonwealth land on South Head and to help meet this aim, the Commonwealth has agreed to about 33 acres mentioned in paragraph 14 being transferred to the State.

29. In relation to South Head generally, the State has expressed the view that it desired further development by the Commonwealth to be limited so that disturbance of the natural form of the area would be minimised. In deference to this view, the original site of the Tactical Trainer Building, immediately north of the Torpedo Anti-Submarine Building was changed by the Navy to one immediately south of the same building. The design of the proposed building was also amended to the extent that it was lowered into the terrain to avoid impinging on the skyline.

30. In evidence at the public hearing, the State representatives indicated that the relocation and redesign of the building were acceptable to the State only if the Commonwealth felt compelled to proceed with its construction. They suggested, however that the State was not convinced about the necessity for this facility at South Head or for the strategic need for the continuing development of defence facilities in this area.

31. The Committee debated the siting of the facility at length before arriving at its decision to endorse the Commonwealth's proposal. The views of the Committee are reflected in the following extract from the minutes of the meeting held on 11 June 1971.

" It was moved Senator Branson, seconded Mr. Corbett
That the Committee agree that the siting of the
Tactical Trainer Building at H.M.A.S. Watson as
proposed in the Department of Works' submission is
satisfactory.

Debate ensued.

An amendment was moved Mr. Johnson, seconded Mr. James
That while conceding the necessity for a Tactical Trainer
building, the Committee is of the opinion that the public
interest would be better served by securing an alternate
site for the building so as to enable the South Head site
to be incorporated in the proposed Sydney Harbour National
Park.

Debate ensued.

The Committee divided on the amendment.

<u>Ayes</u>	<u>Noes</u>
Mr. Johnson	Senator Branson
Mr. James	Senator Prowse
Mr. Whittorn	Mr. Kelly
	Mr. Corbett

and so it was negatived.

The Committee divided on the motion.

Ayes

Noes

Senator Branson
Mr. Corbett
Mr. Kelly
Senator Prowse
Mr. Whittorn
Mr. James

Mr. Johnson

and so it was resolved in the affirmative. "

DESIGN AND CONSTRUCTION

32. Design Outline The building covers an area roughly 200 ft by 200 ft at three levels. Because of the design requirement to make the building as unobtrusive as possible, a substantial part of it is to be built below natural ground level. The result will be a low silhouette ensuring that the structure will not be visible against the skyline.

33. Accommodation at the upper level will include the main entrance and administrative areas, officers' common rooms and amenities, the Tactical School including syndicate and lecture rooms and the projection room for the auditorium. At the middle level will be located the main auditorium, monitor room, command cubicles, the upper level of the models room, common rooms and amenities for sailors and W.R.A.N.S., the main plant room, electrical substation and air conditioning and boiler plant. The lower level is to be used for computer equipment, the tape preparation room and library, the electrical maintenance room and store and the lower level of the models room.

34. Construction and Materials As the foundation material is sandstone near the surface, footings will be on sandstone. Because large spans are needed in some areas and as shallow beam depths are required for sight lines and for air conditioning ducts in other areas, the building is to have a steel frame. Floors, stairways and roof slabs will be in reinforced concrete.

35. Externally, the elevational treatment will be simple, the building being clad with reconstructed stone panels. The deep projecting fascia will be similarly treated and will provide a horizontal hood and weather protection to windows where they occur. The roof will have a paved surface superimposed over a membrane and the reinforced concrete slab. Windows will be double glazed with aluminium frames. The site is to be restored and appropriately landscaped.

36. Internal finishing materials will be selected for utility according to the conditions required and having regard to durability and economic maintenance. Ceramic tiles will be used on the walls and floors of toilet and ablution areas, face brickwork will be used in corridors and stairways and floors will be mostly covered with linoleum. Ceiling materials will be selected having regard to the acoustic requirements of particular areas.

37. Mechanical Services The building is to be air conditioned for functional reasons using a central refrigeration and boiler installation. The plant room, toilets, lift motor room and stores areas will be mechanically ventilated. Hot water is to be reticulated to sinks and basins and boiling water facilities will be provided in tea rooms.

38. Fire protection measures are to include sprinklers throughout the upper level (except in the projection room, library and vault) and in the auditorium and common rooms at the middle level. The system will be extended to provide a water curtain between the monitor and the auditorium. The fire protection water supply will include a boosted primary sprinkler supply from the area reticulation which will also supply the internal fire hydrants and hose reels. A secondary supply to the sprinklers is to be provided by booster pumps from a 30,000 gallon storage tank. Carbon dioxide fire protection will be provided in the false floor space in the middle and lower levels.

39. An early warning fire alarm system is to be installed in areas not protected by sprinklers, mainly areas containing electronic equipment. This system will include a local alarm panel and bells and indicators on the main console in the guard room.

40. Fire extinguishers will be provided throughout the building as required.

41. Electrical Services Electricity is to be taken from Sydney County Council mains to a 1,000 KVA substation in the new building and from which building electrical services will be provided. Metal cable ducting will be provided in corridors at the operations levels. Lighting of fixed intensity will be provided to meet the Navy's requirements in the operations areas and in accordance with the relevant codes of the Standards Association of Australia elsewhere. Lighting of variable intensity will be provided to suit the Navy's requirements in selected operations rooms. Low intensity direct current emergency lighting will also be provided.

42. General purpose power is to be provided to the Navy's requirements in the operations areas and in accordance with normal practice elsewhere. Conduits will be provided for a telephone service and a public address system will be installed. An electric goods lift of one tone capacity will serve the middle and lower levels.

43. Other Services Hydraulic services to be provided in the building will include domestic water supply and sanitary and waste plumbing, fire protection supply and stormwater drainage. External services are to comprise water supply, sewerage and stormwater drainage.

44. Vehicular access will be provided by extension of the road serving the Torpedo Anti-Submarine building. A branch road between the latter and the new building will terminate in the services yard. A small car park is to be provided.

45. Committee's Recommendations The factors which caused the siting of the building to be changed from north of the Torpedo Anti-Submarine School to south of it have been discussed. The only design change which the resiting brought about was the height of the building above the natural ground and in other respects the original layout of rooms has been retained in the interests of expediency. One consequence is that common rooms at the middle level on the southern side of the building will have no outward views.

46. While the Committee do not disagree that there is a need to provide the building without delay we believe that if it is possible to dispose the common rooms to allow views over Sydney Harbour, without prejudicing the completion target, the design should be amended accordingly.

47. Subject to that recommendation, the Committee recommend the construction of the work in this reference.

15.

ESTIMATE OF COST

48. The estimated cost of the work when referred to the Committee was \$3.2 million made up as follows:

	\$
Building work and internal	
engineering services	2,900,000
External services	300,000
	3,200,000

PROGRAMME

49. It is expected that after an approval to proceed is obtained, final drawings and tender documents will take six months to complete. The construction period is expected to occupy 15 months.

RECOMMENDATIONS AND CONCLUSIONS

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

Paragraph

1. THERE IS A NEED FOR A NEW BUILDING TO ACCOMMODATE THE R.A.N.'s ACTION INFORMATION ORGANIZATION AND TACTICAL TRAINER, THE SUBMARINE COMMAND TEAM TRAINER AND THE NAVAL TACTICAL SCHOOL. 26
2. THE SITING OF THE TACTICAL TRAINER BUILDING AT H.M.A.S. WATSON AS PROPOSED IN THE DEPARTMENT OF WORKS' SUBMISSION IS SATISFACTORY. 31

Paragraph

3. IF IT IS POSSIBLE TO DISPOSE THE COMMON
ROOMS TO ALLOW VIEWS OVER SYDNEY HARBOUR
WITHOUT PREJUDICING THE COMPLETION TARGET,
THE DESIGN SHOULD BE AMENDED ACCORDINGLY. 46
4. SUBJECT TO RECOMMENDATION NO. 3, THE
COMMITTEE RECOMMEND THE CONSTRUCTION OF THE
WORK IN THIS REFERENCE. 47
5. THE ESTIMATED COST OF THE WORK WHEN REFERRED
TO THE COMMITTEE WAS \$3.2 MILLION. 48



(C.R. Kelly)
Chairman.

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

3 August 1971.