

*Parliamentary Standing Committee on Public Works*

## REPORT

DEPARTMENT OF THE SENATE	
PAPER No.	17 800
DATE	
PRESENTED	
23 JUN 1998	
<i>Mong Ewan</i>	

relating to the proposed

# **NEW FACILITIES FOR THE NATIONAL MUSEUM OF AUSTRALIA AND THE AUSTRALIAN INSTITUTE OF ABORIGINAL AND TORRES STRAIT ISLANDER STUDIES**

(Second Report of 1998)

THE PARLIAMENT OF THE COMMONWEALTH OF AUSTRALIA  
1998

**The Parliament of the Commonwealth of Australia**  
**Parliamentary Standing Committee on Public Works**

Report relating

to the proposed

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Australia and the Australian Institute of  
Aboriginal and Torres Strait Islander Studies**

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## **MEMBERS OF THE PARLIAMENTARY STANDING COMMITTEE ON PUBLIC WORKS**

(Thirty-Second Committee)

Mr Wilson Tuckey MP (Chairman)<sup>1</sup>  
Mr Colin Hollis MP (Vice-Chairman)

### **Senate**

Senator Paul Calvert  
Senator Alan Ferguson  
Senator Shayne Murphy

### **House of Representatives**

Mr Richard Evans MP  
Mr John Forrest MP  
Mr Ted Grace MP  
Mr Michael Hatton MP<sup>2</sup>

<sup>1</sup> Replaced Mr Neil Andrew MP as Chairman on 4 September 1997  
<sup>2</sup> Replaced The Hon Michael Lee MP on 26 June 1996

Committee Secretary: Bjarne Nordin

Inquiry Secretary: Michael Fetter

Administrative Officers: Lynette Sebo  
Bronwyn Jagers  
Belinda Shepherd  
Belynda Zolotto

**EXTRACT FROM  
THE VOTES AND PROCEEDINGS  
OF THE HOUSE OF REPRESENTATIVES**

*No. 125 dated 30 October 1997*

**PUBLIC WORKS—PARLIAMENTARY STANDING COMMITTEE—  
REFERENCE OF WORKS—NEW FACILITIES FOR THE NATIONAL  
MUSEUM OF AUSTRALIA AND THE AUSTRALIAN INSTITUTE OF  
ABORIGINAL AND TORRES STRAIT ISLANDER STUDIES**

Mr Fahey (Minister for Finance and Administrative Services), by leave, 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 consideration and report: New facilities for the National Museum of Australia and the Australian Institute of Aboriginal and Torres Strait Islander Studies.

Question—put and passed.

**NEW FACILITIES FOR THE NATIONAL MUSEUM OF AUSTRALIA  
AND THE AUSTRALIAN INSTITUTE OF ABORIGINAL AND TORRES  
STRAIT ISLANDER STUDIES**

On 30 October 1997, the House of Representatives referred to the Parliamentary Standing Committee on Public Works for consideration and report the proposed new facilities for the National Museum of Australia and the Australian Institute of Aboriginal and Torres Strait Islander Studies.

**THE REFERENCE**

1. The terms of the reference were as follows:

*The National Museum of Australia was established with bipartisan political support by the Museum of Australia Act 1980 to research Australian history, establish a gallery of Aboriginal Australia, develop a national collection of historical material and create exhibitions and public programs which explore our heritage and history. Without a building, the museum has been constrained in its operations as a national institution and as a showcase for the nation's cultural heritage.*

*The Museum will break new ground among the nation's museums and educational institutions by combining the best contemporary exhibition techniques with new media technologies. A digital theatre is planned as the centrepiece of the Museum, featuring the Asia-Pacific's largest high definition video screen. Incorporated within the facility will be a sophisticated media and communications centre so that the Museum can become a communications hub, exchanging media programming and data with schools, museums and other institutions around the continent and the world.*

*The Museum will total a net area of 16,160 square metres, including allowances for orientation space, commercial and public use areas, public programs, outdoor programs, administration and research facilities and an educational centre.*

*The Institute of Aboriginal and Torres Strait Islander Studies was founded in 1964. It is the largest research centre of its kind for information about the cultures and lifestyles of Aboriginal and Torres Strait Islander peoples. The Institute's*

*leased premises are makeshift and inadequate. It has an urgent need for environmentally controlled storage for the preservation of its collections of photographs, audiovisual material, books, journals and manuscripts.*

*The Institute will total a net area of 4,305 square metres, including allowances for orientation space, the Institute's library and digital production team, the Aboriginal studies press, research facilities and executive, finance and corporate services. Co-location of the Museum and the Institute has always been intended and will benefit both organisations through shared access to collections and research data.*

*The 1997-98 Budget confirmed the Government's commitment to the project by allocating \$7 million in 1997-98 for design development and approvals for future funding to be provided through the newly established Federation Fund.*

*The indicative cost of the capital works is \$133 million. The ACT Government has also committed \$3 million for infrastructure and is proposing to establish the ACT Aboriginal and Torres Strait Islander Cultural Centre on the site.*

*Subject to Parliamentary approval, construction is scheduled to commence in April 1998 and the facilities are scheduled to open on 1 January 2001 as the Commonwealth's flagship for the Centenary of Federation celebrations.*

## **THE COMMITTEE'S INVESTIGATION**

2. The Committee's inquiry was advertised nationally in *The Australian* and locally in the *Canberra Times* on Wednesday 5 November 1997.

3. The Committee held public hearings in Canberra into the reference on 8, 9 and 17 December 1997 and 13 February 1998. The transcript of proceedings of the public hearings, which have been printed as Minutes of Evidence, amounts to more than 650 pages, making this inquiry one of the lengthiest and most protracted in recent years.

4. A list of witnesses who appeared at the public hearings in support of written submissions is at APPENDIX A. A list of submissions received is at APPENDIX B.

5. On 8 December 1997, prior to the first day of public hearings, the Committee undertook an inspection of the following sites and buildings:

- the proposed site at Acton;
- Acton House—leased premises occupied by the Australian Institute of Aboriginal and Torres Strait Islander Studies;
- repositories at Mitchell; and
- the information centre at Yarramundi Reach.

6. The inspections were undertaken accompanied by officials from the Department of Communications and the Arts (DOCA), the National Museum of Australia (NMA), the Australian Institute of Aboriginal and Torres Strait Islander Studies (AIATSIS), architects and project managers.

## **BACKGROUND AND NEED**

### **Functions**

7. The functions of the Museum are to: research Australian history; develop and maintain a national collection of historical material; create exhibitions and programs that explore Australian heritage and history and; to make it accessible to more Australians. The Museum is governed by a 12 member council and, at the end of 1997, had 57 staff.

8. The Museum aims to promote an awareness and understanding of Australia's cultures, histories and environments through its collections and programs. This embraces three themes:

- Aboriginal and Torres Strait Islander cultures and heritage—a history of Australian indigenous people and their interaction with people from other cultures;
- Australian history and society—the cultural and social history of Australia; and
- peoples' interaction with the Australian environment—a history of Australian environments and the ways in which Australians from all cultures have responded to and used those environments.



## Collection

9. Since its establishment, the Museum has assembled a collection of more than 170,000 objects covering many aspects of Australia's history. Without permanent premises to mount exhibitions of objects in the context of the three major themes, the Museum has been severely restricted in its operations. Items from the collection have been seen around Australia in the form of an outreach program, which includes travelling exhibitions, an education program, publications and information on the Internet.

10. While these activities are to be applauded, in the absence of a major national facility, they must be regarded as an adjunct to and not a substitute for such a facility. Australia therefore remains a nation without an identifiable national museum.

## Current Museum facilities

11. Facilities currently used by the Museum in Canberra include:

- the small visitor centre and administration facility at Yarramundi Reach; and
- three collection repositories and an administration facility at Mitchell.

## Alternatives considered

12. There are no existing buildings available for lease or acquisition that meet the specific needs of the Museum. Therefore, construction of new facilities is considered the only viable option. The facilities would need to be purpose built to meet the requirements of the Museum, especially to cater for significant numbers of visitors which, conservatively, are estimated at 350,000 per annum.

## AUSTRALIAN INSTITUTE OF ABORIGINAL AND TORRES STRAIT ISLANDER STUDIES

### History and functions

13. The Institute was established in 1964 as the Australian Institute of Aboriginal Studies. The *Australian Institute of Aboriginal and Torres Strait Islander Studies Act 1989* provides the statutory framework for the operations of the Institute. It is now the largest research centre of its kind for information about the cultures and life-styles, both traditional and contemporary, of Aboriginal and Torres Strait Islander people.

14. Each year, the Institute awards research grants to a wide range of projects. These include language research, personal life stories, music, art, history, archaeology, anthropology and native title developments. The Institute maintains collections of audiovisual material, books, journals and manuscripts. The Institute's Aboriginal Studies Press is the leading publisher of works in Aboriginal and Torres Strait Islander studies.

15. The Institute is governed by a nine member Council and, at the end of 1997, had 60 staff.

16. The main functions of the Institute are to:

- undertake and promote research into Aboriginal and Torres Strait Islander studies and publish the results;
- conduct research in fields relevant to Aboriginal and Torres Strait Islander studies;
- encourage other persons and bodies to undertake similar research;
- assist in the training of persons as research workers;
- maintain a cultural resource collection of materials relating to Aboriginal and Torres Strait Islander studies; and
- encourage understanding within the general community of Aboriginal and Torres Strait Islander issues.

### Current premises

17. The Institute currently leases Acton House, which was constructed before the Second World War as a hostel for Commonwealth public servants. The facility features small hotel-like rooms with a number of larger common rooms. There are no areas suitable for storage of the Institute's collections.

18. Acton House is considered by the Institute to be inadequate and this compromises the Institute's ability to meet its statutory responsibilities. Current premises have a poor internal layout which must be continually adapted for the performance of its basic functions and do not encourage general community visitation. The lack of specialised climate control places the Institute's collections at risk. The Institute's lease on the existing facility is due to expire in January 2000, with the option of a further year.

## Alternatives considered

19. The Committee was advised that several possibilities were explored to provide the Institute with more appropriate accommodation. These include: remaining at Acton House; moving to new leased facilities; and constructing a purpose built facility. The latter is the preferred option.

### Advantages of co-location with Museum

20. The Committee was advised that co-location with the Museum of Australia would improve the visibility of the Institute and significantly increase the number of visitors.

21. The Committee was advised that co-location of the Institute and the Museum has always been intended and would benefit both organisations through:

- shared access to collections and research data;
- shared infrastructure such as engineering services, carparking, and some conference and retail facilities;
- cost savings from sharing facilities and economies of scale throughout the design, construction and post construction phases; and
- increased visitor numbers.

## DEVELOPMENT OF THE MUSEUM OF AUSTRALIA<sup>1</sup>

### Museums and national collections

22. The development of a national museum has had a difficult and protracted history, spanning almost three decades.

23. The concept of a Museum of Australia, located in the national capital, has a long history linked to the development of Canberra. Over the years, all Australians have witnessed the establishment of a number of institutions in Canberra intended to provide a subject focus and architectural expression for the collection, storage, display and interpretation of events, objects and ideas of

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<sup>1</sup> This summary draws substantially on a paper, *The National Museum of Australia: the history of a concept*, by Dr John Gardiner-Garden, Social Policy Group, Parliamentary Library, media reports and Parliamentary papers.

national significance. Commencing in 1925, the Public Works Committee has been involved in the establishment of a number of these institutions in Canberra.

24. National institutions examined by the Committee included the proposed construction of:

- a building to accommodate the National Library—September 1925 (this building is now known as West Block);
- buildings for the establishment of the National Museum of Australian Zoology—March 1927 (this later became known as the Institute of Anatomy; the building now houses the National Film and Sound Archive); and
- Australian War Memorial—June 1928 (the War Memorial was opened on Armistice Day, 1941).

25. During the next half century, the following additional buildings and institutions were established in Canberra:

- 1949—ceremonial planting of the first trees for the National Botanic Gardens which were first opened to the public in 1967;
- 1968—the National Library of Australia;
- 1982—the National Gallery of Australia;
- 1984—the National Film and Sound Archive;
- 1988—the National Science and Technology Centre; and
- 1994—first exhibition of the National Portrait Gallery.

### Inquiry into museums and national collections

26. The antecedents to the present reference can be traced back almost a quarter of a century to 1974, with the establishment of the Committee of Inquiry on Museums and National Collections. The inquiry was chaired by Mr P H Pigott. The terms of reference included:

*to advise on the scope, objectives and functions of an Australian Institute to develop, coordinate and foster collections, research and displays of historical, cultural and scientific material of national significance...and to*

*recommend...measures which should be taken in the immediate future to: ...institute new developments and institutions, with particular attention to the establishment of a national museum of history in Canberra.*<sup>2</sup>

27. At the same time, a separate Committee was appointed to examine and report on the establishment of a Gallery of Aboriginal Australia (GAA). This Committee was chaired by Professor D J Mulvaney whose membership of both committees provided a common link.

### **Museums in Australia report**

28. In 1975, the Committee produced the *Museums in Australia* report, which presented the concept of a national museum comprising three galleries, each representing separate but related themes—Aboriginal Australia, Australian social history, and people's interaction with the Australian environment. The report recommended that the museum be located in an area west of Black Mountain. An aerial photograph in the report identifies this site, which is now known as Yarramundi Reach.

29. The report on the GAA, whilst a separate document, was included in the *Museums in Australia* report. Professor Mulvaney's Committee concluded that siting of the Gallery would be:

*...cardinal to the total design and an appropriate site exists south-west of Black Mountain, allowing ample space, relative isolation and wide vistas.*<sup>3</sup>

30. Both committees supported a complex of indoor and outdoor exhibition areas rather than a single, monumental building.

31. Significantly, the *Museums in Australia* report recommended that planning should be for 100,000 square metres of floor space, of which 60,000 square metres would be for display areas divided between the GAA and the two other principal themes of the Museum. Each section would average about 20,000 square metres for exhibiting material, not all of which would be internal space. Internal spaces would be complemented by courtyards and other external

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<sup>2</sup>*Museums in Australia 1975*, Report of the Committee of Inquiry on Museums and National Collections including the Report of the Planning Committee on the Gallery of Aboriginal Australia, AGPS, 1975, p. 1

<sup>3</sup>Report of the Planning Committee, Gallery of Aboriginal Australia, p. 1

areas to display exhibits or to cater for activities best arranged outside gallery walls.

32. Also of significance, were two issues relating to the construction of the Museum. First, the estimated cost of site preparation and construction. This was estimated to be \$50 million at 1975 prices. Secondly, that the building should be designed and constructed in stages, with a first stage of 20,000 square metres at an estimated cost of \$14 million at 1975 prices.

### **Museum of Australia Act 1980**

33. In 1977, 88 hectares were reserved for the Museum at Yarramundi Reach. Three years later, in April 1980, Parliament passed the Museum of Australia Bill with bipartisan support. The second reading speech in support of the Bill, by the Minister for Home Affairs and Minister for the Capital Territory (The Hon Bob Ellicott QC, MP) expressed visions and aspirations which, 20 years later, remain strongly apposite:

34. The establishment of the Museum of Australia:

*...will fill a gap in the array of institutions charged with the preservation of our cultural heritage and will demonstrate to the world the pride we have in our country. As a nation we have been somewhat diffident in expressing an interest in our history and our culture. This is to be regretted for our history and culture are rich, fascinating and...developing. Our children should have the opportunity to see and to understand aspects of life in Australia in the past so that they can learn for the future. This museum will provide that opportunity and will...prove to be a national focus for all Australians.*<sup>4</sup>

### **Interim Council inquiry—another site selection study**

35. Another site selection study was undertaken by the Interim Council of the Museum of Australia, which was established in December 1980. One of the first tasks was to report to the Government, within two years, on the establishment, location and development of the Museum of Australia, including a program of construction and costs. The inquiry was undertaken jointly by the Interim Council and the National Capital Development Commission (NCDC).

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<sup>4</sup>Commonwealth Parliamentary Debates, House of Representatives, 2 April 1989, p.1639.

36. The report of the inquiry, *the Plan for the Development of the Museum of Australia*, was published in 1982.<sup>5</sup> After an examination of overseas experiences and possible Canberra sites, the Museum Council recommended that the Museum, in the form of a series of low-key pavilions, be constructed at Yarramundi Reach to be opened in 1990.

37. The scope of functional and spatial requirements as well as the development strategy to be adopted differed considerably from the approach taken by the Pigott Committee. The total estimated area was envisaged as 31,300 square metres and the cost was estimated at \$50.5 million (1982 prices), with an additional expansion capacity of 15,500 square metres envisaged 20 years after the opening of the building, scheduled for 1990.

#### **Repositories in Mitchell**

38. Repositories for the National Museum were opened in the Canberra suburb of Mitchell in 1984, with a floor space of 2195 square metres, which was later enlarged to 2323 square metres in 1992.

#### **Amendment to Act**

39. In 1985, an amendment to the *Museum of Australia Act 1980* was passed by Parliament, which changed the title of the Museum to the National Museum of Australia (NMA).

#### **Yarramundi Reach visitors' centre**

40. In 1986, the Museum of Australia Visitors' Centre was opened at Yarramundi Reach. Although designed to be a temporary administration and exhibition space until the completion of the main Museum, this structure has since remained the Museum's public facility and administrative centre.

#### **Review of Government involvement in museums**

41. In August 1986, the Government announced a decision to review the Commonwealth's involvement in the development of museums and other collecting institutions, and to make recommendations about the future development of the NMA. Following this review, in 1988 the Government agreed to defer construction of the Museum for five years. This was followed in

March 1989 by a report by the Department of Finance.<sup>6</sup> This concluded that Commonwealth museums, such as the NMA and the Australian National Maritime Museum, cost more per head than comparable State museums.

42. A rejoinder from the Department of the Arts, Sport, the Environment, Tourism and Territories<sup>7</sup> concluded that information available suggests that Commonwealth institution, in particular the Australian National Gallery, are cost effective in the delivery of the public good benefits for which they were established.

43. DOCA advised the Committee that a fundamental shift in the direction for the Museum occurred after the Museums review. Following the review, it was decided that the Museum would not establish a large research-based collection. Instead, it would develop a core collection.

#### **Museum reactivated**

44. In 1993, the Government expressed a recommitment to proceed with the development of the National Museum. The 1993-94 Budget included \$3.3 million for preliminary design and documentation work and an 'in principle' agreement to meet \$26 million towards the building project. This commitment of funds was predicated on private sector investment meeting the remainder of the estimated costs of \$60 million.

45. In November 1993, however, the process for choosing a design firm for the Museum was put on hold, due to renewed uncertainty over the site. A proposal to allow private sector housing developments next to the Museum in order to help raise the private funds needed to build the Museum was rejected by the National Capital Planning Authority (NCPA). The NCPA, however, also appeared to support a mixed-use concept for Acton Peninsula, a site that had not been available during the 1980's.

#### **Gallery of Aboriginal Australia**

46. In 1994, the Government's *Creative Nation* Statement proposed that the GAA and AIATSIS be co-located on Acton Peninsula. The proposal, however, failed to mention the Social History and Environment galleries that

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<sup>5</sup>The Plan for the Development of the Museum of Australia - Report of Interim Council, National Capital Development Commission, December 1982.

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<sup>6</sup> *What prices heritage?* The Museums review and the measurement of museum performance, Department of Finance discussion paper, Department of Finance, Canberra, March 1989

<sup>7</sup> *What Value Heritage?* A perspective on the Museum Review and the Performance of Museums, Department of the Arts, Sport, the Environment Tourism and Territories, AGPS, November 1990.

had featured in the original National Museum concept, and the perceived separation of the Aboriginal collection from the rest of the Museum attracted wide criticism. The 1995-96 National Museum Corporate Plan confirmed this arrangement, stating that the GAA and AIATSIS would be located at Acton Peninsula, while the Social History Gallery would be located in the Provisional Parliament House, with the Environment Gallery apparently being abandoned.

### Land swap

47. On 11 April 1995, the Commonwealth and ACT Governments announced an exchange of Territory land at Acton Peninsula for Commonwealth land at Kingston foreshore. The land swap involved an agreement that the ACT Government would clear Acton Peninsula of existing buildings, including old Royal Canberra Hospital, and provide of up to \$3 million in infrastructure work for the GAA. Acton Peninsula became National Land on 28 May 1997. The land swap was subject to consultation and approval processes, which included a public inquiry by a Committee of the ACT Legislative Assembly.<sup>8</sup>

### Architectural commission

48. In July 1995, the NCPA published newspaper advertisements calling for expressions of interest in an architectural commission for the design of facilities on Acton Peninsula to house the:

- GAA (described as part of the network of the NMA);
- AIATSIS (both described as Commonwealth projects); and
- ACT Aboriginal and Torres Strait Islander Cultural Centre (described as an ACT Government project).

49. The advertisement declared that the commission would require close collaboration with the clients involving:

- preparation of detailed architectural and landscape architectural briefs;
- design development, including pre-design, schematic, detail design, documentation and supervision of the various facilities;
- landscape design of the spaces surrounding the facilities;

<sup>8</sup> Minutes of Evidence, Public Hearing, 9 December 1997, p. 164

- preparation of design reports and cost plans;
- involvement in submissions to Government on design, planning, environmental and public works matters; and
- participation in the selection of a preferred project delivery system for the various component parts of the project.

50. The advertisement described a number of criteria against which applicants would be assessed and shortlisted. These were:

- an ability to work with Aboriginal and Torres Strait Islander people and to represent their ideas;
- demonstrated experience and expertise in the design of national research institutions, galleries, museums or similar, significant, public buildings;
- capacity to successfully complete a project of this size, complexity and national significance;
- the nomination of key architectural personnel; and
- the strength of a support team in landscape architecture, engineering, quantity surveying etc.

51. The request for expressions of interest closed on 11 August 1995. The Committee understands that 32 expressions of interest were received and five applicants were shortlisted just before the March 1996 election. The Committee also understands that soon after the election the five shortlisted applicants were advised the process would be put on hold.

52. In the August 1996 budget, the new Government allocated funds for an Advisory Committee on New Facilities for the National Museum of Australia and the Australian Institute of Aboriginal and Torres Strait Islander Studies, to provide advice on an appropriate location.

### ANOTHER ADVISORY COMMITTEE

#### Establishment

53. In August 1996, the Minister for Communications and the Arts established the Advisory Committee on new facilities for the Museum and AIATSIS to provide advice on the most suitable location and to recommend the

most appropriate site, cost options and strategies for the development of the facilities

54. The Advisory Committee engaged consultants to examine or undertake specific work on components such as infrastructure, transportation, natural and cultural heritage, market research, building costs and geotechnical investigations. The Advisory Committee also carried out considerable consultation with the community by calling for submissions on the site selection. The majority of submissions received were from organisations and individuals in the ACT.

### **Museum concept**

55. The Advisory Committee's report alludes to the Museum concept being based on 20 years of developments and refinements. The Pigott report (1975) and the Report of the Interim Council (1982) were key documents in the development of the Museum's concept. They identified the need for a national museum and for the history of the country to be related on a national scale. The Advisory Committee therefore reiterated what previous reports had concluded: telling the story of Australia will involve the integration of the three themes of Australian society and history; Aboriginal and Torres Strait Islander heritage and; culture and people's reaction with the environment.

56. The Advisory Committee also sought to further develop the conceptual framework by examining contemporary trends in museum development, both nationally and internationally. These trends range from the increased use of the latest technology to increased temporary exhibitions. The latter has meant that museums no longer rely solely on their own collections for use in exhibitions but borrow and lend items.

### **Building forms**

57. The Advisory Committee distinguished three main planning or building types from an analysis of existing museums. These were:

- container building: this is commonly a large regular-shaped building with internal courts. Examples are the National Gallery of Victoria and the National Air and Space Museum in Washington, DC;
- aggregate building: this is a series of linked buildings and outdoor spaces. Examples are the Getty Centre in Los Angeles and the Museum of Israel in Jerusalem;

- village or open area: the principle behind this form is to replicate or simulate a real or imagined place. A well-known example is Sovereign Hill in Ballarat. Typically, this type of museum comprises a group of small to medium buildings gathered in a village-like system on a broad acre site. The Advisory Committee identified a number of constraints with this type of museum which make it unsuitable for the national Museum. These were:

- village museums recreate or simulate a particular time and place; this is not consistent with the Museum's proposal to present a chronological narrative
- the generally domestic scale of buildings is too small to accommodate exhibition spaces envisaged for the Museum; the buildings would become a major attraction rather than providing a neutral backdrop to the exhibitions.

### **Recommended form**

58. The Advisory Committee recommended an aggregate development in the form of a series of linked buildings. This approach would enable AIATSIS and the Museum to retain their separate identities with the Museum's GAA to be developed as an entity, but linked to the Museum. The aggregate form would also provide maximum flexibility for future development and for future generations to change and adapt the Museum to new technologies and cultural necessities.

### **Size requirements**

59. The Advisory Committee sought information on the size and scope of similar facilities. It concluded that:

- the Museum should have a net area of 22,000 square metres plus outdoor exhibition areas. This would provide:
  - about 8,000 square metres of exhibition space, which is equivalent to the War Memorial and the National Gallery of Australia (after the opening of its extension)
  - 11,000 square metres of visitor and ancillary facilities
  - 3,000 square metres of on-site collection storage. This assumes that the Museum will retain some existing off-site storage. The Advisory Committee recognised that this is not

an ideal solution but wished to contain capital costs where possible.

- the AIATSIS building should have a net area of 4,128 square metres.

60. Co-location of AIATSIS and the Museum's GAA would allow close interaction and also offers possibilities for the sharing of some facilities. The Advisory Committee considered it appropriate for the design of the two buildings to maintain the separate identity of each organisation.

#### **Potential sites**

61. Various investigations over the years have identified a number of potential sites. Six potential sites were identified:

- Yarramundi Reach;
- Acton Peninsula;
- Kings Park;
- Parliamentary Zone foreshore;
- Stirling Ridge; and
- Kingston Foreshore.

62. Kingston Foreshore was at the time of the site selection study Commonwealth land subject to a proposed land swap for ACT Government land on Acton Peninsula. The site was therefore not considered further. Stirling Ridge, west of Commonwealth Avenue, is adjacent to the diplomatic area. It has been identified for some years as the location for a new Lodge for the Prime Minister. It has an area of five hectares, has a number of steep gradients and is not served by any infrastructure. Therefore the site was not considered further. The four remaining sites were subjected to more detailed investigation.

#### **Assessment of sites**

63. The Advisory Committee considered the suitability of the four sites against the following criteria:

- site capacity;
- urban design context;

- economic issues preconstruction;
- economic issues post construction; and
- environmental impact.

#### **Site capacity**

64. The Advisory Committee reviewed previous reports which quantified the size of the site required to accommodate the NMA. The Pigott report (1975) nominated 90 hectares although it was calculated that it would be physically possible to accommodate the Museum on 20 hectares. In terms of space requirements, the Pigott report envisaged 60,000 square metres of exhibition space, collection storage of 100,000 square metres, and 30,000 square metres for ancillary services. The Pigott report also recommended a staged approach, the first stage of which would comprise buildings with about 20,000 square metres for display, storage, administration, laboratories and curatorial staff.

65. In 1977, a report by John Andrews International Pty Ltd considered 35 hectares would be sufficient to accommodate the long term vision of the Pigott report. The report reduced the recommended size of the exhibition area to 15,000-30,000 square metres to overcome perceived visitor fatigue.

66. The Advisory Committee, in reviewing previous site selection criteria and considering changed circumstances, suggested the NMA may not need the 90 or 35 hectares envisaged in the 1970s. The Pigott report envisaged that it would take years of collecting material and planning of displays to reach a stage where the large area envisaged could be used effectively. Furthermore, the collection store of 100,000 square metres anticipated that the NMA would sponsor an active and comprehensive acquisition program. The current proposal is that the NMA will not have a collection of the size envisaged, nor does it intend to acquire one. Instead, the NMA is able to borrow from the estimated 41 million objects in the distributed national collection held in collecting institutions around Australia.

#### **Future expansion**

67. The Advisory Committee recognised that space for future expansion was a prominent issue in previous site investigations. The Advisory Committee believed that future expansion should not be restricted to space for more buildings or outdoor exhibits because there are other opportunities for medium term expansion not dependent on new buildings. These were identified by the Advisory Committee as:

- new technologies, including online access to collections;
- continuing outreach programs and travelling exhibitions;
- education programs, seminars and lectures at venues in other cities; and
- multiple distribution options for publications and merchandising.

68. The report of the Advisory Committee concluded, nevertheless, that there would be scope for future expansion at all sites, by way of additional buildings or through extensions.

### **Urban design**

69. The Advisory Committee considered the focus of the national capital, represented in Burley Griffin's land and water axes and the Parliamentary Triangle and the placement and relationship between the NMA and other key elements (Parliament House, the Australian War Memorial, the National Library and the National Gallery) were intrinsically paramount.

### **The long term requirements**

70. The ability of any site to satisfy the capacity criterion was considered by the Advisory Committee as a prerequisite. A site must:

- accommodate the concept of the NMA;
- allow co-location with the AISTSIS; and
- permit future expansion.

71. The Advisory Committee considered the four sites have the capacity to accommodate the size and type of development envisaged, involving an aggregate building type with NMA buildings of about 22,000 square metres (net) and associated outdoor elements and carparking. The four sites had sufficient space for the co-location with AISTSIS.

72. The Advisory Committee did not quantify the size of the site required. Instead, professional advice from the National Capital Authority (NCA) involving conceptual site layouts was obtained.

### **Economic issues**

73. The Advisory Committee considered economic viability against pre and post-construction issues. The pre-construction issues relate to the cost of serving and accessing the sites. Post-construction issues relate to:

- the potential of each site to attract visitors and sponsors; and
- on-going costs associated with management of the sites.

74. Consultants prepared estimates of the cost of providing services to the site boundaries and the reticulation of services within them:

- Yarramundi Reach—\$23.610 million;
- Acton Peninsula—\$10.640 million;
- Kings Park - \$13.245 million; and
- Parliamentary Foreshores --\$10.637 million.

75. The Acton Peninsula site (estimated at \$13.64 million) was reduced by \$3 million to reflect the ACT Government's expected contribution.

### **On-site costs**

76. The Advisory Committee examined other on-site costs, such as carparking and commissioned a transportation study of the four sites.

### **Running costs**

77. Larger sites have inherently higher maintenance costs and both Yarramundi Reach and Kings Park would therefore attract higher ongoing costs. The Advisory Committee drew attention to the complexity of landscape management of Yarramundi Reach due to the presence of endangered species. There is also a relationship between site size and service distribution costs and this impacts on services, especially the distribution of hot and cold fluids for airconditioning purposes.

### **Visitation and sponsorship**

78. The Advisory Committee believed that the ability to raise revenue must be considered in addition to the cost implications of each site. Put another way, the Advisory Committee assumed a direct linkage between projected visitation at each site and successful or remunerative sponsorships. An assessment of location on visitation was therefore commissioned. This indicated



an overwhelmingly positive response to the establishment of the NMA with no rejection of any of the four sites. The market research suggested that the Parliamentary Foreshore to be the best location to attract general leisure visitors, followed by Kings Park, Yarramundi and Acton Peninsula.

#### **Advisory Committee conclusions**

79. The Advisory Committee concluded that the Acton Peninsula site offers the most advantages and is the most economic to develop for the following reasons:

- sufficient size for the NMA complex, the AIATSIS, outdoor displays and further buildings;
- a discrete parcel of land with high visibility;
- strong visual links to the Parliamentary Triangle;
- strong links with other national educational, cultural and scientific organisations;
- one of the two cheapest sites to develop with excellent infrastructure and the cost of providing services is relatively low;
- opportunities for sponsorship due to its high profile and visibility; and
- impact of development is not a major problem.

#### **Options, cost and timetable**

80. The question of likely cost options was addressed by the Advisory Committee to provide the Government with likely orders of cost for the project.

81. It is worth highlighting here a key ingredient in this process:

*The Committee is conscious of the fine line between recommending too much, with the risk of ending up with nothing and recommending too little, with the risk of a building facility that cannot fulfil its functions. It is essential to establish facilities in the first place that have the drawing*

*power to entice visitors through the door in sufficient numbers to make the NMA a viable national institution.<sup>9</sup>*

#### **Earlier costings**

82. The Advisory Committee used cost estimates developed for the GAA in December 1995 as a starting point. This cost estimate was around \$26 million. The assumptions on which the cost estimates of the GAA were prepared relate to building form and standard of fitout. These assumptions would also apply to the NMA, which is a similar project on a larger scale.

#### **Quantity surveyor**

83. A quantity surveyor was engaged to determine the order of probable cost for three development options and to update the cost estimates for the GAA and AIATSIS. The estimates were developed at the pre-design stage, based on the likely parameters of the project.

84. A schedule of the likely functional areas and estimates of their size was prepared by DOCA, the NMA and the NCA. Conceptual site layouts developed by the NCA were also used as a guide.

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<sup>9</sup>Report by Advisory Committee on new facilities for the National Museum of Australia and the Australian Institute of Aboriginal and Torres Strait Islander Studies, December 1996, p. 74

## Options

85. The three options costed for the NMA were<sup>10</sup>:

Option 1 (buildings linked by courtyards)	Net area	Gross
Exhibitions space	10 000m <sup>2</sup>	
Visitor, education, administration and collection management facilities (ancillary facilities)	11 120m <sup>2</sup>	
Collection storage	5 000m <sup>2</sup>	
Total	26 120m <sup>2</sup>	33 316m <sup>2</sup>
Cost \$148.427 million		
Option 2 (as in Option 1 but less exhibition space)		
Exhibitions space	8 000m <sup>2</sup>	
Visitor, education, administration and collection management facilities (ancillary facilities)	11 120m <sup>2</sup>	
Collection Storage	3 000m <sup>2</sup>	
Total	22 120m <sup>2</sup>	28 151m <sup>2</sup>
Cost \$127.777 million		
Option 3 (buildings or pavilions separated by enclosed walkways)		
Exhibitions space	8 000m <sup>2</sup>	
Visitor, education, administration and collection management facilities (ancillary facilities)	11 120m <sup>2</sup>	
Collection storage	3 000m <sup>2</sup>	
Total		28 906m <sup>2</sup>
Cost \$134.797 million		

## Preferred Option

86. The Advisory Committee recommended the adoption of Option 2 at Acton Peninsula as the least expensive but still practical option which embodies a more compact building shape. This option, the Advisory Committee believed, would not eliminate the concept of the pavilions or series of linked buildings. Option 2 would mean, however, a need for the design to accommodate discrete building entities which would form part of the overall building structure. This

would reduce operating and management costs. The possibility of constructing the Option 2 model at Yarramundi Reach was discounted. The style of development envisaged under Option 2 would not do justice to this larger site.

## Comparisons

87. The Advisory Committee noted that Options 2 and 3 would provide exhibition space equivalent to the War Memorial and the expanded National Gallery of Australia.

88. In terms of cost per unit area, the budget for the new Museum of Victoria, planned to open in mid-2000, is \$250 million. The main museum will have a net area of 29,500 square metres (Gross Floor Area of 37,000 square metres). In addition, the Museum will have a purpose-built off-site collection storage facility of at least an additional 3,000 square metres.

89. Another contemporary comparison noted by the Advisory Committee was the Museum of New Zealand Te Papa Tongarewa, scheduled for opening in 1998. The budget of NZ\$280 million will provide 36,000 square metres of Gross Floor Area. Both the New Zealand and Victoria museums will be in the monumental style. By comparison, the building form for the NMA is more modest and flexible.

## Timing

90. If the project is to open during the Centenary of Federation celebrations in 2001, the Advisory Committee believed that cost options would need to be considered in the 1997-98 Budget context.

91. The timetable for design development, construction and fitout envisaged by the Advisory Committee was:

- design/documentation—18 months, from January 1997 to June 1998;
- construction—30 months, July 1998 to December 2000; and
- exhibition fitout—between six and 12 months.

92. The Advisory Committee submitted its report to the Federal Minister for Communications and the Arts early in December 1996. On 13 December 1996, the Prime Minister announced a decision to accept the Advisory Committee's recommendation and to proceed with design work to build the Museum on Acton Peninsula. In February 1997, the Construction Coordination Committee (CCC) was established by the Minister for Communications and the

<sup>10</sup> Report of Advisory Committee, pp. 75-6

Arts to promote a cooperative and integrated approach to the development of co-located facilities. Mr Jim Service AM, who chaired the Advisory Committee, continued as chairman of the CCC.

93. The National Museum of Australia project was allocated funding of \$7 million in the 1997-98 Budget, for design development, approvals and related running costs for the project. Future funding is to be provided through the Federation Fund.

#### **Federation Fund**

94. The Federation Fund was announced in the 1997/98 Budget. The Fund was established as a separate Trust Account within the Commonwealth Public Account with total funds of \$1 billion.

95. According to the Budget papers,<sup>11</sup> the purpose of the Fund is to finance a number of major projects of national significance:

*These projects are to be well advanced but not necessarily completed by the Centenary of Federation in 2001 and will be selected on the basis that they will generate jobs in the construction phase and make a significant and ongoing contribution to Australia and the Australian economy.*

#### **Committee's Conclusions**

96. Studies into the location and scope of a national museum in Canberra have extended almost over three decades.

97. The site identified in formative studies, at Yarramundi Reach, offered opportunities for a large scale development.

98. The Advisory Committee, established to advise the Government on the most suitable form and location for a national museum, recommended the adoption of an aggregate building design concept for the museum, with a net area of 22,000 square metres.

99. The Advisory Committee found Acton Peninsula met site selection criteria and had a number of advantages over other sites examined. On this

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<sup>11</sup> Portfolio Budget Statements 1997/98, Prime Minister and Cabinet Portfolio, Budget initiatives and explanations of appropriations 1997/98, Budget related paper No 1.13A, p. 30

basis, the Committee accepted the current reference with the site as nominated.

100. The cost of providing infrastructure at Yarramundi Reach and the ACT Government's contribution towards the infrastructure costs at Acton Peninsula were not major factors in the selection of the Acton site.

#### **DESIGN COMPETITION**

101. On 6 June 1997, the Prime Minister launched a two stage international design competition to select a design team for the project.

102. The nature of this competition was subjected to extensive examination by the Committee, following earlier questions of DOCA officials during Senate Estimates Committee hearings. In particular, the Committee raised the following issues:

- whether the competition qualifies as being international;
- the chronology of key milestones to establish the timing of key events;
- the basis of the design brief, especially spatial requirements and costings and how they were derived; and
- the conduct of the competition.

#### **An international competition?**

103. The process which resulted in the development of the proposed works was described in DOCA's written submission to the Committee in the following terms:

*A preliminary design for the proposed facilities and associated site works has been developed through a two stage international design competition. Five teams were shortlisted to compete in stage two of the competition to develop their concepts into preliminary designs, based on detailed functional briefs. The ACT Cultural Centre was included in the design competition to ensure that all the facilities complement each other. The preliminary design*

*will be further refined during a detailed design development process.*<sup>12</sup>

104. The issue of the status of the competition as being "International" had earlier been raised with DOCA during Senate Estimates Committee hearings.

105. The competition was advertised nationally and internationally (Los Angeles, New York, Hong Kong and the United Kingdom) on 7 June. It was described in the advertisement as an:

*...international design competition to select an architectural team for the three facilities (Museum, AIATSIS, and ACT Cultural Centre).*

106. Although described as an international architectural competition it did not meet the necessary requirements for this description. To qualify for this appellation, a competition must satisfy a number of criteria described to the Committee on the third day of public hearings in the following terms:

*This competition has not strictly been an international architectural competition. It was a local competition which advertised to local firms that they were invited to compete. An international architectural competition can only be given that name and run that way if it subscribes totally to the rules and conditions of the UIA, the Union Internationale des Architects, which operates under the set of guidelines laid down by UNESCO for international design competitions.*

*If that route had been followed—and we talk now of the program—it probably would have added somewhere between 12 and 18 months to the time scale for this project.*<sup>13</sup>

107. Clearly, the design competition for the NMA and AIATSIS was not international in terms as understood by members of the architectural profession, especially overseas, at which the advertisements were directed.

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<sup>12</sup> Minutes of Evidence, public hearing, 8 December 1997, p. 15

<sup>13</sup> Minutes of Evidence, public hearing 17 December 1997, pp. 424-425.

## **Royal Australian Institute of Architects**

108. On 10 June 1997, four days after the competition was announced, the Royal Australian Institute of Architects (RAIA) expressed major concerns about the competition in the media and in correspondence to relevant Ministers. Concerns expressed by the RAIA related to:

- the preparation of an adequate design brief;
- the time allocated for the competition;
- the proposed program;
- judging arrangements; and
- aspects of the intended competition conditions.

109. Later, on 22 July following an examination of the conditions for the competition, the *Union Internationale des Architects* wrote to the Prime Minister to express its concerns. In particular, the UIA made the following points:

- the competition does not comply with UNESCO regulations concerning international competitions in architecture and town planning; these regulations were adopted by all UNESCO member States in 1956 and the UIA was mandated to ensure their application;
- the competition jury must be composed of a majority of architects and a majority of foreigners to the organising country; this is to guarantee the international character of the event;
- the timetable for a worldwide event must allow time for architects in all countries to be informed; the UIA believed a four month period to be necessary, otherwise the event would remain essentially national; and
- all international competitions should be submitted to the UIA for approval prior to their announcement.

110. The Chief Executive of the NCA confirmed that the NCA gave advice on the conduct of the competition:

*The advice was drawn from an examination not only of the international perspective but also of recent architectural*

*competitions within Australia, standard conditions of the Institute of Architects, the experience the Authority has in running competitions and the experience of predecessor organisations in building some of the other national institutions in Canberra. The advice was an amalgam of those perspectives.*<sup>14</sup>

111. The Chief Executive of the NCA also advised the Committee that the overall timetable did not permit the competition being conducted in accordance with RAIA and UIA guidelines:

*...The milestones and critical times that were set for the running of the competition—the opening date that was required—moderated any pure process that might have aligned with a particular institute's guidelines.*<sup>15</sup>

112. According to the CCC Factsheet<sup>16</sup>, the conditions were tailored specifically to allow for the tight timeframe, minimal costs to entrants and to involve key stakeholders in the selection process.

113. Concerns expressed by the RAIA and the UIA were partially assuaged with the subsequent appointment of Mr Michael Keniger and Mr John Davidson AM as advisors to the competition jury. Mr Keniger, Head of the Department of Architecture at the University of Queensland was appointed to advise the CCC on the assessment of entries. Mr Davidson, having been involved as a professional competition advisor on many design competitions, was appointed competition registrar to advise on, and monitor, the competition to ensure that due process was maintained. Professor Ken Taylor was appointed to advise on landscape architecture.

114. Major concerns about the composition of the jury and the absence of the IUA imprimatur remained unresolved.

#### **Chronology of key dates**

115. The competition extended over four and a half months, commencing on 6 June and concluding on 29 October with the following milestones:

- lodgement of registration of interest form and payment by 6 June to 3 July 1997 (this was subsequently extended to 10 July 1997);
- release of preliminary design brief—18 June 1997;
- due date for stage 1 entries—10 July 1997 (subsequently extended to 31 July 1997);
- evaluation of stage 1 entries—22 July 1997;
- announcement of short listed stage 2 entrants—30 July 1997;
- release of stage 2 brief—1 August 1997;
- first design briefing session—week ending 9 August 1997;
- issue of final brief and project business plan—30 August 1997;
- second design briefing session—week ending 5 September 1997;
- lodgement of stage 2 entries—2 October 1997;
- evaluation of stage 2 entries—24 October 1997; and
- announcement of winner—30 October 1997.

116. The competition conditions<sup>17</sup> announced that the development of the design brief would proceed concurrently with the competition. This aspect is discussed further in this report.

#### **Assessors**

117. The design competition conditions advised entrants that the CCC would adjudicate at the conclusion of the first and second stages of the competition. The assessors were identified as:

<sup>14</sup> Minutes of Evidence, Public Hearing, 8 December 1997, p. 101

<sup>15</sup> *Ibid*, p. 102

<sup>16</sup> Construction Coordination Committee, Factsheet (undated): Designing for Acton Peninsula

<sup>17</sup> Construction Coordination Committee, Design Competition Conditions, New facilities on Acton Peninsula for the National Museum of Australia, Australian Institute of Aboriginal and Torres Strait Islander Studies, and Australian Capital Territory Aboriginal and Torres Strait Islander Cultural Centre, June 1997, p2

- Mr Jim Service AM, Chairman, National Museum of Australia Council and Chairman of the CCC;
- Dr Gaye Sculthorpe, Council Member, AIATSIS;
- Ms Cathy Santamaria, Deputy Secretary, DOCA;
- Mr Michael Ratcliffe, Chief Executive, NCA; and
- Ms Moiya Ford, ACT Chief Minister's Department.

118. The conditions also advised that the assessors would be assisted by a number of specialist advisors during the evaluation of submissions including, but not limited to, an eminent architect and a cost planning consultant. The NCA also assisted with the conduct of the competition. Apart from Mr Ratcliffe, the assessors did not possess architectural qualifications and, with the exception of Mr Service, were public service administrators.

#### **Selection criteria for both stages**

119. For Stage 1, selection criteria included, but were not limited to:

- quality of the architectural and landscape design proposed;
- a clearly expressed understanding and approach to the project; and
- demonstrated capability to undertake the task, including experience and availability of personnel.

120. For Stage 2, the selection criteria were to be outlined in the Stage 2 brief. This was not the case. A letter was sent to shortlisted entrants advising that the selection criteria stated in the competition conditions would apply. The letter also advised of an amendment to one selection criterion (highlighted below). The Stage 2 selection criteria were that, as a guide, criteria may include, but not be limited to:

- compliance with urban design goals and objectives;
- quality of architectural and landscape design requirements including (this criterion was amended and replaced by "understanding and approach to architectural and landscape design requirements including"):
  - compliance with the functional brief

- integration of internal and external spaces
- spatial flexibility inherent in the design solution
- scale and articulation of the buildings
- ability to meet capital and recurrent cost constraints
- ability to extend the design solution
- demonstrated understanding of the project in its Australian context;
- capability of consultants; and
- value for money.

#### **Progress of competition**

121. The registration period commenced on 6 June. Registered entrants were issued with the Stage 1 briefing kit on 18 June. This kit contained preliminary functional requirements for the Museum, Institute and Cultural Centre, site plans, Draft Amendment 20 of the National Capital Plan, coloured photographs of views from and to the site and a Statement of Capabilities form, required to be completed by entrants.

122. Registration closed on 10 July and 110 registrations were received, including 17 from overseas. Stage 1 of the competition closed on 31 July and 76 entries were received, 10 from overseas.

#### **Shortlisted entrants**

123. The successful entrants were:

- Forbes Fitzhardinge Woodland/Woods Bagot;
- John Brand & Co/Eggleston MacDonald;
- Ashton Raggat McDougall/Robert Peck von Hartel Threthowan;
- Wilkinson Candalepas/Peddle Thorp & Walker; and
- Giles Tribe/Cox Richardson.

124. Shortlisted entrants were notified of their success on 11 August. They were issued with Volume 1 of the functional design brief on 22 August, not on

1 August as advised in the competition conditions. A number of changes to key dates were announced in Volume 1:

- the first design briefing session was held on 27 August, not on 9 August;
- volume 2 of the functional design brief was issued on 9 September not on 30 August; and
- subject to confirmation, the second design briefing session was scheduled for 11-12 September, not during the week ending 5 September.

#### First design briefing session

125. The first design briefing session was held on 27 August and involved the following elements:

- the Chairman of the CCC providing a general introduction to the project on matters relating to the role, functional requirements and aspirations of the Museum;
- DOCA discussing matters relating to the operation of the competition;
- the NCA describing planning proposals and policies for Canberra, emphasising the site and the interrelationship between the facilities;
- the ACT Government describing the role, functional requirements and aspirations for the cultural centre;
- AIATSIS describing its role, functional requirements and aspirations for the new facility; and
- individual briefings at which entrants were provided with feedback on their preliminary design concepts from representatives of the various agencies. This involved a joint briefing in the morning, a bus tour of the site and individual meetings with each team in the afternoon.

#### Second design briefing session

126. The second briefing session was held on 15/16 September, after Volume 2 of the design brief was issued on 9 September. Each team was allocated two and a half hours separately and feedback was given on design

directions, including compliance with functional and urban design requirements. The author of the functional design brief, the cost consultant and NMA planning consultants attended these sessions. The competition Registrar was unable to attend and nominated a locum to act in his place.

#### Design brief

127. The design brief was prepared with considerable haste. The Committee notes in the report of the Advisory Committee that the functional brief for the AIATSIS building was developed during 1995 and early 1996.<sup>18</sup>

128. DOCA advised the Senate Estimates Committee in answer to a question about the authorship of this document:

*The department coordinated it. There was input from Roger Pegrum and Associates, who were the architectural firm who drafted the functional brief in architectural form, obviously; major input from the National Museum; major input from the Institute; editing and drafting by the Department; and cost consultant's input in terms of ensuring that what both the institutions were seeking were within the estimate of costs that we were proposing.*<sup>19</sup>

129. In March 1998, following a request from the Committee for further information about the authors of the design brief, the Committee was advised that papers in Volume 1 of the Stage 2 briefing kit were prepared as follows:

- functional brief: this was prepared by Pegrum and Associates in conjunction with Ralph Appelbaum and Associates who prepared the introduction and the overview of qualitative aspects of the proposed visitor experience;
- open space design brief: prepared by the NCA;
- environmental overview report: prepared by National Environmental Consulting Services; and

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<sup>18</sup> Report of Advisory Committee, p. 19

<sup>19</sup> Senate Estimates Committee Hansard, Standing Committee on Environment, Recreation, Communications and the Arts, consideration of subprogram 1.8, National Museum of Australia, Department of Communications and the Arts, hearing 17 November 1997, p.176

- AIATSIS building: design concepts, processes, considerations and the architectural brief, Paul Memmott and Joseph Reser.

130. The Committee was provided with a copy of the contract between DOCA and Pegrum and Associates. This was signed on 31 July 1997, more than one month after the announcement of the competition. Mr Pegrum was required to:

- produce the users' functional brief for the Museum and Institute; and
- advise on design documentation compliance with the brief.

131. The assignment was to "translate the functional needs identified by the users into architectural briefs" (Schedule 1 to the agreement). The time frame for the preparation of the brief stipulated in the contract was:

- draft functional brief—week ending 8 August; and
- issue functional brief to stage 2 competition entrants—week ending 22 August.

#### Costing of design brief

132. The design competition conditions stipulated that the indicative capital works on Acton Peninsula were not to exceed AUS\$125 million (these costs would exclude the Museum exhibition content which is the responsibility of the Museum).

133. Volume 1 of the Stage 2 design brief stipulated that the following budgets for construction and ordinary fitout works were to be used as a guide:

- Museum—\$47.8 million;
- Institute—\$10.1 million;
- Cultural centre—\$1.7 million; and
- External works and landscaping—\$10.1 million.<sup>20</sup>

134. The total of \$67.9 million includes \$1.7 million for the ACT Cultural Centre, which it is proposed will be funded by the ACT Government.

<sup>20</sup> Information for entrants/reference documents, Stage 2 Briefing Kit, Vol 1

135. The Committee questioned the basis of the calculations. A number of witnesses involved in the process explained it in different ways.

136. The cost consultant retained by DOCA advised the Committee:

*That was our initial costing of some verbal information and some documentary information provided at the time of doing the study for the five sites.<sup>21</sup>*

137. DOCA advised the Senate Estimates Committee that the cost consultant:

*...had also been part of ensuring that the way the functional brief was developed was in accordance with the amount of money that we had...<sup>22</sup>*

*...Sure, the cost consultant, before we had any of the designs come in, did cost the functional brief and made sure that the functional brief went out having complied with what we were proposing that the buildings cost...<sup>23</sup>*

138. As the design brief was issued progressively—on 22 August for Volume 1 and 9 September for Volume 2, the Committee questioned the cost consultant about the costing of the brief. The cost consultant advised the Committee that in mid-August the Department was advised that there were certain items within the draft brief that could not be accommodated in the original budget:

*It was a draft functional brief at the time. It had not been nominated whether it was stage 1 or stage 2...We advised the department that we did not believe the budget could accommodate all the requirements that were in that draft functional brief.<sup>24</sup>*

139. On the third day of public hearings, a principal of the cost consultant firm provided the Committee with further amplification of events in the following terms:

<sup>21</sup> Minutes of Evidence, Public Hearing, 9 December 1997, p. 127

<sup>22</sup> Senate Estimates 13 November p 175

<sup>23</sup> *Ibid*

<sup>24</sup> Minutes of Evidence, Public Hearing, 9 December 1997, p. 128



*We provided in mid-August a letter to the department indicating we had reviewed the preliminary draft brief and there were a number of issues that concerned us in relation to what the requirements of the brief now contained with regard to the original budget that we set. The letter had no costings attached to it. It raised a number of points—eight to 10 points—but had no costings attached to it. We provided as part of our report to the project manager, and that report was issued on 22 October, the revised costings based on the final brief. The final brief was issued on 15 September. We then costed the final brief in a generic way, because of course we were just costing a brief and not a design. We indicated to the project manager as part of our report that the budget, in our opinion, due to the revised brief requirements, had increased by approximately \$11.6 million... We issued it to the department and the project manager.<sup>25</sup>*

140. Bearing in mind that final assessment of entries was scheduled to commence on 24 October, representatives of DOCA were asked when this advice, dated 22 October was received:

*I do not recall having that advice on 23 October in terms of the fully costed functional brief. I recall having it a few days later. I thought I had received it on 29 October, the fully revised costed functional brief.<sup>26</sup>*

#### **The basis of spatial requirements**

141. The competition conditions anticipated that the project would, in gross floor areas, comprise approximately:

- 28,000 square metres for the Museum;
- 5,000 square metres for the Institute; and
- 1,000 square metres for the Cultural Centre.

142. Accompanying Volume 2 of the brief were revisions to Volume 1, which amended spatial requirements to a number of areas. The design brief

stipulated the following accommodation requirements, in square metres, for the three elements of the proposed work. Amendments made on 9 September are in parentheses:

<b>National Museum of Australia</b>		
Orientation	1050	
All hours	4150	(4250)
Public Programs	6960	(6990)
Administration	1500	(1770)
Outdoor programs	1700	
Education	400	
Total	15760	(16160)
<b>AIATSIS</b>		
Orientation	330	(380)
Institute library	1626	
ADAPT	912	
Aboriginal studies press	178	
Research—475	475	
Executive, finance & cooperate services	734	
Total	4255	(4305)
<b>ACT Aboriginal and Torres Strait Islander Cultural Centre</b>		
Total	1085	

143. On the fourth day of public hearings, Mr Roger Pegrum advised the Committee that the brief prepared was somewhat different to most, because of the time available to prepare it and because there were three clients. He was engaged by DOCA to liaise with clients and prepare a brief which satisfied their requirements both operationally and physically and prepare a document helpful to architects. Mr Pegrum wrote parts of Volume One and most of Volume Two of the design brief.

144. In relation to floor space, Mr Pegrum advised the Committee that the Museum and AIATSIS provided a list of areas they wished to have included

<sup>25</sup> Minutes of Evidence, Public Hearing, 17 December 1997, p. 460

<sup>26</sup> *Ibid*, p. 462

and floor areas specified were justified in these terms. Until these areas were aggregated, there was no way of knowing the final floor space of the buildings. Floor space figures given in the brief were transcribed and modified over a period of time.

145. The Director of the Museum advised the Committee that a team of Museum staff had been established beforehand and over several months had determined the space requirements which would suit their needs. He acknowledged that part of this process always involves ambit claims with users opting for optimal requirements.

146. According to the Director, Mr Pegrum attempted to translate these requirements into architectural terms, based on meetings with staff and the refinement of figures. Eventually these were translated into room data sheets. The Director confirmed that this iterative process was conducted before the brief was issued. However, according to the Director, it was known even at the brief writing stage that this was likely to change and involve testing with experts. Part of this process continued between November 1997 and January 1998. The outcome of this process is discussed further in this report.

147. DOCA maintained that functional design briefs are issued with indicative budgets rather than detailed itemised estimates. The Committee accepts this. DOCA also maintained that the development of functional briefs is characterised by functional elements in an organisation seeking to maximise their requirements. DOCA therefore suggested to the Committee that the sum of claims in a functional brief would commonly exceed that found in a finished facility because compromises are made and alternative cost-effective solutions are identified during design development. DOCA further advised the Committee that:

*The Department was concerned about the number of ambit claims contained in the draft brief received from the brief writing consultant. The Department requested that several items be deleted from the draft brief. Further items could have been deleted, however, the Department was waiting to see the solutions put forward by the design teams.<sup>27</sup>*

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<sup>27</sup> Minutes of Evidence, Public Hearing, 17 December, p. 439

### Costing of brief

148. After the completion of the competition, the quantity surveyor produced a detailed order of cost assessment for the functional brief. This was received by DOCA on 29 October. The quantity surveyors increased their estimate of the indicative construction cost from \$68 million to \$79.6 million due to:

- the retention in the functional brief of a number of elements, estimated to cost \$6 million, which the quantity surveyors had not anticipated in their original estimate of \$68 million; these were:
  - suspended roof catwalk for services access;
  - forklift trafficable access to exhibition areas;
  - increased height to temporary exhibition area;
  - double glazed external walls to exhibition area; and
  - extensive security systems throughout;
- the increase in the size of the site resulting from Draft Amendment 20, which increased the indicative cost of external works and landscaping by \$5.4 million.

149. DOCA acknowledged that while the indicative costs provided in the Stage 2 brief were an underestimate of functional briefing requirements, all such briefs are subject to continual review and refinement during design processes.

### Costing of entries

150. The quantity surveyor was asked by the Committee if he costed the entries and was advised:.

*No, we did not cost them. They were instructed to provide a cost plan, which we were asked to check ...We would check their level of accuracy to meet that. We would check that they had included all requirements within the brief and had provided a fair and equitable basis for comparison between each design.<sup>28</sup>*

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<sup>28</sup> Minutes of Evidence, Public Hearing, 9 December 1997, p. 116

151. DOCA advised the Committee that the quantity surveyors:

- included the cost of all items in the brief—even if not shown in the entries, so that all entries had common inclusions. For example, museum quality climate control was costed for each entry because it was a briefed requirement, even though some teams did not provide for it;
- measured the building area shown on the entries to ensure that it was the same as nominated in the cost plans; some entrants' cost plans were based on a smaller building than shown on the drawings;
- checked prices and rates and made adjustments where, in their professional opinion, prices assessed were insufficient to cover the extent of work shown on the drawings; and
- standardised the areas allowed for toilets and plant rooms in the belief that insufficient area had been shown on some entries.

152. The quantity surveyors concluded that:

- the entry with the lowest probable cost was close to the revised indicative cost of \$79.6 million;
- a further two entries, including the successful team, were within 10 per cent of the lowest cost entry and could be revised back to the approved budget;
- the second most expensive entry would be more difficult to bring back to the budget; and
- it was unlikely that the scheme with the highest probable cost could be revised back to the budget while still maintaining design integrity.

#### Cost of selected design

153. The quantity surveyors estimated the construction cost of the project at \$79.6million. DOCA advised the Committee that the cost estimate of the winning entry, in the range of \$85 to \$88 million was for comparative purposes only. The cost estimates prepared by the winning firm's own cost consultants was \$75.1 million.

154. On 10 November 1997, the Government approved a capital works budget of \$133 million, of which \$71.5 million was allocated for construction.<sup>29</sup>

#### Precedent

155. The Committee was advised that is not unusual for successful design competition entries to be initially over budget. This occurs because competition entries are developed without the close involvement of the client and because competition timeframes do not allow for the iterative processes of concept, sketch, cost and review. DOCA therefore maintained that schemes selected through competition always follow a process of review and refinement with clients after they have been selected.

#### Selection of winning design—procedures followed

156. Volume 1 of the Stage 2 briefing kit advised entrants that the deadline for Stage 2 had been extended from 2 October to 10 October 1997. Technical assessments were prepared during the following week (13 to 17 October) and design presentations and the final assessment took place on 23 to 25 October. The winning entry was announced on 29 October.

157. The assessment of design competition entries was undertaken by the CCC. DOCA advised the Committee that in preliminary discussions, prior to design presentations, the DOCA-appointed project manager advised the jury and all specialist advisors present that at least four of the five schemes appeared to be achievable within the budget.

158. The designs were then considered by the jury and the advisors against the selection criteria. DOCA advised the Committee that after some hours of extensive discussion and consideration of the five designs, the jury and its Executive Director, Secretary, project manager, probity advisor and an observer from the Department of the Prime Minister and Cabinet met in camera.

159. DOCA further advised the Committee that:

*Having considered all entries against the criteria previously identified, the jury at this point decided not to pursue three entries because they met to a lesser extent the design and functionality requirements. Compliance with cost parameters was not an issue at this point. Two designs remained for detailed consideration. The Chairman [of the*

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<sup>29</sup> Minutes of Evidence, Public Hearing, 17 December 1997, p. 441

*CCC] then asked [the Project Manager] if there were any material issues in the technical assessments that should affect the Jury's deliberation. The Project Manager's advice to the jury with regard to cost was that both entries were within a manageable range for a project at this stage of development. The independent cost assessment did not differentiate between the two entries and the jury decided in favour of Ashton Raggatt McDougall.<sup>30</sup>*

#### Committee's Conclusions

160. The international competition to select the winning design did not satisfy the requirements of the international architectural profession and this resulted in concerns being expressed by the profession's peak international body.

161. While the design competition was conducted in accordance with a prescribed set of conditions, the Construction Coordination Committee did not include the cost parameter in its final decision.

162. The design brief was hurriedly completed and not costed until after the architectural competition closed.

163. The time imperative in progressing this proposal through various self-imposed and statutory processes presented substantial difficulties for the project team.

#### MASTER PLANNING AND DESIGN

##### Planning requirements

164. The NCA manages the Commonwealth's continuing interest in the planning, design, development and management of Canberra as the National Capital. Under the provisions of the *ACT (Planning and Land Management) Act 1988*, all development on Acton Peninsula, including buildings, roads and parks, require formal approval by the NCA.

165. In 1994, the Commonwealth agreed to exchange National Land at Kingston Foreshores for Territory Land at Acton Peninsula. This agreement was supported by the current Government and the land exchange took effect on 28

<sup>30</sup> Minutes of Evidence, Public Hearing, 17 December 1997, p. 443.

May 1997. The land exchange was the trigger for Draft Amendment 20 to the National Capital Plan.

#### Draft Amendment 20

166. The development of the design concept was driven by planning requirements in Draft Amendment 20, the brief and the budget.

167. Amendment 20 required a number of design and development principles to be incorporated in any building concept, including the following:

- buildings should be consolidated into precincts;
- the massing and bulk of large structures should be modulated to reduce their apparent scale and impact; and
- the scale and proportions of all structures should integrate the built form harmoniously into the site and environs.<sup>31</sup>

168. Development conditions relating to building heights were:

- buildings in the areas identified as "Community Facility" are not to exceed two stories in height;
- generally, buildings east of Lawson Crescent are not to protrude above the tree canopy and will be limited in height to a maximum of 16 metres above natural ground level;
- a landmark feature or building element in excess of 16 metres high may be considered at the end of the lower peninsula...; and
- no building structure exceeding relative level 617 metres in height will be permitted.<sup>32</sup>

169. The principles and conditions outlined in Draft Amendment 20 were expanded upon in the *Acton Peninsula Open Space Design Brief*, which was included in Volume 1 of the Stage 2 briefing kit.

<sup>31</sup> National Capital Plan, Draft Amendment 20, Acton Peninsula, A site of national significance, National Capital Authority, June 1997, p. 8

<sup>32</sup> *Ibid*, p. 10

## Statutory requirements

170. The statutory requirements for amending the National Capital Plan, which came into effect on 21 December 1990, are set out in sections 14 to 16 of the *Australian Capital Territory (Planning and Land Management) Act 1988*.

171. Section 15 of the Act requires:

1. After preparing the Draft Plan (Amendment), the Authority shall:
  - (a) submit a copy to the Territory planning authority
  - (b) by notice in the Commonwealth Gazette and in the principal daily newspaper published and circulated in the Territory;
    - (i) state that the draft Plan (Amendment) has been prepared, and that copies will be available for public inspection at the places and times, and during the period, specified in the notice; and
    - (ii) invite interested persons to make written representations about the draft Plan (Amendment) within a reasonable period specified in the notice and specify the address to which representations may be forwarded; and
  - (c) make the draft Plan (Amendment) available for inspection accordingly.
2. The Authority shall:
  - (a) consult the Territory planning authority about the draft Plan (Amendment) and have regard to any views expressed by it; and
  - (b) have regard to any representations made by the public; and, if it thinks fit, may alter the draft Plan (Amendment).

172. The Committee understands the chronology of steps involved in meeting the statutory requirements was as follows:

- notification of intention to amend the National Capital Plan—*Commonwealth Gazette* S218 (18 June 1997) and *The Canberra Times* (18 June 1997). The notices included invitations to interested persons to make written representations to an address specified;

- advice by the NCA that 22 written submissions and one oral submission were received in response to the advertisements; and
- advice by the NCA that the ACT Planning Authority indicated its approval of the proposed Amendment on 19 September 1997.

173. Section 18 of the Act requires the NCA to submit the Draft Amendment to the Minister for approval, together with a written report on its consultations. The NCA advised the Committee that in accordance with section 21, the Minister approved the Draft Amendment which was published in the *Commonwealth Gazette* on 4 December 1997. The Draft Amendment was tabled in the Senate and the House of Representatives on 2 March 1998.

174. Canberra Community Action on Acton (CCAA) have been actively concerned with developments which have occurred on the site. CCAA believes the site is of considerable prominence and therefore buildings of prominence should be constructed on the site. The proposed concept of low buildings resembles that proposed for Yarramundi Reach. CCAA suggested the concept has been transferred to the site without taking proper account of its prominence.

175. The Committee notes that the architectural competition was proceeding concurrently with statutory planning processes. The latter were not finalised until after the competition closed.

176. The Committee again draws attention to the need for statutory requirements involving amendments to the National Capital Plan to be finalised before projects are referred to the Committee. This matter was raised previously by the Committee in the report on the redevelopment of Defence Office Accommodation at Russell, ACT (*Committee's Third Report of 1995—Parliamentary Paper 54/1995*).

## Committee's Conclusion

177. Extensions to Draft Amendment 20, prepared by the National Capital Authority, were included in the design brief before Draft Amendment 20 was progressed through statutory planning processes. The Committee believes this was at best premature and at worst presumptuous.

## Ongoing management responsibilities

178. The NCA advised the Committee that it will have ongoing management responsibilities for public realm areas at the Acton site. It will also be responsible for the resolution of management issues and agreements with facility operators.

179. The NCA indicated its support for the development of the NMA and AIATSIS as significant contributors to the role and functioning of the national capital. The original proposed building concept was consistent with planning principles for the site.

180. The NCA does not support the proposed bridge linking the southern shore. For this feature to be constructed, a further amendment to the National Capital Plan would be required, involving public and statutory processes. Consequently, the bridge is not considered to be a part of the project.

### Site

181. Acton Peninsula comprises 11 hectares about three kilometres from Canberra's Civic Centre. The site is surrounded on three sides by Lake Burley Griffin. The site is nationally significant because of its proximity to the Parliamentary Zone and its location adjoining Lake Burley Griffin.

182. The site has historical and cultural importance related to the development of Canberra. The Peninsula was the first site settled by Europeans in the Canberra region and was the administrative centre for the development of the National Capital until after the Second World War. For this reason, five listings were identified for inclusion on the Register of the National Estate. These listings present a challenge to protect the heritage value of the site.

183. Acton Peninsula is the site of the original Royal Canberra Hospital. The twelve buildings in the hospital complex which covered 8.9 hectares were demolished, apart from three buildings identified for listing on the Register of the National Estate. These buildings are the Isolation Block, H Block and the Medical Superintendent's Residence. In 1994, a hospice for the terminally ill was established in the Isolation Block and H Block. This involved some modification to these buildings, including the construction of a chapel/meditation room. The hospice occupies these buildings in accordance with the terms of an occupancy licence which expires in mid-1999.

184. The Australian National University is adjacent to the site. The Committee pointed out to DOCA that synergies exist between museums and universities in undertaking collaborative research. In this particular instance, there is potential for additional synergies involving real estate. DOCA agreed that opportunities for collaboration will emerge.

### Geotechnical

185. The Committee questioned the NCA about the nature of subsurface conditions on the site. The NCA advised the Committee that this would become

known following a geotechnical survey, which will be commissioned to eliminate risks. However, preliminary results and experience from excavations associated with previous buildings on the site have revealed some profiling of what is likely to be found. The NCA described the site as:

*...a tricky site but far from the worst building site in Australia. Indeed, it is relatively good compared to some of the other sites, say around the Yarra in Melbourne or some of the areas in Sydney—for instance, particular sites in Sydney around the Homebush area.<sup>33</sup>*

186. The Committee notes that the environmental assessment report addressed the geology of the site. According to the report, the site is relatively complex geologically and generalised conditions are as follows:

- deep alluvial soils (greater than six metres) overlying weathered shale and siltstone rock in the north and western portion of the site;
- deep soils (three metres and greater) overlying weathered siltstone rock in a wedge shaped area at the north of the site; and
- variable depth soils overlying siltstone, limestone and interbedded siltstone and limestone over the remainder of the site (it is common to find large hard irregular shaped boulders within a clay mix).

187. The report concludes:

*Excavation and founding conditions may be more difficult on the eastern side because of the presence of these boulders. The deep soils on the west side may present problems if heavier loaded structural elements need to be founded on rock.<sup>34</sup>*

### Infrastructure

188. The Committee questioned the extent and adequacy of existing on-site services. The Committee was advised that the site is well served with infrastructure. One of the main sewer lines runs beneath the site. As well, there is a gas substation and two electricity lines independently feed the site.

<sup>33</sup> Minutes of Evidence, public hearing, 8 December 1997, p. 103

<sup>34</sup> Environmental Assessment Report, New facilities for NMA/AIATSIS/ACTATSICC National Environmental Consulting Services, 26 September 1997, p. 2-3

Preliminary engineering advice obtained indicated that capacity is available and adequate for the buildings proposed. The Committee was advised that there will not be a requirement to upgrade infrastructure to a significant extent. However, DOCA did acknowledge that there will be some alterations to infrastructure to accommodate the new plan and these have been costed into the budget.

### Layout

189. The proposed layout and design is intended to explore the views from the Peninsula and to complement Walter Burley Griffin's plan for the National Capital.

190. It is also proposed to provide a number of symbolic elements associated with indigenous and European Australia through various layers and features within the landscaping. The key features of the site plan originally submitted to the Committee were:

- a prominent entry point featuring the word "Australian";
- a symbolic meeting place forming a point of orientation for the visitor to the peninsula;
- an informal recreation area along the southern edge of the peninsula incorporating a wetland and picnic areas;
- a featured axis along the peninsula that aligns with Uluru, known as the Uluru Line. The inclusion of this feature was driven by the broader planning of Canberra which has a number of streets aligned with capital cities.); and
- a Garden of Australian Dreams as a key element of the approach to the Museum. The Garden of Australian Dreams has been developed by integrating a number of different layers. The intention is to create a place in which everyone will recognise parts, yet when they are all combined, something new is created. The layers are:
  - tracings of Tindale's map of Aboriginal Australia;
  - cartography features including the Global Mercator Grid, traces of Australian exploration, the Australian State boundaries, the Dingo fence, the Uluru Line and the Pope's Line;
  - reflections of the Australian suburban landscape;

- special effects representing mist, fire and water;
- the use of soundscape; and
- shade structures in the shapes of clouds.

### What type of museum

191. The scale and nature of the Museum was commented on by Professor Mulvaney who expressed the view that repeated claims that the new Museum "will tell the story of Australia" were simplistic and more designed to entertain than to inform. DOCA advised that the differences between the current concept and the concept proposed in 1975 involve scale and focus. The Pigott report recommended a Museum of 100,000 square metres, to house a vast collection, including live fauna and outdoor displays. The current proposal of 20,000 square metres will house a comparatively limited number of objects.

192. The fundamental shift in the direction of the Museum was established after the Museums Review. Following this review, emphasis was placed on the development of a core collection reflecting areas of national importance and/or Commonwealth involvement with loans from collections held by State institutions and private individuals.

### Standards and codes

193. The design and construction of the Museum and Institute will conform with the requirements of the Building Code of Australia (BCA) and any amendments relating to the ACT. Minimum design standards will be in accordance with all relevant standards and codes published by the Standards Association of Australia, with particular attention to specific standards required for museum facilities.

### Design principles

194. The design principles seek to maximise value for money in capital, operating and maintenance costs over the life of the buildings, while providing flexible facilities to serve users now and into the future. The design principles also seeks to provide facilities that are user-friendly, functionally efficient, and aesthetically pleasing.

195. The building structures will be of a sound and durable nature, with care taken to ensure that the design and building fabric are suited to the purpose and achieve a balance between initial cost and ongoing maintenance costs.

196. The buildings are intended to complement the exhibition and landscape. Many traditional back-of-house museum activities such as some conservation areas and collection storage will remain off-site. The project's focus is on maximising the visitor experience.

197. The Committee questioned the extent to which unitisation will be used, particularly in structural elements. The Committee was advised that unitisation could apply to facade design when finalised. The use of the steel structural system was driven by a number of factors, the major one being the need for a large clear span space in the exhibition area. As well, the structural system relates to the need for a weatherproof envelope to be provided as quickly as possible to enable work on internal fitout to commence.

### **Fire protection**

198. DOCA advised that the design of fire protection measures will be reviewed by the ACT Fire Brigade and ACT authorities and, at a minimum, will conform with the provisions of the BCA and all other applicable codes and standards. Special consideration will be given to sensitive exhibition, archival and object storage areas.

199. The Committee was advised that a fire engineer will be employed on the design team. Comments from the Commonwealth Fire Board on the proposed fire detection and prevention mechanisms, especially their certification, will be referred to the design team.

### **Committee's recommendation**

**200. Due to the nature of priceless exhibits to be displayed in the Museum, the design of fire detection and protection measures should be certified as meeting relevant codes and building regulations by an independent fire protection consultant.**

### **Security**

201. Security systems for each facility will be compatible and will meet a high grade commercial fitout standard. The security system will include:

- a distributed intelligence security system with a central database server;
- door control and monitoring;
- lift control;

- closed circuit television;
- specialist security devices for public galleries;
- perimeter control to include outdoor spaces; and
- off site monitoring (if required).

### **Child care facilities**

202. Children will be important visitors to the Museum. A Children's Museum and Education Centre have been included as part of the Museum development, and consequently, a dedicated child care facility will not be provided for Museum visitors.

203. Child care facilities will not be provided for staff of the institutions as several public child care facilities are located in the vicinity of the Peninsula.

### **Vehicular access**

204. Vehicular access around the site will be controlled and minimised. It will include provision for visitors' vehicles, tourist coaches, a bus stop for regular public transport, a separate service access, and appropriate pedestrian and cycle access. A water jetty will also be provided to cater for water taxis, ferries, berthing of historical (exhibition) boats and general public water craft.

### **Energy conservation**

205. Draft Amendment 20 attempts to promote the adoption of passive energy efficiency and thermal design. The Committee was advised that both aspects will be undertaken by employing quality assurance during design development.

### **Pedestrian access**

206. Existing pedestrian access is constrained by major roads. Pedestrian access from the city is via a narrow footbridge located near Rydges hotel, which connects to a bicycle path near the Acton Jetty. The bicycle path provides access to Acton Peninsula from the west and east of the site. A pedestrian bridge between Acton Peninsula and Lennox Park, on the southern shore of Lake Burley Griffin, has been proposed to improve pedestrian access to the Parliamentary Zone and to link the Museum and the Institute to other national cultural institutions.



## **People with disabilities**

207. DOCA advised the Committee that consultations with ACROD will take place. It was acknowledged by DOCA that the Museum must be a visitor-friendly institution. For this reason, provisions for people with disabilities will be incorporated in the design. The Committee understands that DOCA have engaged the services of a consultant to assist the design team.

208. The Committee also raised the question of access to mezzanine levels and what appeared, from photomontages of the permanent exhibition gallery, to be uneven floors. Both access to mezzanine levels and uneven floors could present unreasonable impediments not only to people with disabilities, but also the elderly. For these reasons, the Committee believes more attention will need to be given to these aspects of the design. The Committee believes that the success of the functionality of the exhibition areas largely depends on ease of access and circulation. Special attention will need to be given to ease of access and egress to the theatre.

## **Carparking**

209. DOCA advised that the design for the new facilities on Acton Peninsula will seek to minimise the impact of carparking on the site and character of the open space. Maximum use of existing parking areas will be made to minimise costs. Carparking will include allowance for visitors, staff, tourist buses and service vehicles.

210. The NCA advised the Committee that the layout of carparking will require further design resolution. The number of carparks proposed is in accordance with briefed requirements. The NCA advised the Committee in December that it would undertake a traffic study "shortly". The Committee understands that in the intervening months, this study has commenced.

211. It is planned to enhance public transport to the site. The Committee notes a proposal involving the installation of a vintage tramway linking national institutions and other attractions at Acton with Canberra's Civic Centre. The proponents of the proposal are the National Film and Sound Archive and the NMA. The project has a notional budget of \$5.0 million and provision is made for a Commonwealth contribution of \$2.650 million from the Federation Fund, \$0.5 million from the ACT Government, as well as corporate sponsoring of the balance.

## **ORIGINAL CONCEPT**

### **Main features**

212. The Committee was advised that the Museum will combine the best contemporary exhibition techniques, new media technologies and live performances. It will offer a range of experiences to appeal to visitors of all kinds.

213. The main features of the new Museum include a great hall, three main exhibition spaces, a digital theatre, research facilities, and outdoor exhibitions and landscaping. The original concept included a micro-gallery for on-line access to collections. The great hall was intended as a venue for major public events as well as Museum activities.

### **Theatre and communications**

214. A digital theatre, featuring a high definition, panoramic video screen will be provided. Incorporated within this facility will be a modern media and communications centre. This will enable the Museum to be a communications hub exchanging media programming and data with schools, museums and other institutions nationally and internationally. This function, combined with the Museum's established outreach program, will maximise the access opportunities.

### **Collections**

215. The Museum will be less collection driven than other museums and will develop partnerships to draw from the estimated 2000 heritage collections around Australia. Research facilities and collections will be accessible to scholars, students and communities for research and re-interpretation.

### **Functional areas**

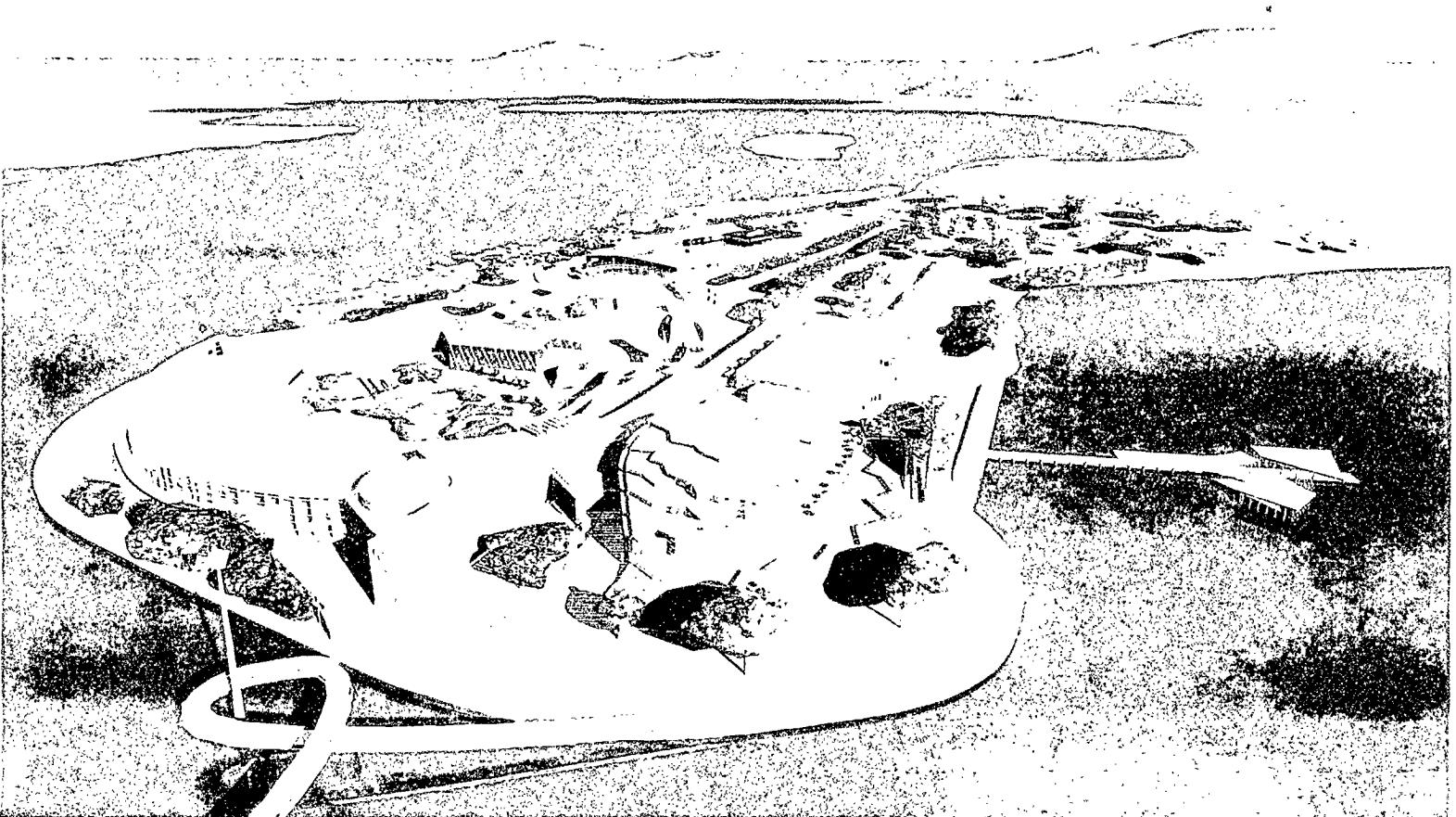
216. The original DOCA submission to the Committee envisaged that the Museum will have a total net area of 16,160 square metres. This does not include allowances for circulation spaces and plant rooms which would be finalised during detailed design development. The following table is a breakdown of the functional area requirements originally proposed:

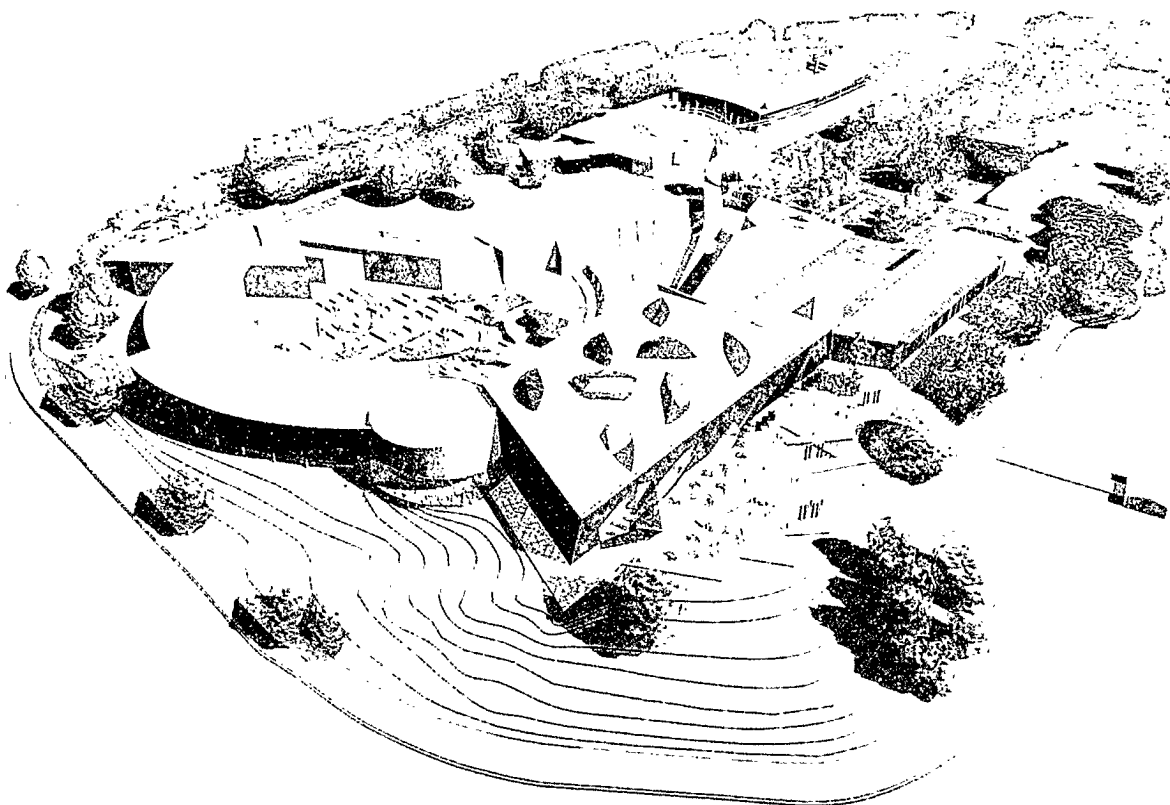
<b>Functional Requirement</b>	<b>Area (m2)</b>
Visitor Arrival	620
Group Arrival	310
Public Facilities	120
Great Hall	1500
Theatre	1000
Media and Communications Facility	300
Data Warehouse/Computer Centre	150
Commercial Concessions	1000
Galleries (including GAA, temporary and permanent exhibitions, Micro Gallery and Children's Museum)	5300
Access to Public Collection (Research Facilities)	850
Receipt/Dispatch	325
Conservation Facilities	355
Administration	1470
Exhibition Preparation and Storage	300
Special outdoor spaces (including amphitheatre, reflection spaces and landscaped approach)	1700
Education Centre	400
Resources Centre	460
Total	16160

## **CHANGES TO DESIGN**

### **Testing and refinement**

217. Between 17 December 1997 and 13 March 1998, DOCA and associated consultants, the Museum and AIATSIS undertook further testing and refinement of the design concept. Meetings were also held with museum experts and other architects experienced in museum design to test the concepts and to learn from their experiences. Officials also examined museum practices overseas. The original concept and the revised design are shown on the following pages. Additional plans are at APPENDIX C.





218. Earlier, when asked in Senate Estimates Committee hearings if any weaknesses had been pointed out to DOCA in the brief, a DOCA official, directly involved in the brief preparation process advised that:

*No, I do not believe there have been many weaknesses pointed out in the functional brief. Certainly, the feedback that I have received from the teams of architects—and they might have been just saying it because we organised it—was that indeed they thought it was a very good functional brief.*<sup>35</sup>

### **Design development stages**

219. Mr Davidson, registrar of the design competition and architect, advised the Committee of the stages which, from his experience, occur in the development of architectural designs:

- the first drawings constitute the concept design which illustrate the form of the proposed building. In this particular case, concept drawings went a little beyond the concept stage because in many cases a concept does not address internal planning;
- schematic design follows, which illustrates the scheme of functional areas within the concept. The concept should maintain its integrity in terms of overall approach, but the scheme within the concept takes note of the more detailed brief presented;
- the brief itself is never a fixed document. It is dynamic and adjusts to the design. The schematic stage would therefore be in more detail, but still within the basic concept; and
- design development is the development of schematic design which takes note of more detailed parts of the brief in discussion with users and contributions from specialist consultants in airconditioning, structural, mechanical and people movement.

220. Mr Davidson stated:

*I think one has to look at the whole process of design and briefing in parallel and acknowledge that they are very dynamic processes...My judgement of this is that we have*

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<sup>35</sup> Senate Estimates Committee, 13 November 1997, p. 176

*exactly the same scheme here as we had at the time I was involved in the competition. It has taken the inevitable steps that I would have seen and would have expected from any of the other four [design entrants], if they had been selected as the winner. They would be, perhaps in your mind, as far removed from their original concept as you feel that this one is. But I can assure you from a professional and technical point of view, this is a logical and reasonable development of the original concept.*<sup>36</sup>

#### **Development of the original concept**

221. Currently, the functional briefed area amounts to 13,340 square metres compared with 14,460 square metres in the original design.

222. Changes were described as a "tightening up of space". There have been no changes of significance to administration or back-of-house functions. Changes which have been made will involve savings in space which can be applied in other areas, for example the GAA stores area has been increased from 375 square metres to 500 square metres and the conservation laboratory has increased slightly from 150 square metres to 200 square metres.

223. The Committee was advised that in terms of the Museum building, the following changes were made:

- some internal reordering;
- subtle adjustments to the footprint;
- alterations to the briefed area by about eight percent;
- significant increases in building efficiency, from 56 to 66 percent;
- floor area reduced by 20 percent, most of which has resulted from the increase in building efficiency; and
- increase in external exhibition areas involving: refinement of costing and the design of the Garden of Australian Dreams, a reduction in the size of the wetlands and other minor alterations to reduce the scope.

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<sup>36</sup> Minutes of Evidence, Public Hearing, 13 March 1998, p. 662.

#### **Committee questioning**

224. The Committee questioned what appeared to be changes in the plan of the Museum, especially the footprint. The design architect advised that the distance from the Museum building to the lake edge is now more generous. This has come about because one of the elements of the redesign, resulting from work with exhibition designers, has changed the width of exhibition halls. Some corridors have been removed, thus making the building more efficient.

225. There also appeared to be the loss of a significant amount of glass and openness in the new design. Again, the design architect advised this may be due to a misperception by the Committee of significant glazing in the original concept. The original concept provided some glazing to corridors for functional reasons. These corridors have now been removed.

226. When questioned about the extent to which space had been increased by removing the corridors, the design architect was unable to answer the question directly, but advised that two corridors have been eliminated on both sides of exhibition space, one five metres wide and the other 2.5 metres wide.

227. The Committee suggested to witnesses representing DOCA that the finished product will not be the same design as that which won the competition. Mr Service, speaking from long experience in building projects, suggested that the design development being proposed is what would normally be expected. He suggested that the design which won the competition is broadly what will be built. In matters of detail, it is very different, but this is routine practice in design development. The architect stated that the design as it now stands is conceptually the same as the competition design, the carpark is in the middle of the site, the line through the middle of the site is retained, the buildings remain in the same places with basically the same footprints. The biggest change is the reversal of the plan of the AIATSIS building.

228. The master planning and design integrity remain. There have, nevertheless, been significant internal changes to the Museum to improve visitor circulation, tailor the design to the exhibition concept and enhance functionality. The following paragraphs describe the rationale for the revisions.

#### **Entry and great hall**

229. The entry and the great hall have now been integrated. The intention of the great hall is to provide a "spectacular entry experience" to the Museum. Introductory exhibits intended for the micro gallery will be included in the entry foyer and circulation space. DOCA believes this arrangement will be more efficient and add interest in the foyer without sacrificing functionality.

230. The Committee questioned the need and use of the great hall and was advised that it will be a large impressive milling space. It will have other uses, including receptions and functions and will also have on display large objects not requiring climate control.

#### **Temporary exhibition gallery and theatre**

231. The temporary exhibition gallery and the theatre have been reversed. Visitor access to the temporary exhibition gallery will be from the great hall. In addition, the temporary exhibition gallery will have its own loading dock to improve access for the unloading and setting up of exhibitions.

232. The theatre is now proposed to have 350 seats instead of 500 as originally briefed. The change in capacity resulted from discussions with other national and international cultural institutions, the Canberra Convention Bureau and operators of other theatre facilities. The theatre will be used for a 12 to 15 minute high definition video production shown regularly throughout the day. Seating will be raked and visitors will exit the theatre at the mezzanine level in the permanent exhibition gallery.

#### **Permanent exhibition gallery**

233. The permanent exhibition space has been increased from the briefed area of 2000 square metres to 2500 square metres. The design of the permanent exhibition gallery has been tailored to the proposed exhibition concept. This envisages primary circulation on a mezzanine level where interactive displays will be concentrated. The ground floor will house displays of larger items.

234. Mezzanines have been provided as an integral component of the exhibition concept and will be funded as "specialist fitout". Mezzanines will be the primary circulation route through the permanent galleries and will house interpretative displays.

235. The Committee questioned the inclusion of mezzanine levels and was advised that their addition was generated through workshops with exhibition designers. They fit in well with the original volumes proposed for exhibition halls and have added 600 square metres of floor area.

236. Key changes involve layered levels of the permanent gallery. The transposition of the temporary exhibition space and theatre will enable the theatre to be functionally integrated into visitors' experiences.

237. Upon entering the permanent gallery, visitors will be able to proceed to the theatre to see a film about Australia. They will exit the theatre on to the mezzanine level, where a large map of Australia will be on display. Amongst

other things, the map will depict current weather patterns. On the mezzanine level, there will be a number of scripted experiences, for example, links to the land and stories of people which have been produced by the Museum. Many will be presented through a combination of high technology, multimedia experiences but there will also be relevant and specific objects from the collections on display as part of these experiences.

238. The lower level will contain as many objects from the collections as can be displayed in practical and aesthetic terms. Objects to be shown and stories and themes to be narrated have been developed by Museum staff and have met the approval of Australia's leading academics.

#### **Gallery of Aboriginal Australia**

239. Entry to the GAA will be on a mezzanine level, with accessible storage underneath. The exhibition space will be 1500 square metres as originally briefed, with 500 square metres of collection stores as a separate area.

#### **Cloakrooms**

240. The functional brief provided for a public cloakroom of 150 square metres and a separate group cloakroom of 100 square metres. The size of cloakrooms has been reviewed as part of the testing of functional brief requirements. Each will now be 50 square metres, which is the same as new cloaking facilities at the National Gallery of Australia.

#### **Other potential cost saving elements previously identified**

241. Following claims expressed to the Committee by Professor Mulvaney about the list of potential cost-saving elements identified by the cost consultant affecting the integrity of the Museum, DOCA advised that the list is a range of items which took the design over budget. As part of the process of extensive testing of the design, the list has been reviewed and DOCA now propose the following:

- removal of suspended roof catwalks for services access—the catwalks are now not required as the services access has been realigned to a more accessible space;
- removal of a forklift traffic or access floor to the exhibitions—the exhibition area main floor levels can accommodate forklift traffic;
- a decrease in the height to the temporary exhibition area from 12 to eight metres—the temporary exhibition space height is about eight metres. The NMA believes this is adequate as do other experts;

- removal of a requirement for double glazed external windows—double glazing will be used where windows are in exhibition areas. It is not required in other areas; and
- reduced security systems—further analysis of the security system requirement has enabled the costing to be refined and has reduced the cost. The security system complies with the brief.

#### **Control of dust**

242. The Committee questioned how dust will be prevented from entering exhibition areas. The Committee was advised that particular attention will be paid to environmental conditions. Air quality will be controlled through a series of graded zones designed to increase levels of environmental control in sensitive areas. Attention will also be paid to surface finishes to ensure that they do not emit gases or particles.

#### **Future extensions**

243. The new design provides room for future expansion in an area adjacent to the back-of-house area. The footprint of the expansion zone is about 2,300 square metres. It would be possible to provide a two storey or partial two storey structure providing an area for expansion of up to 4,600 square metres. This compares favourably with a building having an area of 5,600 square metres of exhibition space. Particular attention will be paid in the development of the design to ensure that extensions can be provided with minimal disruption. For this reason, the plant area has been relocated to the second level above the back-of-house area. This means that plant will not be located in an area required for extensions.

244. The architect advised the Committee that following discussions with the Museum Council, the question of extensions is not of immediate concern. He advised the Committee that sufficient allowance had been made for expansion in a practical sense through site planning and through the reorganisation of internal planning.

245. The NCA advised the Committee that the site allows "reasonable" space for additions. Most of the building element will be on the eastern end of the Peninsula, with the area between the eastern end and the ANU buildings consisting of open spaces such as carparks. If there were a requirement for additional building elements in future decades, the NCA believes these could be sympathetically incorporated.

246. The Museum's current repositories at Mitchell will be retained to provide storage for the Museum's collections.

#### **Committee's Conclusions**

247. **Publicity following the announcement of the winning design would lead the public to reasonably conclude that the scheme featured represented the final design.**

248. **Further refinements to the winning design have resulted in a building which appears to depart from the original design concept. These changes appear to the Committee to have been driven in the main by the need for the winning design to meet the budget rather than simply as improvements to functionality.**

249. **As this is a project of national significance funded by taxpayers, major departures from the published design are a cause of concern to the Committee.**

#### **AIATSIS**

##### **Functional areas**

250. The Institute consists of six main functional areas:

- public entry areas—including reception, static or interactive displays and conference or boardroom facilities;
- library facilities—which will provide support for research activities and the Institute's clients;
- AIATSIS Digital Archive Production Team (ADAPT)—this is a core element of the Institute which provides technical services to the special collections and the Institute as a whole, stores and manages the special collections, and creates digitised and interactive products;
- research facilities for staff and visiting scholars;
- Aboriginal Studies Press—this is responsible for procuring, editing, typesetting, designing and marketing works for publication; and
- corporate services—which will include the Institute's executive offices, administration, financial and support functions.



## Space allocation

251. The Institute will consist of a total net area of 4,305 square metres as shown in the following table:

Functional Requirement	Area (m <sup>2</sup> )
Public Entry Areas	380
Library	1626
ADAPT	912
Research	475
Aboriginal Studies Press	178
Corporate Services	734
Total	4305

## Changes to design

252. The layout of the building has been redesigned to avoid heritage trees. The landscape has been enhanced around the heritage trees and a water feature has been added. The functional brief area remains the same as does the building area. There will be some reordering internally, to take account of the reorientation. The Committee questioned the rationale for changes to the design, namely to save two applebox trees, and why they were not identified in the first instance.

253. The Committee was advised that the trees were identified in briefing documents for consideration for inclusion in the Register of the National Estate. There were a number of other trees in the same category and in doing the design work, as many as possible were taken into account. A judgement was made that they would interfere with the site plan but it was not known at the time that the trees were significant trees on the Peninsula and, for this reason, it was decided to make a significant effort in order to preserve them.

254. The Committee questioned the Principal of AIATSIS about consultations with the Council of AIATSIS regarding changes to the orientation of the proposed building. The Committee was advised that the Council examined a number of options, indicated their receptiveness to the changed orientation and consider that this will better meet the needs of staff and clients.

255. The Committee questioned the need for rooms with acute angularities in the proposed building. This feature appeared to the Committee as

contributing to inefficient use of floor space. The Committee was advised that the rooms in question are designed as offices and that their shape was under review. The architect indicated that this would be examined further.

## LANDSCAPING

### Original proposal

256. The intention of the original landscape design proposal was to provide cohesion and harmony among the proposed facilities and to support the continued use of the Peninsula as a general recreational area. The approach to the buildings will feature landscaped tableaux, soundscapes and sculptural elements representing the eight States and Territories. An outdoor amphitheatre will be provided as part of the landscaping to support outdoor performances.

### Changes

257. The scope of external works has been reviewed and revised to the budget of \$14 million. The Garden of Australian Dreams remains a major feature, containing an area of 6,000 square metres, significantly larger than the briefed area of 1,700 square metres.

### Wetlands and gabions

258. An allowance of \$500,000 is made in the cost plan for the wetlands area. DOCA advised that this is not a brief requirement and the design of the wetlands will be constrained by the allowance.

259. The inclusion of the wetlands in the design provoked considerable comment from community-based witnesses, especially the yachting fraternity. Their inclusion was considered justifiable by the architect for a number of reasons:

- the stated desire of the NCA to extend the wilder or less formal landscaping of Black Mountain Peninsula along the western side of Acton Peninsula. The wetlands attempt to break the formality of walls on the lake edge;
- the wetlands form part of the Museum's mission to teach about the Australian environment. It is envisaged that the wetlands would offer opportunities for developing a number of smaller exhibitions and sites which could add to the Museum's mission; and
- the wetlands would make a significant contribution to the ecological sustainability of the site by collecting most of the

drainage from the site. The water would be treated to remove contaminants and the wetlands would be used as a filtering device.

260. The architect acknowledged that the concept would need to be tested. However, if successful, it would result in a self-contained energy neutral site watering system.

261. The National Trust (ACT) drew attention to advice received from two members of the Cooperative Research Centre in Fresh Water Ecology at the University of Canberra that:

- the gabions proposed as part of the wetlands area could interfere with water flow with the likely result of a build-up of blue-green algae detritus;
- there would be a likely build-up of mould, leading to offensive odours and highly unpleasant water conditions;
- the gabions would interfere with wind driven waves, which would be deflected around the structures, possibly leading to wave erosion around the lake edge;
- wire encasing the stones would deteriorate and rust after five years;
- aquatic plants proposed as part of the marsh gardens would require added nutrients; and
- the gabions would interfere with yachting on the lake. This point was also made by the Canberra Yacht Club in its submission to the Committee.

### **Changes**

262. DOCA advised that the design of the wetlands and gabions has changed since the original submission to the Committee. The exact arrangement and extent of the wetlands is subject to further testing and design development. The area of wetlands has been reduced and moved in a westerly direction.

263. On the question of possible wave erosion around the lake edge, DOCA advised that it is proposed to mute wave action by installing a submerged wave barrier, which will be clearly marked. This feature, DOCA advised, will reduce wave action substantially and it is unlikely that additional erosion would result from the installation of the wetland system.

264. In response to concerns about the durability of the wire to be used to secure the gabion stones, DOCA advised that the landscape architects are confident of the durability of the gabions. The gabions could be PVC coated or made of non-corrosive mesh and their stability could be enhanced by the size and type of stone.

### **Committee's Recommendation**

**265. The need for the inclusion of gabions in the wetlands should be reviewed. Submerged wave barriers should not be provided due to their deleterious effects.**

### **Shared facilities**

266. As mentioned previously, co-location of the Museum and the Institute on Acton Peninsula has enabled some common facilities to be shared between the two organisations. These include central carparking, information and orientation areas for visitors, theatre and conference facilities, and outdoor function areas.

### **Cultural centre**

267. The ACT Aboriginal and Torres Strait Islander Cultural Centre is being developed in conjunction with the Museum and the Institute project. This will ensure that the facilities for the three institutions complement each other in both design and presentation. The ACT Government is funding the design and construction of the Cultural Centre on behalf of the local indigenous community, who will operate the Centre when completed. The budget for the Cultural Centre including all professional fees, construction, fitout, escalation and contingency costs is \$2.5 million.

### **Committee's Recommendation**

**268. On completion of the National Museum of Australia, consideration should be given for the facilities at Yarramundi Reach to be vacated for use by the ACT Cultural Centre. This will provide scope for future expansion of the Museum on Acton Peninsula.**

### **PROJECT DELIVERY**

#### **Project alliancing**

269. DOCA advised that a form of delivery process known as project alliancing was chosen as the preferred method of delivery for the project.

## Alliance

270. The alliance process was described as:

*an integrated team approach involving the building contractor, the services contractor, the designer, the project manager and possibly other parties likely to affect the project outcome. The Alliance is underpinned by contracts with strong commercial incentives for each of the parties to cooperate.*<sup>37</sup>

271. Some aspects of the alliance approach are:

- a single integrated project team is established;
- an alliance board is established to direct the project team with equal representation from each alliance participant;
- commercial structures provide for payment of direct costs as defined in detail in the contract;
- profits are determined by performance with incentives for meeting quantifiable performance indicators such as savings in time or money (unlike lump sum contracts, alliance agreements rely on profit margins above cost but within the overall project budget and can be entered into before costs are certain);
- effective access to the courts is denied to the parties except for wilful default; and
- early contracting of the builder as part of the alliance team ensures that buildability is introduced into the design.

## Advantages

272. DOCA submitted that for this project, the alliance approach would have a number of advantages:

- it allows for the integration of design and construction; problems are often caused by slowness in design development and lack of understanding between the architect and the builder. The alliance approach brings the architect and the builder together as equal

partners in a relationship with strong commercial incentives to cooperate;

- it facilitates the early start to construction by bringing the designers and builders together in a formal contract at an early stage;
- it saves funds by eliminating the role of the building supervisor and costs associated with the letting of multiple tenders; and
- the contractual arrangements discourage litigation and associated costs, as well as time overruns (basic costs are guaranteed and profits are earned only through cooperation).

## Lump sum approach

273. DOCA advised that it would revert to a conventional lump sum approach if any of the following occur:

- the winning design team strongly objects to an alliance;
- a risk reward regime proves difficult to define for this project; or
- the quality of tenders indicates a lack of interest from major tenderers in working within an alliance framework.

## History of project alliancing

274. Project alliancing was introduced first in oil and gas projects in the North Sea to address the problem of increased cost. It was subsequently applied to mining, resource and infrastructure projects. In Australia project alliancing has been adopted for a number of major resource projects, including:

- East Spar project—Western Mining Corporation;
- Wandoo project—Ampolex;
- Port Hedland project—BHP;
- Structural steel—BHP;
- Gas modularisation—BHP; and
- Northside tunnel—Sydney Water.

<sup>37</sup> Minutes of Evidence, Public Hearing, 8 December 1997, p. 25

275. As project alliancing has not been tested on a building construction project in Australia, the Committee investigated at length its suitability for this project.

#### **Essential features**

276. In an alliance, the three parties, namely the client, designers and contractors form themselves into an integrated team to deliver a project. Essential features and characteristics of an alliance comprise:

- mutual trust and respect between alliance members;
- the primary emphasis on business outcomes for all parties;
- commitment to common goals;
- open communication and sharing of information;
- commitment to continuous improvement;
- no party being able to profit at the expense of another; and
- costs are reimbursed and rewards earned by achieving common goals.

#### **ACT Government**

277. The ACT Government expressed concern about the alliancing process, which is untested in the ACT. The ACT Government also expressed opposition to a conventional lump sum tender approach because this, and associated guarantees, would preclude many Canberra firms. To meet the timeframe for completion of the project, the ACT Government advocated a fast tracking approach involving project management.

#### **Consideration by the Committee**

278. This is the first project examined by the Committee for which project alliancing was advanced as the preferred delivery mechanism. The concept is relatively new in Australia and from the outset, therefore, the Committee focused on its inherent essential features and processes in order to be satisfied about its suitability.

279. The Committee remained unconvinced about its merits at the completion of the third day of public hearings when the concept was described by DOCA as "complex". For this reason, the Committee requested DOCA to

prepare a detailed paper on alliancing, a comparative analysis of other project delivery systems used in the construction industry and the reasons for their unsuitability for the Museum project. This information was provided to the Committee for the public hearing held on 13 March 1998.

280. Mr Ron Guthrie, a senior executive of one of Australia's four nationally operating construction contractors, with considerable experience in the heavy engineering and construction industries and, more importantly, with project alliancing, provided examples of the application of the concept. This was supplemented with evidence from DOCA's legal advisor. Processes involved in the successful awarding of an alliance contract for the construction of the Sydney Water Northside Tunnel project were cited to demonstrate its suitability for application in public sector works. The Committee understands that the awarding of the Sydney Water contract marked the first time the alliance concept had been applied to the provision of public sector works in Australia.

#### **Practical experience in alliancing**

281. Mr Guthrie confirmed previous evidence given to the Committee that there has never been a true alliance on a building contract in Australia. While there have been several attempts at partnering, these are not the same as alliancing. From Mr Guthrie's experience the large industrial projects in which his company has been involved are considerably more complex than building or infrastructure projects. The concept can therefore be applied to the building industry provided the necessary behavioural changes, involving changes in attitude, are achieved beforehand.

282. Mr Guthrie believes the building industry is confrontational and operates so that individual parties can profit only at the expense of other parties. The Committee was advised that contractual arrangements forming the cornerstone of an alliance enable a shift in attitude of the various parties to occur.

#### **Traditional approaches**

283. According to Mr Guthrie, the more traditional approaches in contracting involve a builder being selected on a price only basis from a list of ten or more tenderers. The design information upon which tenders are based will be incomplete because the designer has had insufficient time and money allocated to carry out a complete design. Contract conditions will ensure that all risks associated with incomplete design will be allocated to the builder, regardless of his capacity to make an accurate assessment.

284. Contract managers are employed by the client. The builder will also employ contract managers to generate variations to improve profit margins and will employ the cheapest subcontractors. This system only allows any of the participants to profit at the expense of the others and by pursuing their own self interest. Mr Guthrie believes this traditional system produces declining quality and a high level of disputes. The alliance concept addresses these shortcomings directly. It is claimed that the advantages are twofold:

- the contractor's attitudes are changed by guaranteeing reimbursement of costs. The contractor's goals for the project are aligned with those of the client by the payment of rewards from a common pool generated by meeting the client's goals for the project. Each can only be rewarded if the overall project goals are met; and
- the client's behaviour is changed by having full access to the contractor's cost records throughout the life of the project. As well, the impact of changes on time and cost budgets is continually monitored. If these changes have an adverse effect, the client is able to decide if they are essential and where savings can be offset. In this context, therefore, change is no longer a matter to be "negotiated" with the contractor because the contractor's costs are covered.

285. According to Mr Guthrie, the question of attitudes of management is critical to the success of an alliance. He advised the Committee from his experience that not all managers can work in an alliance. An essential ingredient is a commitment and ongoing involvement of the chief executive of a company because that person would be the final point of appeal.

#### **Model of alliancing proposed**

286. The alliancing model proposed for the Museum and AIATSIS buildings will closely follow that used for the Sydney Water Northside Tunnel Project. In this particular instance, a tender package setting out criteria for selection was prepared. The objective was to select contractors with a demonstrated ability to manage costs well, and an ability to deliver a quality product at the lowest price.

287. There was a requirement to assess both the ability and affinity of tenderers to alliance. Of paramount importance was for the chief executive officers of the tenderers, as well as individuals forming part of the alliance team, to be totally committed to alliancing. The process of selection involved an

examination of the quality of the organisation, its resources, personnel who will be involved, their track record and history and experience with alliancing.

288. After the initial assessment of proposals, an interview process was conducted followed by preparation of a final short list of proponents. In the Sydney Water model, this came down to two preferred alliance proponents. The client workshopped with each of the alliance proponents for two days to determine the final weighting of how each was going to perform technically and as an alliance partner. Workshops bring together the personnel who will be involved on the project and their chief executive officers. At the end of the two day workshops, negotiations followed with the preferred proponent. At this stage, the risk reward structure, percentage profit and overheads are negotiated. These negotiations take one to two days.

289. The negotiation of profit in the Sydney Water case involved asking proponents to provide details of projects on which they had tendered over the past five years, what the tendered profit was, and what the actual profit was. Tendered profit emerged to be in a certain range and the indication was that the same should apply to alliancing. Sydney Water took the view that with alliancing, the tenderer should take a lesser than usual tendered profit.

290. The appropriateness of agreement on overheads and direct costs are the responsibility of external accountants. The Committee questioned the means by which labour rates are calculated in what is a fixed arrangement. Under an alliance, direct costs for labour are paid. This means that if a company has an enterprise bargaining agreement, it would need to be examined. If one company had higher costs, this would be a distinguishing factor in the selection process.

291. Mr Guthrie advised the Committee that from his experience, the selection process is no different from selecting a contractor, although the selection criteria are different. In a lump sum situation, the selection criteria quickly focus on price. Price gives no advantage in the case of an alliance, because the client reimburses direct costs and the process involves selecting a company that can best manage costs. Selection criteria are based on the past record of companies, interviews, management systems and skills.

#### **Probity and restriction on competition**

292. The Committee questioned DOCA whether the adoption of alliancing would restrict competition by potentially limiting the field of service providers and builders tendering for the contract. DOCA advised that the alliance selection process is set out in tender documents and has delivered competitive tenders from the most competent and experienced contractors in the industry. The Committee notes, however, that the concept has not been applied to the

building construction industry. It might be premature to suggest that competitive tenders will be obtained for this project.

293. The Committee was advised that the process of selection was reviewed by the NSW Independent Commission against Corruption and by internal and external probity auditors, legal advisers and alliance facilitators, before being employed successfully for the selection of the alliance team for the Sydney Water Northside Tunnel Project.

294. Having established the method of selection, how costs are determined and apportioned in contract documents, the Committee turned to the paper prepared by DOCA which attempted to clarify practical issues relating to the operation of an alliance. Matters addressed in the paper included:

- ***cost and profit***

DOCA advised that the alliance risk/reward structure will mandate a fixed profit for delivering the project at a fixed price. The price is agreed by the participants and is certified by external cost consultants engaged by the department and responsible to it. Savings generated in delivering the project for less than the price are shared between the parties. The department will reinvest its share of any savings into the project.

- ***risks to the Commonwealth***

DOCA advised that the following protective measures will apply:

- if at the end of the selection process DOCA is not convinced that it has the right team, it can adopt a more traditional contracting approach and tender for lump sum prices when designs are further advanced
- the alliance can be terminated at any time by DOCA, for convenience
- a defaulting alliance participant can be replaced
- DOCA will have wide powers of audit, given the 'open book' nature of alliancing. In this context, DOCA will use independent auditors to verify claims for payment
- the worst case scenario, which it must be recognised could arrive under any project delivery system, would be the insolvency of a major alliance participant through an event

unforeseen in the financial analysis phase of the tendering process. If this were to occur, the other participants would need to identify a replacement participant or let the works on another basis, depending on the circumstances. The risk/reward structure for the remaining participants would remain and there would be a common desire to remedy the problems as soon as possible.

- ***the anti-litigation provision***

- DOCA advised that the Commonwealth is more often the defendant in proceedings arising from construction projects. In simple terms, therefore, the anti-litigation provision is desirable. The anti-litigation provision does not apply to wilful default.

- ***checks and balances***

DOCA advised that the checks and balances include:

- internal and external probity auditors engaged throughout the process
- open book auditing
- agreed figures, such as the cost estimate, which will be benchmarked and verified by external consultants.

- ***negotiation on variations***

DOCA advised that most changes are design development, not variations as such. DOCA would have the power to order a true variation and the contractor participants would be required to carry it out; failure to do so would constitute wilful default.

- ***the protection of subcontractors.***

DOCA advised that:

- with most delivery systems, all of the services are normally provided by subcontractors. In an alliance arrangement, the major services contractor has equal status with the builder as part of the alliance team. Services are estimated to comprise 42 per cent of the project. The involvement of the major services contractor as an equal participant with the builder is

considered to be an advantage. Under this arrangement, DOCA advised the Committee that the building and services provider would subcontract specialist services to smaller firms.

- the contractual arrangements between small subcontractors and builders or service providers will be similar to those in a lump sum tender. The small subcontractors will, however, be protected by the contractual arrangements between the Commonwealth and the other members of the alliance team.
- in lump sum and other traditional arrangements, the Commonwealth pays a builder to build a particular design. The Commonwealth is not involved in the arrangements between the builder and subcontractors and there is little protection to the subcontractor from builders who squeeze prices or default on payments short of embarking on time consuming legal action. In an alliance, all payments to subcontractors by alliance members are treated as costs to the project. Alliance members are paid costs after the Commonwealth's auditors and cost consultants have determined that the work has been completed and the cost is accurate. The books are open to all members of the alliance team and alliance members are not paid by the Commonwealth if subcontractors have not been paid.

#### **Quality control**

295. The Committee also questioned how quality control of the finished product will be managed in an alliance. Quality control is particularly relevant to lump sum contracts, where it is usual for the client to be involved in a cost squeeze related to the contractor running out of funds and being unwilling to depart from the letter of the contract. At the same time, the client becomes very interested in the visible quality and raises the quality issue. If funds run out, quality declines or more funds are required.

296. The Committee was advised there is no provision in alliancing for contractors to deliver a product of inferior quality in order to maximise profit.

297. In alliancing, there is a responsibility to have a quality cost planning process involving quantity surveyors. The level of detail of costing continues through the design process. By the end of the schematic design phase, a detailed document spelling out all major elements and funds allocated to them will be available. By the end of design development, there will be an even more

detailed document produced which is then monitored by quantity surveyors and the project manager as the project moves through the documentation phase.

#### **Request for concurrent documentation**

298. Following the proposed work being referred to the Committee, the Minister for Communications, the Information Economy and the Arts (Senator The Hon Richard Alston) sought the Committee's agreement with design development and documentation proceeding concurrently with the Committee's consideration of the project. The Committee discovered during the first day of public hearings that DOCA planned to place press advertisements seeking expressions of interest for alliance partners to be involved in the project. As the question of alliancing as a suitable project delivery method was still under consideration by the Committee, DOCA was requested not to proceed with advertising until the suitability of alliancing had been decided upon by the Committee. DOCA agreed with this request. At the conclusion of the fourth day of public hearings, the Committee, with some reservations, agreed that DOCA proceed with the advertisements calling for expressions of interest being placed in newspapers.

#### **Further information requested**

299. The DOCA paper on alliancing advised that should the Committee be disinclined to agree with the adoption of the alliance concept for the project, DOCA would seek to make a more comprehensive presentation. Following a review of the evidence obtained on alliancing, rather than proceeding with another briefing, the Committee wrote to DOCA on 7 April 1998, seeking further clarification of a number of issues. These included:

- changes and variations;
- savings;
- quality control;
- risks to the Commonwealth; and
- protection of subcontractors;

300. The Committee also requested a copy of the proposed alliancing contract and preliminary tender documentation.

## Further response

301. The DOCA response was received on 16 April 1998 and is reproduced at APPENDIX D.

## Comparative analysis of construction industry delivery systems

302. The comparative analysis of construction industry project delivery systems, prepared by DOCA at the request of the Committee, lists eleven project delivery options. These, and inherent disadvantages, as perceived by DOCA, for adoption for this project are as follows:

- *build, own, operate, transfer*—inappropriate for specialised community building with no income stream;
- *construction management*—danger of cost overrun with no total cost commitment until late in the development when all trades contracts are let; design coordination resolved "on the run" causing variations; risk of fast tracking becomes slow tracking; no completion date is contracted;
- *turnkey*—there is no competitive development market for specialised museum projects;
- *guaranteed minimum price*—the builder/guarantor controls all aspects of the development; this makes a design competition difficult unless Stage 2 competition entries are linked to a GMP with a builder. They were not; recurrent costs are at risk; design development can easily compromise the client's need with resolution being very difficult; design resolution/coordination shorten time as pressure to build and reduce time; the client pays contingencies whether needed or not; no incentive for the contractor to design and build to optimise life cycle costs; maintaining profit margins impacts development decisions;
- *managing contractor*—client has less control over design development; assessment management is the responsibility of the client whilst having limited involvement during design development; total cost commitment is unknown until late in the project;
- *design and construct*—design development can easily compromise client needs with resolution being very difficult. Often the client does not realise that a compromise has been made until after the

handover and the expiration of warranties; maintaining profit margins impacts on design decisions and quality management; there is no incentive for the contractor to optimise life cycle costs; delayed design documentation results in builders' staff making decisions to "keep going", thus potentially compromising design integrity and operation/maintenance;

- *traditional lump sum tender*—minimal impact on recurrent cost; accepting lowest bid price needs to be qualified to ensure acceptable value for money outcome; requires full working drawings; buildability, input not available for designers; variations/changes of scope can be expensive and extensive if inadequate; design coordination carried out either through lack of design skill or time;
- *traditional lump sum (modified; building and excavation foundations being let separately)*—requires builder to accept survey of foundations; contract interfaces need careful definition; superintendent and supervisory resources;
- *multiple lump sum contracts*—design does not lend itself to splitting in this way; coordination of industrial relations; asset management coordination; built interfaces between discrete buildings difficult to resolve; increased project management; inefficient to use too many small firms;
- *progressive letting*—possibility of cost overruns as no final cost commitment until all trades contracts are let; cost escalation risk is undertaken by the client;
- *document and construct*—contractor can cut corners with documentation details; design development must be sufficiently advanced to provide detail to establish standards and tolerances; performance indicators cannot address infinite amount of detail involved; and
- *joint venture*—difficult to set tender price early; possibility of litigation between joint venture partners; price escalation risk taken by client.



## Committee's Conclusions

303. Although a project alliance has commenced for the Sydney Water Project, its outcome has yet to be proven in delivering a quality product in the public sector. Moreover, this delivery system is untested in the construction industry in Australia.

304. Notwithstanding that the Committee has given approval for the Department of Communications and the Arts to advertise for expressions of interest from possible alliance participants, considerable doubt remains about how the interests of the Commonwealth will be protected in an alliance arrangement.

305. Issues relating to quality control and cost imposts associated with delays due to mismatched delivery of works between the construction partner and the service provider remain to be answered to the Committee's satisfaction.

## ENVIRONMENT AND HERITAGE

### Impact assessment and environmental management reports

306. DOCA advised that an environmental overview was prepared for the site. This was based on a review of existing environmental information. The report of the environmental overview formed part of the briefing kit for entrants in the design competition. An Environmental Assessment Report, based on the environmental overview, was prepared and submitted to Environment Australia—Environment Protection Group (EPG), for assessment in accordance with the provisions of the *Environment Protection (Impact of Proposals) Act 1974*. The environmental assessment report identified existing heritage and environmental characteristics of the site which are to be preserved and provides an outline of environmental management requirements.

307. The NCA prepared a draft Environmental and Conservation Management Plan (ECMP). This establishes principles for the protection and enhancement of the environment throughout the design, construction and operational phases of the proposed development. The ECMP emphasises the need to apply Ecologically Sustainable Development principles.

### Environment Australia—Environment Protection Group

308. The EPG confirmed, in November 1997, that the proposal had been referred. The EPG advised the Committee that the environmental assessment report was the subject of consultations involving DOCA, the EPG and the

Biodiversity Group as well as the ACT Department of Urban Services. The EPG also advised the Committee that the Australian Heritage Commission (AHC) had indicated that five places on Acton Peninsula would be gazetted in the Interim Register of the National Estate on 9 December 1997. It would therefore be necessary for the Minister for Communications, the Information Economy and the Arts to satisfy the obligations of section 30 of the *Australian Heritage Commission Act 1975*.

309. In summary, the EPG advised that at the stage which the project had reached in November 1997, the environmental issues appeared to be "manageable".

### Australian Heritage Commission

310. The AHC confirmed that an assessment of the Acton Peninsula site for its national estate values had been undertaken and that the following places would be entered on the Register of the National Estate, with Gazettal occurring on 8 December 1997:

- former Medical Superintendent's residence—Building 15;
- former Isolation Block—Royal Canberra Hospital—Building 1;
- former "H" Block—Royal Canberra Hospital—Building 2; and
- trees group—comprising 20 trees of 13 species in various locations.

311. The AHC pointed out that when contemplating an action, Commonwealth agencies are required to consult the AHC if the action is likely to have a significant effect on a place and permit the AHC to comment. The Committee was advised that DOCA and the AHC had established good liaison arrangements. DOCA had sought the AHC's comments in accordance with statutory requirements. According to the AHC, DOCA had taken into account comments about places with national estate values in the design briefs.

312. The AHC did, however, indicate that insufficient information was available in the preliminary proposal to assess its impact on all places to be included in the Register, especially the trees group. The AHC therefore recommended that detailed design of the facilities proceed in a way that avoids having an adverse impact on any of the trees. The AHC also expected to be involved in commenting on further design documentation as it proceeds.

313. In relation to other places nominated for the Register of the National Estate, the AHC:

- suggested, from its experience, the ongoing conservation of places of national estate significance is better achieved if they are retained in some use from the outset. The use of these buildings in development planning for the new facilities was therefore supported; and
- expressed satisfaction with the archaeological study and consultation process conducted with the Ngunnawal Aboriginal Community and suggested that the significance of the indigenous history of Acton Peninsula (pre and post contact) continue to be reflected in the proposal.

314. In response, DOCA advised:

- consultations with the AHC will continued in accordance with statutory requirements;
- the draft ECMP will include a construction management plan; and
- the ACT Hospice occupies the buildings nominated for heritage listing and will continue to do so until the lease expires in June 1999. The long term use of the buildings is the responsibility of the NCA.

#### **ACT Heritage Council**

315. The ACT Heritage Council expressed support for the stance adopted by the AHC and identified the significance of the Acton Memorial Fountain, in addition to elements nominated for inclusion on the Register of the National Estate. The Heritage Council supported the requirement for the preparation of an ECMP which would promote conservation and interpretation of significant historic aspects of the site and guide future development and planning.

#### **President of the Senate**

316. Senator The Hon Margaret Reid (President of the Senate and Senator for the ACT) submitted that historic tree plantings must be incorporated into the design. These trees, Senator Reid believed, demonstrate the continuity of plantings over a period of Canberra's landscape history. Senator Reid also drew attention to the need to include historic stones from the original building on Acton Peninsula. The Committee was assured by DOCA, in response, that the fountain, which contained the historic stones, was protected during demolition of the hospital complex and the role of the fountain on the site will be resolved as part of the implementation of the ECMP.

#### **Ecologically sustainable development**

317. The Committee believes the applicability of ESD principles to a high profile, national facility funded by the Commonwealth, to be of critical importance. The project has the potential to be viewed as an international example of best practice.

#### **Committee's Recommendation**

**318. Ecologically sustainable development principles should be reflected in all stages, especially in the finished product.**

#### **Footbridge**

319. All environment-related submissions opposed the footbridge from Acton Peninsula to Lennox Gardens, due to the potential environmental impact on lake usage and the visual appeal of the lake, and because this impact had not been assessed. The AHC, in particular, expressed concern that the bridge may have an adverse effect on the national estate values of Hotel Canberra (Hyatt) due to increased demand for carparking in Lennox Gardens and in the vicinity of the hotel. The AHC recommended that the impact of such parking demands on the national estate value of the hotel be assessed, and if found to be unduly adverse, reconsideration of the construction of the pedestrian bridge.

320. Submissions raising concerns about the interference of the bridge with sailing activities on the lake were also received from the Canberra Cruising Yacht Association and the Canberra Yacht Club. A submission from Mr John White also stated that the bridge traverses some of the deepest and roughest parts of the lake, and suggested that these conditions made a pedestrian bridge unsuitable.

#### **Conceptual bridge**

321. The Committee was advised by DOCA and the NCA that the bridge is, at this stage, conceptual only and will be subject to further investigation and consultation. Further development of the concept will entail consideration of environmental and heritage considerations, which if found to be significant, will be referred to Environment Australia under the *Environment Protection (Impact of Proposals) Act 1974*. In addition, an amendment to the National Capital Plan would also be required.

#### **Trees**

322. The Committee raised a number of concerns about trees on the site. These concerns related primarily to recent plantings along the foreshore. The

NCA advised the Committee that a tree by tree assessment will be made and that:

*the Authority would take a balanced view that some of the vegetation should stay so that the site is not too naked through its early years—really a transitional building and redevelopment of the site. There are particular trees that the Heritage Commission has identified and listed as trees that should be kept because of their significance in their own right. There are other clumps of trees that could be removed or better managed around buildings.*<sup>38</sup>

323. The Committee believes, that in the longer term, any new plantings should be limited exclusively to Australian native species.

## PROGRAM

### DOCA plan

324. The initial written submission to the Committee from DOCA stated that, subject to Parliamentary approval, construction of the site works (including site services, preliminary excavations and foundations) for the proposed facilities is scheduled to commence in April 1998, with construction of the facilities to commence in January 1999.

325. Construction, including fitout, is expected to be completed in January 2000 for the Institute and December 2000 for the Museum.

### General reactions to the program

326. All witnesses who appeared before the Committee agreed that the timetable is extremely tight. The Chairman of the CCC was asked if, from his experience, this is a realistic program. In December, Mr Service acknowledged that the program is tight and alluded to discussions about the practicalities of extending the design development timetable and reducing the construction timetable.

327. It was asserted in the supplementary submission from DOCA, dated March 1998, that:

*Some of the benefits of integrating design and construction at an early stage have already been lost due to the delay in*

*obtaining approval from [the] Public Works Committee to tender for building and services contractors. However, advice from programming specialists...indicates that, at the current stage of the project, alliancing still offers a time advantage of at least two and a half months over the traditional lump sum tendering.*<sup>39</sup>

328. The Master Builders Association of the ACT advised the Committee that it would be more appropriate, in view of compression of the construction timetable, to look at delivery methods which can accommodate fast tracking to ensure the project meets the January 2001 deadline. The Association believes the project management delivery method can deliver projects well if they are fast tracked. Asked by the Committee about the likely cost of the finished project for completion on time, the Master Builders indicated that the quality of the finished product will suffer if there is an immutable cost and an immutable price.

329. The architect expressed confidence in the project being completed on time following the completion of further programming work. Various means of overlapping the program were under investigation. The Committee was advised that the Melbourne Casino, considerably larger and more expensive, was completed in 36 months. On this basis, there was confidence that a design and construction program of 30 months would be achievable.

330. A representative of the Construction, Forestry, Mining and Energy Union (CFMEU) advised the Committee that its membership would be able to deliver the project on time. From the CFMEU perspective, the major challenges which would need to be addressed include design work, project documentation and the awarding and signing of contracts. The CFMEU has no control over these facets.

331. The Royal Australian Institute of Architects also identified the intention of the Government for the complex to be completed by 1 January 2001 as a major concern. The RAIA advised the Committee that many of the problems and criticisms of the process so far have stemmed from that objective.

332. The RAIA therefore believes that had the objective been to design and construct a world-class museum, the timescale would have been different, with an improved result.

<sup>38</sup> Minutes of Evidence, Public Hearing, 8 December 1997, p. 105

<sup>39</sup> Minutes of Evidence, Public Hearing, 13 March 1998, p. 525

333. Rather than attempt to achieve completion by 2001, the RAIA believes it would be better to undertake the project in a more timely manner with a better product.

334. Having said that, the RAIA believes the consultant team has the capacity to deliver a good project. For this to occur, the design team must be given time to research all issues and test options to arrive at an optimum solution. In terms of the most appropriate delivery method, the RAIA advised the Committee that the project will be compromised if the design team is required to work to a delivery method which does not enable the necessary research and design development to be carried out.

335. For these reasons, the RAIA believes that with the consultants available and a review of the schedule for completion, the quality of the end product could be substantially improved.

336. Mr Davidson, a senior member of the profession and the advisor to the competition nominated by the RAIA, indicated strong support of alliancing for the project as the most likely way of achieving satisfactory completion by the nominated date. Mr Davidson envisaged problems in completing the project on time if traditional documentation and lump sum tendering were used. If this were to occur, the construction period would be reduced by a considerable amount of time.

337. Other project delivery mechanisms such as construction management or project management have proven their utility in completing projects earlier than anticipated. These methods have also demonstrated that containment of costs and overall budget management is difficult to achieve until late in the project.

## DESIGN & CONSTRUCTION PROGRAM - SUMMARY

Produced on 26 February 1998

DESCRIPTION	ALLIANCE METHOD	LUMP SUM
	DELIVERY	DELIVERY
	Early Start/Finish	Early Start/Finish
Authority approvals	4 Nov 97-3 May 99	4 Nov 97-3 May 99
Brief	10 Nov 97-3 July 98	10 Nov 97-3 July 98
Revised concept design	29 Jan 98-13 Mar 98	29 Jan 98-13 Mar 98
Schematic design (not AIATSIS)	10 Nov-29 May 98	10 Nov-29 May 98
Schematic design (AIATSIS)	3 Feb-16 Mar 98	3 Feb-16 Mar 98
Design development	18 Mar-14 Sep 98	18 Mar-14 Sep 98
Documentation	27 Apr 98-12 Apr 99	27 Apr-12 Apr 99
<b>CONSTRUCTION</b>		
Tender & award Alliance builder	19 Mar 98-24 May 98	
Tender & award Group 1 Package	29 Sep 98-19 Oct 98	
Tender and award Packages 1 & 2		27 Oct 98-11 Jan 98
Nett construction period Group 1 Packages	20 Oct 98-4 Jan 99	12 Jan-6 Mar 99
Tender & award Group 2 Packages	27 Oct 98-7 Dec 98	
Nett construction period Group 2 Packages	17 Nov 98-13 Jan 00	12 Jan 99-20 Sep 00
Tender & award Group 3 Packages	27 Jan 99-2 Mar 99	27 Jan 99-2 Mar 99
Nett construction period Group 3 Packages	29 Apr 99-19 Jan 00	8 Jul 99-3 Apr 00
Tender & award Group 4 Packages	27 Jan 99-2 Mar 99	27 Jan-9 Mar 99
Nett construction period Group 4 Packages	21 Apr 99-13 Jul 00	1 Jul 99-20 Sep 99
Tender and award Package 5	12 Apr 99-31 May 99	12 Apr 99-8 Jun 99
Nett construction period Group 5 Packages	11 Jun 99-13 Jul 00	19 Aug 99-20 Sep 00
Tender and award external works	25 Mar 99-29 Jan 99	25 Mar 99-29 Jan 99
Cross construction period - External works	11 May 99-9 Feb 01	15 Jul-27 Apr 01
Contingency Groups/Packages 1-5	14 Jul 00-3 Nov 00	21 Sep 00-26 Jan 01
Soft Opening	3 Nov 00	26 Jan 01
Museum Opening	13 Feb 01	27 Apr 01

## REVENUE

### Visitors

338. Anticipated revenue earnings from admissions and commercial activities of the Museum is currently estimated to be \$2.242 million over 12 months. Studies produced by the Museum and an independent consultant estimate visitor numbers in the order of 350,000 per annum. Although this is conservative, other public institutions have set their projected visitor numbers at unrealistic levels and have been unable to sustain an adequate level of funding.

339. There is potential for the Museum to generate higher levels of revenue. Targets will be reviewed throughout the course of the development and formally adjusted after the first two years of operation.

340. The Institute currently earns a small amount of revenue from the sale of books, cassettes, videos and interactives. It anticipates a small increase in revenue resulting from a higher public profile on Acton Peninsula.

#### **Entry fees**

341. The Committee was advised by DOCA that a policy on the level of entrance fees had not been determined. Revenue will be from major exhibitions for which there is normally a charge.

#### **Private sector**

342. The Committee also questioned the extent to which the private sector will be involved. DOCA advised that from its experience, approaches to sponsors will not be successful unless there is something to offer. The NMA has appointed a marketing manager and is developing methods to approach potential sponsors. The NMA believes interest from potential sponsors will be increased as the profile of the Museum is enhanced.

#### **Committee's Recommendation**

**343. The Museum should continue to seek endowments and bequests, in accordance with contemporary international practice, and a form of public recognition of contributions should be reflected.**

#### **COST OF PROJECT**

##### **When referred to Committee**

344. When the proposed work was referred to the Committee by the House of Representatives, the indicative cost of the capital works was \$133 million. An amount of \$5.0 million was allocated in the 1997/98 budget for design development and approvals and \$2 million was allocated for related running costs.

##### **Overall costs**

345. The submission to the Committee from DOCA advised that the total establishment costs for the Museum and the Institute, including capital works, were \$152.374 million.

346. At the public hearing on 8 December 1997, DOCA amended the establishment costs for the Museum and Institute to \$151.9 million.

347. Included in this amount were:

- allocations for professional fees;
- construction contingencies;
- rise and fall;
- escalation to tender;
- external works; and
- building and exhibition fitout.

348. DOCA advised that the \$133 million is the capital works costs (\$5 million was allocated in the 1997/98 Budget). The balance of \$18.9 million being one-off establishment costs, comprising \$17 million for exhibition development and \$1.9 million for removal expenses.

349. Following the first two days of public hearings, DOCA provided additional written advice on costings to the Committee for the public hearings on 17 December 1997 and 13 March 1998. This again confirmed that the Government approved allocation was \$151.9 million, with capital works costs of \$133 million.

350. The Committee is dissatisfied with the lack of consistency in the budget proposed to be expended on the proposal. As already stated, the work as referred was for \$133 million. Since the amount to be expended was subsequently stated to be \$151.9 million, the Committee is unable to understand why the total amount was not the same as the amount originally referred. Furthermore, the Committee wishes to place on record its concern about the proposed increase in cost on the basis that the Committee's consideration is limited to the expenditure of \$133 million, as originally referred.

##### **Costs not included**

351. The \$151.9 million does not include the \$2.5 million for the bridge.

##### **ACT Government funding**

352. The ACT Government has provided a separate \$3 million commitment towards infrastructure and has allocated \$2.5 million for the ACT

Cultural Centre. The ACT Government advised the Committee that details of how the \$3 million contribution will be used is still to be negotiated with the NCA. Under the Land Exchange Agreements between the Commonwealth and the ACT, this will take the form of cash in kind contributions for utilities and infrastructure to directly serve the Museum and/or siteworks. This is directly related to the improvement of Acton Peninsula and its immediate environs to support the Museum.

#### **Second opinion on costings**

353. DOCA obtained additional advice from another firm of cost consultants regarding the validity and accomplishment of cost estimates. These construction cost consultants advised that the cost plan comprised:

- Museum—\$47.4 million;
- AIATSIS—\$10.1 million; and
- External works and landscaping—\$14.0 million.

354. The cost plans were based on a competitively tendered lump sum construction contract at October 1997 prices, with the following elements excluded:

- ACT Cultural Centre;
- contract or project contingencies;
- cost escalation after October 1997;
- diversion of a 675mm diameter sewer;
- exhibition design;
- exhibition fitout;
- loose furniture and fittings;
- loose equipment;
- fitout to commercial sections; and
- consultants fees.

#### **Specialist fit-out and exhibition development**

355. The Committee was advised that provision is made in the budget of \$133 million for specialist fit-out. DOCA advised that an indicative allocation of \$30.6 million for the Museum and \$1.6 million for the Institute will cover these components of the proposed work. The Committee questioned the breakdown of the cost. DOCA advised that the \$30.6 million will be allocated for:

- exhibition space and public areas;
- general areas; and
- public programs.

#### **Exhibition space and public areas**

356. These spaces include the great hall, exhibition spaces, theatre, broadcast studio and computer centre. The funds will provide for the built-in fit-out of these spaces:

- great hall—all the exhibition spaces built into walls to house objects, special display lighting to highlight the features of this space and the installation of large permanent objects;
- exhibition spaces—all the exhibition spaces built into walls, all moveable walls built-in to create smaller exhibition spaces, all structural interiors designed to create smaller spaces, all specialist lighting designed to highlight architectural features. This includes public collection access through computers, previously provided in the Microgallery; and
- theatre—all the internal equipment, seating (including the use of audience polling devices), projection equipment, video wall, satellite links, on-line connections and broadband links.

#### **General areas**

357. This component includes:

- the ticketing system;
- kitchen equipment;
- library; and

- shop and cafe fit-out.

### Public programs

358. Funds will provide for the fit-out in the education centres and the conservation and registration storage areas associated with the exhibition spaces. This will include the provision of racking and built-in storage.

### Exhibition development

359. This has an allocation of \$17 million which will provide for:

- design—of the exact placement and housing of objects;
- fabrication and installation—the construction of interpretive infrastructure off-site. This will include display cases, mini theatres or small or large spaces in exhibitions and their collective assembly;
- graphic production—signage, text and materials used to interpret objects as well as graphics in exhibition displays; and
- audio visual, lighting, sound systems and new media—electronic communications—this will include production of interactive material, videos and films used in exhibition spaces, the purchase of special lighting, sound systems, special effects and computer hardware and software.

360. Exhibition fitout will be provided in the following external and internal areas:

- external exhibitions—this space will include a soundscape which will feature sounds and music on a continuous computer-generated loop. Sounds will be associated with specific stories or places. The funds will be used for the design and installation of the computer equipment, lighting, housing objects and landscaping of the immediate area;
- temporary exhibitions comprising 1,000 square metres for the Museum's "blockbuster" exhibitions—the funds will be used to design, fabricate and install exhibitions for opening;
- permanent exhibitions—this will comprise 2,500 square metres of permanent exhibition space, 1,500 square metres for the Gallery of Aboriginal Australia and 500 square metres for the children's

museum. Each area will receive detailed attention to allow interpretation of specific themes. For example, in the Gallery of Aboriginal Australia, funds will be used to design special cases to display fragile bark paintings, for the installation of special objects and to create atmosphere through lighting, film, music and special effects; and

- great hall—this space of 1,000 square metres will have limited displays because it will not be climate controlled to museum standards. Special display cases will need to be fabricated and installed.

### Risk of cost escalation

361. At the end of the fourth day of public hearings, Mr Service advised the Committee of concerns about cost control, especially inflation in the building industry, beyond the control of DOCA and unable to be adequately resolved by the form of contract used. There is pressure on the building industry, especially from works associated with the Sydney 2000 Olympic Games. Mr Service stated:

*I suggest that the greatest advantage of alliancing is that all the parties then have an incentive to do their best to overcome sudden rapid rises in building costs. Given that the project has quite a long time to run yet, I have to say that nobody can in fact predict what the rate of inflation in building costs will be. They can predict it but they are not going to be accurate...My point really was to say that the alliancing process is better at dealing with that problem but it is not a total solution, and there is not a total solution.<sup>40</sup>*

### Assurances sought

362. At the conclusion of public hearings the Committee sought assurances from DOCA if the revised proposal, as presented, will meet the stipulated requirements for space and functionality. The Committee was assured that the design meets the NMA requirements and if further significant changes were to be made, DOCA will advise the Committee.

363. The Committee also sought an assurance that the building will be completed on time and within the budget. DOCA advised:

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<sup>40</sup> Minutes of Evidence, Public Hearing, 13 March 1998, pp. 640-1.

*We can. Obviously there could be things outside of our control in terms of time and cost but we are hoping alliancing will go some way to addressing that.*<sup>41</sup>

### **Lump Sum**

364. If the negotiation of alliances proves to be unsatisfactory, DOCA will revert to a traditional lump sum (fixed price) contract. DOCA will advise the Committee should this occur.

### **Committee's Conclusions**

365. The Department of Communications and the Arts acknowledged that market forces will ultimately determine the cost of the complex.

366. The Committee remains concerned about the achievement of claims that the project will be completed on time and on budget.

### **Committee's Recommendations**

367. The Committee recommends the construction of the works in this reference at a cost of \$133 million at October 1997 prices subject to the provision, to the Committee, of six monthly reports on the progress of the project until completed. The reports should address:

- progress of works and services elements identified in the construction and fitout program;
- any variations to the timetable for the completion of the project;
- any further design changes—their nature, justification and cost;
- expenditure and audit reports;
- confirmation that subcontractors have been paid on time for work undertaken;
- if applicable, details of disputes between any parties on site;

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<sup>41</sup> *Ibid*, p. 668

- if applicable, details of delays to the project due to the mismatch of timetables between the construction alliance partner and the service provider;
- specified standards of finish and the standard of finish provided.
- details of attempts, successful or otherwise, to obtain endowments and bequests for the Museum.

368. If it is considered necessary to proceed with Lump Sum tendering, the aim of completing the project by January 2001 should be reviewed for the reasons stated by the Department of Communications and the Arts in the paper which addressed the disadvantages of proceeding with this delivery method.

### **CONCLUSIONS AND RECOMMENDATIONS**

369. The Committee's conclusions and recommendations and the paragraphs in the report in which they occur are set out below:

1. Studies into the location and scope of a national museum in Canberra have extended almost over three decades. (Paragraph 96)
2. The site identified in formative studies, at Yarramundi Reach, offered opportunities for a large scale development. (Paragraph 97)
3. The Advisory Committee, established to advise the Government on the most suitable form and location for a national museum, recommended the adoption of an aggregate building design concept for the museum, with a net area of 22,000 square metres. (Paragraph 98)
4. The Advisory Committee found Acton Peninsula met site selection criteria and had a number of advantages over other sites examined. On this basis, the Committee accepted the current reference with the site as nominated. (Paragraph 99)
5. The cost of providing infrastructure at Yarramundi Reach and the ACT Government's contribution towards the infrastructure costs at Acton Peninsula were not major factors in the selection of the Acton site. (Paragraph 100)



6. The international competition to select the winning design did not satisfy the requirements of the international architectural profession and this resulted in concerns being expressed by the profession's peak international body. (Paragraph 160)

7. While the design competition was conducted in accordance with a prescribed set of conditions, the Construction Coordination Committee did not include the cost parameter in its final decision. (Paragraph 161)

8. The design brief was hurriedly completed and not costed until after the architectural competition closed. (Paragraph 162)

9. The time imperative in progressing this proposal through various self-imposed and statutory processes presented substantial difficulties for the project team. (Paragraph 163)

10. Extensions to Draft Amendment 20, prepared by the National Capital Authority, were included in the design brief before Draft Amendment 20 was progressed through statutory planning processes. The Committee believes this was at best premature and at worst presumptuous. (Paragraph 177)

11. Due to the nature of priceless exhibits to be displayed in the Museum, the design of fire detection and protection measures should be certified as meeting relevant codes and building regulations by an independent fire protection consultant. (Paragraph 200)

12. Publicity following the announcement of the winning design would lead the public to reasonably conclude that the scheme featured represented the final design. (Paragraph 247)

13. Further refinements to the winning design have resulted in a building which appears to depart from the original design concept. These changes appear to the Committee to have been driven in the main by the need for the winning design to meet the budget rather than simply as improvements to functionality. (Paragraph 248)

14. As this is a project of national significance funded by taxpayers, major departures from the published design are a cause of concern to the Committee. (Paragraph 249)

15. The need for the inclusion of gabions in the wetlands should be reviewed. Submerged wave barriers should not be provided due to their deleterious effects. (Paragraph 265)

16. On completion of the National Museum of Australia, consideration should be given for the facilities at Yarramundi Reach to be vacated for use by the ACT Cultural Centre. This will provide scope for future expansion of the Museum on Acton Peninsula. (Paragraph 268)

17. Although a project alliance has commenced for the Sydney Water Project, its outcome has yet to be proven in delivering a quality product in the public sector. Moreover, this delivery system is untested in the construction industry in Australia. (Paragraph 303)

18. Notwithstanding that the Committee has given approval for the Department of Communications and the Arts to advertise for expressions of interest from possible alliance participants, considerable doubt remains about how the interests of the Commonwealth will be protected in an alliance arrangement. (Paragraph 304)

19. Issues relating to quality control and cost imposts associated with delays due to mismatched delivery of works between the construction partner and the service provider remain to be answered to the Committee's satisfaction. (Paragraph 305)

20. Ecologically sustainable development principles should be reflected in all stages, especially in the finished product. (Paragraph 318)

21. The Museum should continue to seek endowments and bequests, in accordance with contemporary international practice, and a form of public recognition of contributions should be reflected. (Paragraph 343)

22. The Department of Communications and the Arts acknowledged that market forces will ultimately determine the cost of the complex. (Paragraph 365)

23. The Committee remains concerned about the achievement of claims that the project will be completed on time and on budget. (Paragraph 366)

24. The Committee recommends the construction of the works in this reference at a cost of \$133 million at October 1997 prices subject to the provision, to the Committee, of six monthly reports on the progress of the project until completed. The reports should address:

- progress of works and services elements identified in the construction and fitout program;

- any variations to the timetable for the completion of the project;
- any further design changes—their nature, justification and cost;
- expenditure and audit reports;
- confirmation that subcontractors have been paid on time for work undertaken;
- if applicable, details of disputes between any parties on site;
- if applicable, details of delays to the project due to the mismatch of timetables between the construction alliance partner and the service provider;
- specified standards of finish and the standard of finish provided.
- details of attempts, successful or otherwise, to obtain endowments and bequests for the Museum. (Paragraph 367)

25. If it is considered necessary to proceed with Lump Sum tendering, the aim of completing the project by January 2001 should be reviewed for the reasons stated by the Department of Communications and the Arts in the paper which addressed the disadvantages of proceeding with this delivery method. (Paragraph 368)

Wilson Tuckey MP  
Chairman  
4 June 1998

## WITNESSES

8 December 1997

ASHTON, Mr Stephen, Director, Ashton Raggatt McDougall Pty Ltd, Architects, Level 11, 522 Flinders Lane, Melbourne, Vic

BERENTS, Mr Derek, TWCA Pty Ltd, Project Manager, Level 11, 121 Walker Street, North Sydney, NSW

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**9 December 1997**

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MARCAR, Mrs Christine Claire, Chairperson, ACT Access and Mobility Committee, ACROD, PO Box 60, Curtin, ACT

PAPE, Mrs Barbara Claire, Vice-President, Canberra Community Action on Acton, PO Box 45, Ainslie, ACT

PINCOTT, Mr Rory James, Director, Donald Cant Watts Corke (ACT) Pty Ltd, Unit 11, 43-51 Giles St, Kingston, ACT

REDFERN, Mr Robert, Commodore, Canberra Yacht Club, Mariner Place, Lotus Bay, Yarralumla, ACT

RICHARDSON, Mr Chris John, Adviser, Master Builders Association of the ACT and, Director and Partner, Access Economics, 241 Northbourne Ave, Lynham, ACT

RODGERS, Mr Trevor John, Vice President, Builders, Master Builders Association of the ACT and, Chairman, Commercial Council of Builders, 241 Northbourne Avenue, Lynham, ACT

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**17 December 1997**

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Avenue, Forrest, ACT

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126 Wellington Parade, East Melbourne, Vic

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Church Street, Richmond, Vic

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**13 March 1998**

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Drive, Yarramundi, ACT

MULVANEY, Emeritus Professor Derek John, AO, CMG, 128 Schlich Street,  
Yarralumla, ACT

PEGNUM, Mr Roger, Director, Pegnum and Associates, Level 1, Endeavour  
House, Manuka, ACT

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Deakin, ACT

SUBMISSIONS

*(in alphabetical order)—*

**Aboriginal and Torres Strait Islander Commission**

- Submission, 19 December 1997

**ACROD Limited**

- Submission, 17 November 1997

**Australian Capital Territory Government**

- Submission, 2 December 1997

**Australian Heritage Commission**

- Submission, 25 November 1997

**ACT Heritage Council**

- Submission, 26 November 1997

**ACT Sailing Inc—Canberra Yacht Club (CYC)**

- Submission, 25 November 1997

**Australian Museum**

- Submission, 18 November 1997

**Australian National University**

- Submission, 19 November 1997

**Maureen and Tom Campbell**

- Submission, 17 November 1997

**Canberra Business Council Inc**

- Submission, 10 November 1997

**Canberra Community Action on Acton Incorporated**

- Submission, 20 November 1997
- Further letter, 10 December 1997
- Further submission 15 December 1997
- Further letter, 14 January 1998
- Further letter 7 April 1998

**Canberra Cruising Yacht Association**

- Submission, 24 November 1997

**Commonwealth Fire Board**

- Submission, 28 November

**Communications and the Arts, Department of**

- Statement of evidence and supporting drawings for the proposed new facilities for the National Museum of Australia and the Australian Institute of Aboriginal and Torres Strait Islander Studies—received 30 October 1997
- Estimated cost breakdown, 1 December 1997 (confidential)
- Costings for Acton Peninsula project—9 December (confidential)
- Letter—12 December 1997—Indicative cost breakdown contained in Functional Brief of August 1997, Project Cost (both confidential)
- Supplementary submission and three attachments—16 December 1997
- Supplementary submission—4 March 1998—nine attachments and current schematic design drawings
- Letter—9 March 1998—comparison of
  - floor area in functional brief, winning competition entry and current design
  - airconditioning and lighting requirements in the functional brief and the current design
  - Letter—11 March 1998—changes to location of major plant and equipment rooms

- Letter 12 March 1998—response to further submission from the National Trust (ACT) of 9 March 1998 and comments on project alliancing from Thiess Contractors Pty Ltd
- Letter—17 March 1998
  - design competition advertisements
  - brief writing/technical services brief
  - contract between the Commonwealth and Pegrum and Associates Pty Ltd
  - authors of papers in Volume 1 of design competition Stage 2 briefing kit
- Letter—15 April 1998—answers to written questions on project alliancing

**Construction Forestry Mining and Energy Union, ACT Branch**

- Submission, 15 December 1997

**Environment Australia—Environment Protection Group**

- Submission, 12 November 1997

**Families at Work**

- Submission, 25 November 1997

**Forbes and Fizhardinge Woodland**

- Submission, 10 February 1998

**Friends of the National Museum**

- Submission, 20 November 1998
- Further submission, 5 March 1998

**Master Builders Association of the ACT**

- Submission, 28 November 1997
- Further submission, 17 December 1997
- Further submission, 12 March

**Mr Michael Moore MLA**

- Submission, 13 November 1997

**Emeritus Professor John Mulvaney AO, CMG**

- Submission, 19 November 1997
- Further submission, 22 January 1998

**Museum and Art Gallery of the Northern Territory**

- Submission, 26 November 1997

**National Capital Authority**

- Submission, 28 November 1997

**National Film and Sound Archive**

- Submission, 26 November 1997
- Further submission, 10 December 1997

**National Trust of Australia (ACT)**

- Submission, 17 November 1997
- Further submission, 9 March 1998

**Senator The Hon Margaret Reid**

- Submission, 17 November 1997

**Royal Australian Institute of Architects**

- Submission, 12 December 1997

**Royal Australian Planning Institute**

- Submission, 26 November 1997

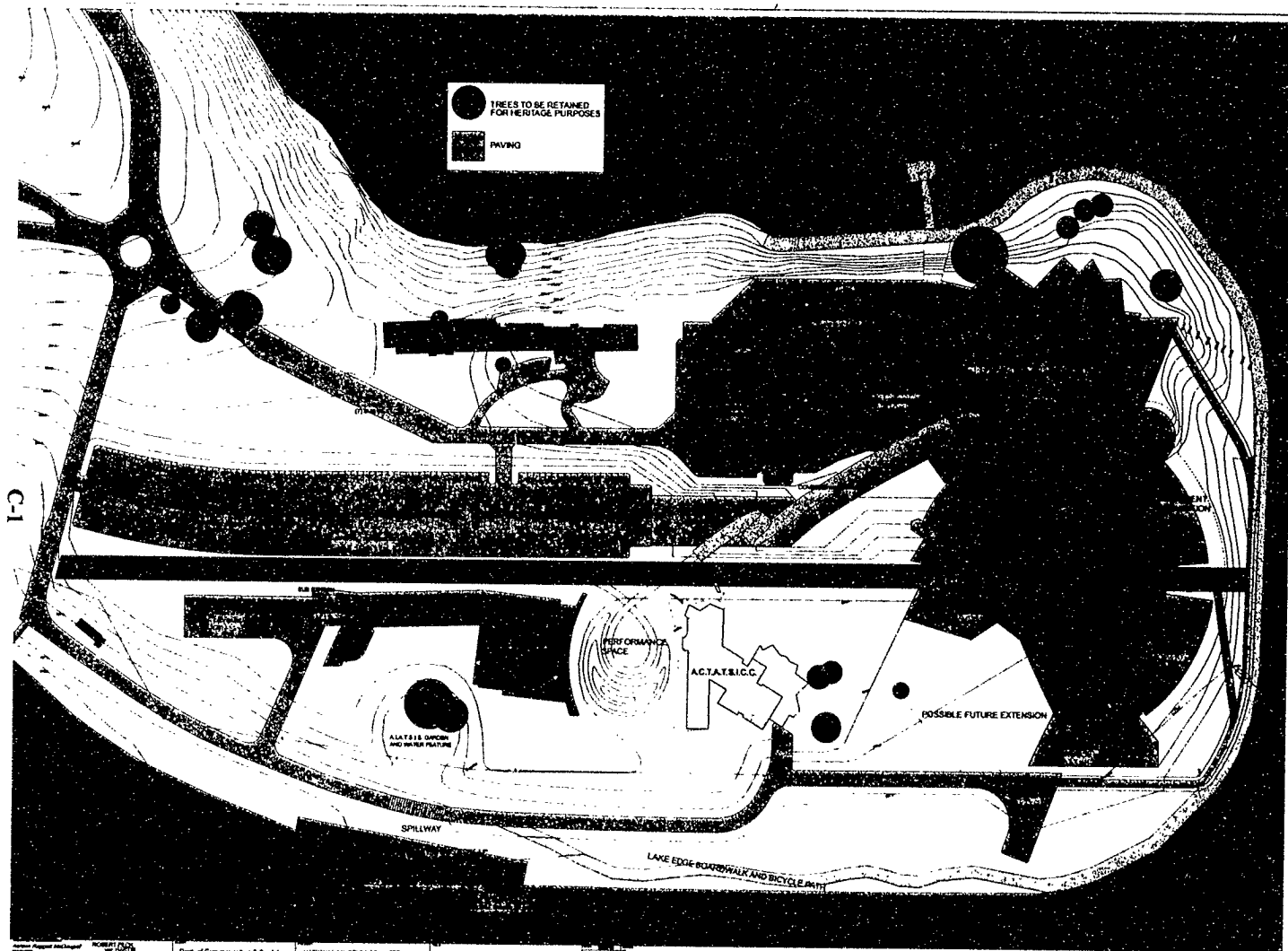
**Mr John A W White**

- Submission, 14 November 1997

**APPENDIX C**

**PROJECT PLANS**

	<b>Page</b>
Site plan.....	C - 1
Museum—Level 1 .....	C - 2
Museum—Level 2 .....	C - 3
Museum—Level 3 .....	C - 4
AIATSIS—Ground and First floors.....	C - 5

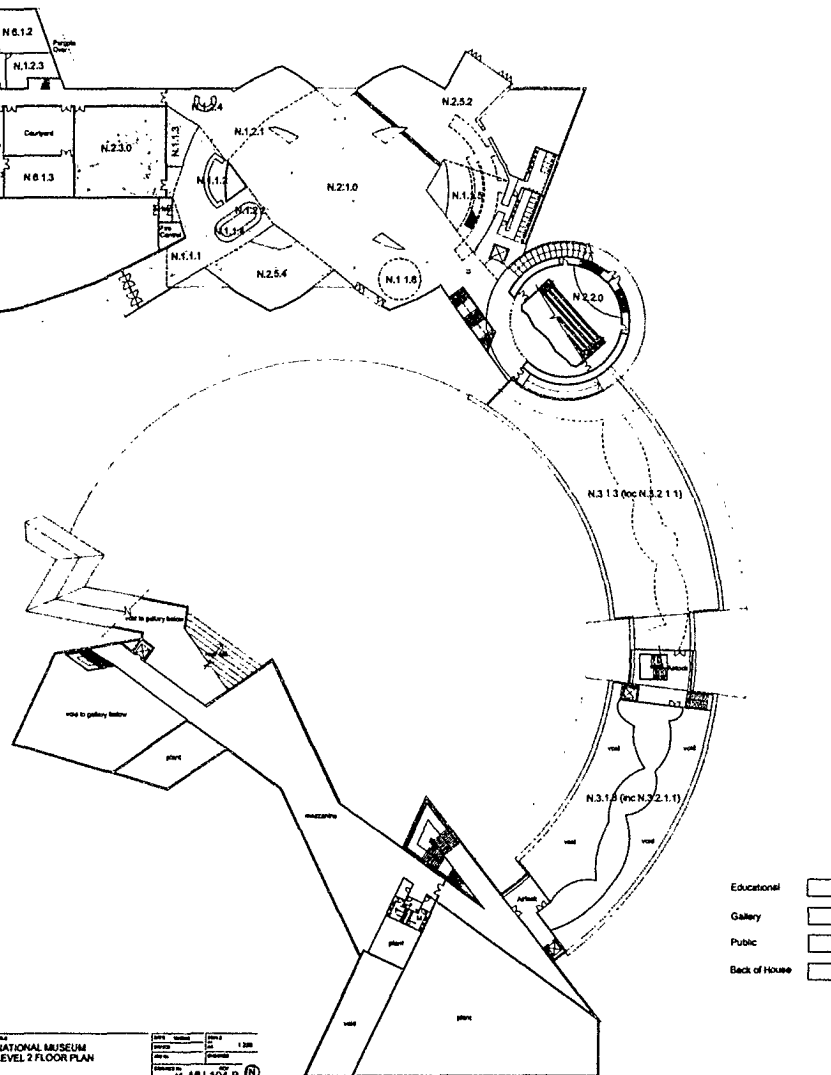






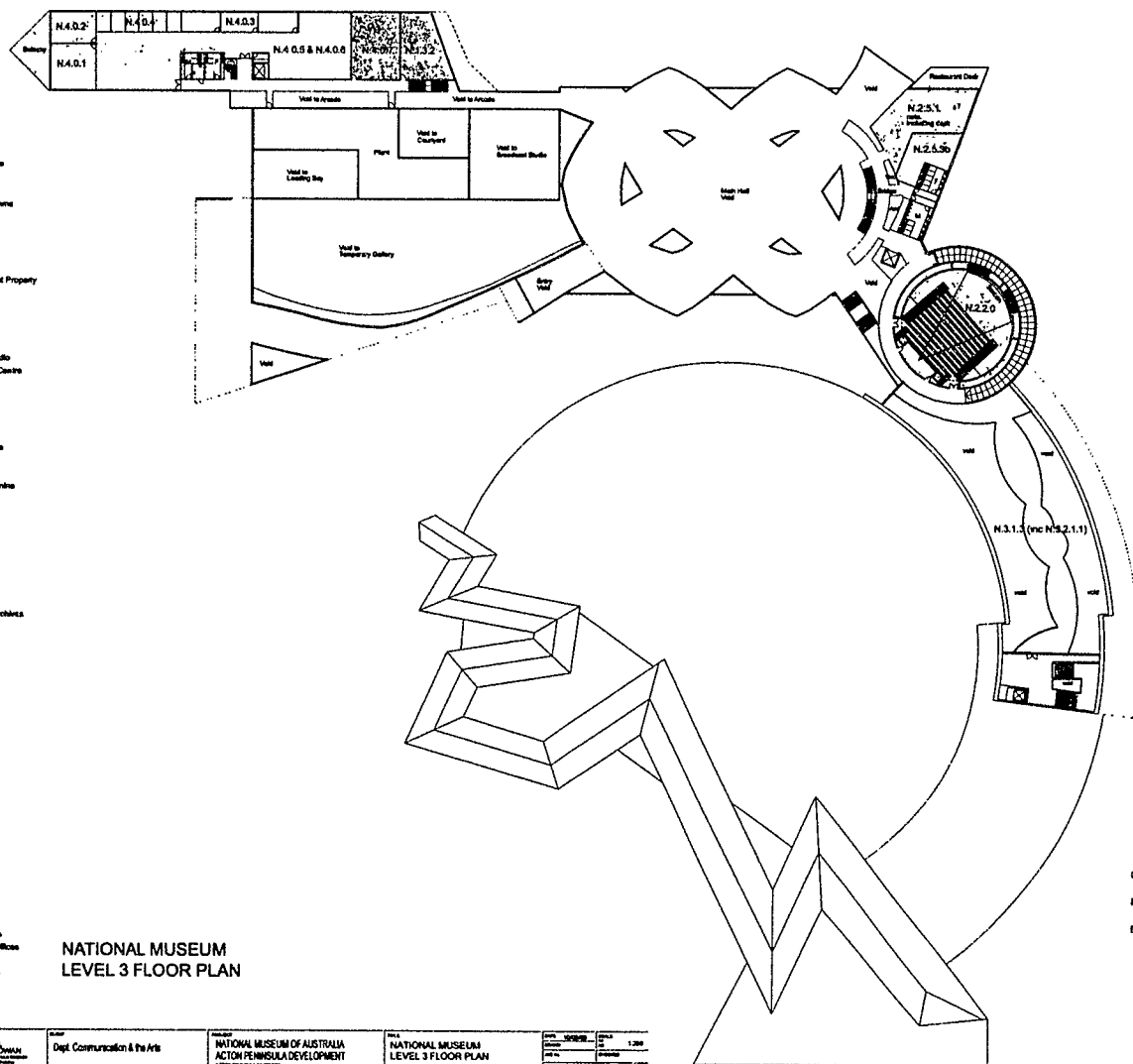
Room No.	Room Name
N111	Entry
N112a	Teatime Bookings Area Here
N114	Information Desk
N113	Check-in & Lost Property
N115	Orientation/Information Systems
N116	Overview of Museum
N117	Sponsors Board
N121	Group Entrance
N122	Group Ticketing &
N124	Group Information Desk
N123	Group Check-in & Group Lost Property
N125	Bus Driver Lounge
N131	Sick Room
N132	Members Lounge
N210	Men's Hall
N220	Theatre
N230	Media Facility/Broadcast Studio
N240	Data Warehouse/Computer Centre
N251	Restaurant
N252	Cafe
N253a	Cafe Kitchen
N253b	Restaurant Kitchen
N254	Museum Specific Shop
N311	Gallery of Aboriginal Australia
N312	Exhibition Temporary
N313	Exhibition Permanent
N313	Exhibition Permanent Mezzanine
N314	Children's Museum
N3212	Gift Store
N3213	Inspection Room 1
N3214	Inspection Room 2
N3215	Inspection Room 3
N3221	Object Loading Bay
N3222	Reception Dispatch
N3223	Security Entry
N3224	Small Object Store
N3231	Library Information Centre Archives
N3232	Research Offices
N331	Wet Conservation Lab
N331	Dry Conservation Lab
N332	Chemical Store - interior
N333	Chemical Store - exterior
N334	Disaster Equipment Store
N334	Object Inspection
N335	Clean Object Store
N401	Council Conference Room
N402	Director's Suite
N403	Meeting Rooms
N404	Senior Management
N405	Offices
N406	Staff Amenities
N407	Volunteers Room
N411	Exhibition Preparation Area
N511	Amphitheatre 1
N512	Reflection Space
N513	Landscape Approach
N514	Public Boat
N611	Multi Purpose Activity1
N612	Multi Purpose Activity2
N613	School Group Indoor Lunch
N614	Change Rooms
N615	Staff Education Officer Offices
N616	Staff Visitor Services Officer Offices
N617	Storage - Prop Room
N618	Storage - Education Materials

NATIONAL MUSEUM  
LEVEL 2 FLOOR PLAN



- | Room No.  | Room Name                        |
|-----------|----------------------------------|
| N1.1      | Entry                            |
| N1.1.2.6  | Ticketing, Bookings/Arts Hire    |
| N1.1.4    | Information Desk                 |
| N1.1.5    | Clothing & Lock Property         |
| N1.1.6    | Other Incoming Property          |
| N1.1.8    | Director's of Museum             |
| N1.1.7    | Sponsors Board                   |
| N1.2.1    | Office Entrance                  |
| N1.2      | Office Ticketing &               |
| N1.2.4    | Other Incoming Desk              |
| N1.2.5    | Office Clothing & Lock Property  |
| N1.3.1    | Staff Room                       |
| N1.3.2    | Members Lounge                   |
| N2.10     | Main Hall                        |
| N2.0      | Theatre                          |
| N2.0      | Media Facility/Broadcast Studio  |
| N2.4.0    | Data Workroom/Computer Centre    |
| N2.4.1    | Restaurant                       |
| N2.5      | Cafe                             |
| N2.5.3    | Cafe Kitchen                     |
| N2.6.1.9  | Restaurant Kitchen               |
| N2.6.1.10 | Household Kitchen Shop           |
| N3.1.2    | Exhibition Temporary             |
| N3.1.3    | Exhibition Permanent             |
| N3.1.3.1  | Exhibition Permanent Mezzanine   |
| N3.1.3.2  | Children's Room                  |
| N3.1.2.12 | QA&B Store                       |
| N3.1.2.13 | Inspection Floor 1               |
| N3.1.2.14 | Inspection Floor 2               |
| N3.1.2.15 | Inspection Floor 3               |
| N3.2.2.1  | Office Loading Bay               |
| N3.2.2.2  | Security Entry                   |
| N3.2.2.4  | Small Object Store               |
| N3.2.2.5  | Library Information Centre       |
| N3.2.3.2  | Research Offices                 |
| N3.3.1    | Web Conventions Hall             |
|           | Dry Conservation Lab             |
| N3.3.2    | Chemical Store - Inert/for       |
| N3.3.3    | Chemical Store - Inert/for       |
| N3.3.4    | Dissolve Equipment Store         |
| N3.3.5    | Object Inspection                |
| N3.3.6    | Object Object Store              |
| N4.0.2    | Cultural Conservation Room       |
| N4.0.2.1  | Director's Office                |
| N4.0.3    | Meeting Rooms                    |
| N4.0.4    | Senior Management                |
| N4.0.5    | Offices                          |
| N4.0.6    | Staff Offices                    |
| N4.1      | Volunteers Room                  |
| N4.1.1    | Exhibition Preparation Area      |
| N5.1.1    | Amphitheatre 1                   |
| N5.1.2    | Reflection Space                 |
| N5.1.3    | Landscapes Approach              |
| N5.1.4    | Public Access                    |
| N5.1.1.1  | Main Purpose Activity 1          |
| N5.1.1.2  | Main Purpose Activity 2          |
| N5.1.2.1  | Archaeo Group Junior Level       |
| N5.1.4    | Change Rooms                     |
| N5.1.5    | Staff Education Officer Offices  |
| N5.1.6    | Staff - Services Officer Offices |
| N5.1.7    | Research - Services Officer      |
| N5.1.8    | Volunteer - Services Officer     |

**NATIONAL MUSEUM  
LEVEL 3 FLOOR PLAN**



Gallery	<input type="checkbox"/>
Public	<input type="checkbox"/>
Back of House	<input type="checkbox"/>

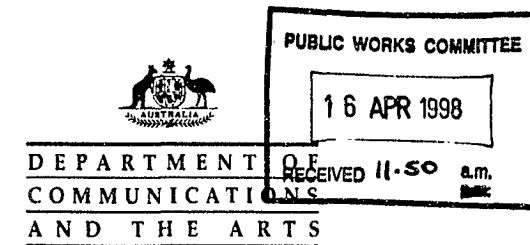


## A.I.A.T.S.I.S. ROOM LEGEND

Room No	Room Name	Room No	Room Name	Room No	Room Name
A 1 01	Public Exhibition Area	A 3 1 17	Cleaning/washing/packing	A 5 0 19	Grantees/Visiting Scholars 2
A 1 02	Retail Outlet	A 3 2 1 1	Audiographers and auditioning Room 1	A 5 0 20	Grantees/Visiting Scholars 3
A 1 03	Reception	A 3 2 1 2	Audiographers and auditioning room2	A 5 0 21	Grantees/Visiting Scholars 4
A 1 04	Conference/Seminar	A 3 2 1 3	Library Technician	A 5 0 22	Grantees/Visiting Scholars 5
A 1 05	Sick Room	A 3 2 1 4	Storage	A 5 0 23	Grantees/Visiting Scholars 6
A 2 1 1	Opening Reading Room	A 3 2 1 5	Tape Documentation/Workroom	A 5 0 24	Small Conference Room
A 2 1 2	Public Access Stack	A 3 2 1 6	Listening Booth 1	A 5 0 25	Resource Room
A 2 1 3	Manuscripts Room	A 3 2 1 7	Listening Booth 2	A 5 0 26	Undergraduate/Cadet Workstation 1
A 2 1 4	Rare Books Room	A 3 2 1 8	Vault 1	A 5 0 27	Undergraduate/Cadet Workstation 2
A 2 1 5	Closed Reading Room 1	A 3 2 1 9	Vault 2	A 5 0 28	Research Workshop
A 2 1 6	Closed Reading Room 2	A 3 2 2 1	Archivist	A 5 0 29	Native Title Workroom
A 2 1 7	Closed Reading Room 3	A 3 2 2 2	Video Viewing	A 5 0 30	Research Grants/Documentation Room
A 2 1 8	Closed Reading Room 4	A 3 2 2 3	Conservation Laboratory	A 5 0 31	Photocopy/printer/general purpose room 1
A 2 1 9	Reserve Room	A 3 2 2 4	Store (Filmography/Documentation)	A 5 0 32	Photocopy/printer/general purpose room 2
A 2 1 10	Group Study Room	A 3 2 2 5	Vault 3 (film)	A 5 0 33	Storage 1
A 2 2 1	Reference Librarian	A 3 2 2 6	Vault 4 (film)	A 5 0 34	Storage 2
A 2 2 2	Collections Manager 1	A 3 2 2 7	Vault 5 (film)	A 5 0 35	Storage 3
A 2 2 3	Collections Manager 2	A 3 2 2 8	Vault 6 (film)	A 6 1 1	Principal
A 2 2 4	Collections Manager 3	A 3 2 2 9	Vault 7 (film)	A 6 1 2	Deputy Principal
A 2 2 5	Manager Reference Services	A 3 2 2 10	ASQ Workstation	A 6 1 3	Executive Officer
A 2 2 6	Native Title Library Specialist	A 3 2 3 1	Curator and Pictorial Work Area	A 6 1 4	Executive Assistant
A 2 2 7	Senior Information Librarian	A 3 2 3 2	Assistant Pictorial Curator	A 6 1 5	Word Processor Typist
A 2 3 1	Support Materials/Acquisition Processing	A 3 2 3 3	Documentation Map/File Storage	A 6 1 6	Waiting Room
A 2 3 2	Accessions Work Area/Library technicians	A 3 2 3 4	Picture Viewing Room	A 6 1 7	Conference and Boardroom
A 2 3 3	Record Storage	A 3 2 3 5	Vault 8 (pictorial)	A 6 1 8	IT Equipment
A 2 4 1	Manager Indigenous Access	A 3 2 4 1	Director	A 6 1 9	Photocopy Room
A 2 4 2	Assistant	A 3 2 4 2	Special Projects Laboratory	A 6 1 10	Confidential Documents Preparation Room
A 2 4 3	Coordinator Community Access	A 3 2 4 3	Computer Workroom	A 6 1 11	Office Supplies Store
A 2 4 4	Assistant Coordinator	A 4 0 1	Head Production Unit	A 6 1 12	Visiting Members Office
A 2 4 5	Interview Room	A 4 0 2	Administration Assistant	A 6 2 1	Director
A 2 4 6	Group Research Area	A 4 0 3	Managing Editor	A 6 2 2	Deputy Director
A 2 4 7	Material Preparation	A 4 0 4	Editor	A 6 2 3	Assistant Director
A 2 4 8	Lecture Room	A 4 0 5	Marketing Manager	A 6 2 4	Administrative Assistant
A 2 5 1	Photocopy Room 1	A 4 0 6	Customer Service	A 6 2 5	Personnel Files Storage
A 2 5 2	Photocopy Room 2	A 4 0 7	Production Coordinator	A 6 2 6	Assistant Finance Officer (Debtors)
A 2 5 3	Workroom	A 4 0 8	Typesetter and Typesetting Machinery	A 6 2 7	Debtors File Storage
A 2 5 4	Equipment Room	A 4 0 9	Design	A 6 2 8	Assistant Finance Officer (Creditors)
A 2 6 1	Storage	A 4 0 10	Production Room	A 6 2 9	Creditors File Storage
A 2 6 2	Conservator	A 4 0 11	Dark Room	A 6 2 10	Property Officer
A 2 6 3	Conservation Laboratory	A 4 0 12	Processor	A 6 2 11	Property Records Storage
A 2 7 1	Director	A 4 0 13	Store	A 6 2 12	Registry Clerk
A 2 7 2	Administrative Assistant	A 5 0 1	Director	A 6 2 13	File Registry/Store/Mail Room
A 2 7 3	Storage	A 5 0 2	Research Administrator	A 6 2 14	General File Storage
A 3 1 1	Senior Technical Officer	A 5 0 3	Research Fellow 1	A 6 2 15	Photocopy/Paper Store/Audit Room
A 3 1 2	Senior Photographer	A 5 0 4	Research Fellow 2	A 6 2 16	IT Officer 1
A 3 1 3	Technical Officer	A 5 0 5	Research Fellow 3	A 6 2 17	IT Officer 2
A 3 1 4	Technical Assistants	A 5 0 6	Research Fellow 4	A 6 2 18	IT Officer 3
A 3 1 5	Workshop	A 5 0 7	Research Fellow 5	A 6 2 19	IT Cadet
A 3 1 6	Equipment Store	A 5 0 8	Visiting Research Fellow 1	A 6 2 20	Computer Server
A 3 1 7	Tape (audio and video) store	A 5 0 9	Visiting Research Fellow 2	A 6 2 21	Computer Workshop and Storage
A 3 1 8	Audio Editing Suite 1	A 5 0 10	Visiting Research Fellow 3	A 6 3 1	Vehicle Standing Area
A 3 1 9	Audio Editing Suite 2	A 5 0 11	Visiting Research Fellow 4	A 6 3 2	Unloading Platform
A 3 1 10	Video Editing Suite	A 5 0 12	Visiting Research Fellow 5	A 6 3 3	Bulk Paper Store
A 3 1 11	Photographic Studio	A 5 0 13	Visiting Native Title Research Fellow 1	A 6 3 4	Bulk Book Store
A 3 1 12	Photographic Dark Room	A 5 0 14	Visiting Native Title Research Fellow 2	A 6 3 5	Furniture Store
A 3 1 13	Photographic Finishing	A 5 0 15	Native Title Research Assistant	A 6 3 6	Workshop
A 3 1 14	Chemical Store	A 5 0 16	Administration Support 1 ( grants)	A 6 3 7	Cleaners Room
A 3 1 15	Soundproof Booth	A 5 0 17	Administration Support 2	A 6 3 8	Staff Lunch/ Amenities
A 3 1 16	Photo finishing/drying	A 5 0 18	Grantees/Visiting Scholars 1		

## APPENDIX D

Letter, dated 15 April 1998 to the Committee from the Department of Communications and the Arts responding to a list of questions from the Committee on Project Alliancing.



Mr Bjarne Nordin  
Secretary  
Parliamentary Standing Committee on Public Works  
Parliament House  
CANBERRA ACT 2600

**FILE COPY**

Dear Mr Nordin

**New Facilities for the National Museum of Australia and the Australian Institute of Aboriginal and Torres Strait Islander Studies on Acton Peninsula**

As requested, please find attached answers to the list of questions posed by the Public Works Committee regarding project alliancing (Attachment A). To further assist the Committee I have also attached related information extracted from the Department's paper on project alliancing and the four Hansard reports (Attachment B).

With regard to the Committee's request for a copy of the proposed alliancing contract and preliminary tender documentation, the alliancing contract has not been drafted yet. The contract, however, will be a modified version of standard Commonwealth contracts. The Department's internal legal officers and external legal consultants specialising in project alliancing will advise on the development of the contract and ensure that the Commonwealth's interests are protected.

As discussed, a confidential copy of the draft tender document, *Call for Proposals from Building and Services Contractors*, is attached (Attachment C). To ensure probity of the selection process, I would greatly appreciate it if the draft was not circulated or copied.

If the Committee has additional questions on project alliancing, I would like to reiterate the Department's offer of 27 January 1998 to give a presentation to members at their convenience.

Please contact me on telephone number (02) 6271 1622 if you require further information.

Yours sincerely

A handwritten signature in black ink, appearing to read 'Dawn Casey'.

Dawn Casey  
Executive Director  
Construction Coordination Task Force

15 April 1998

D-1

**NEW FACILITIES FOR THE NATIONAL MUSEUM OF AUSTRALIA AND  
THE AUSTRALIAN INSTITUTE OF ABORIGINAL AND TORRES STRAIT  
ISLANDER STUDIES ON ACTON PENINSULA**

**Answers to questions from the Public Works Committee regarding  
project alliancing**

**Changes and variations**

In an alliance, the impact of changes on time and cost budgets is continually monitored. If these changes have an adverse effect, the client is able to decide if they are essential and where savings can be offset.

- **How will the essentiality of timely completion of various elements be determined?**

The project already has a detailed program including timelines that is constantly monitored by the project manager, the Department and the Construction Coordination Committee. A particular responsibility of the project manager will be to monitor the project program and identify any timetable problems for resolution by the alliance.

- **Who will bear responsibility for slippage in the construction timetable due to things such as inclement weather or industrial disputes?**

The alliance participants cannot seek extensions of time for events such as inclement weather or industrial disputes. The alliance participants share in a risk/reward regime which is based on actual performance compared against the Department's project objectives. One of the Department's objectives will be timely completion of the project. If the project runs late, then:

(a) there is no blame as between the parties as to the reasons for that delay; and

(b) the contractor participants will suffer a financial penalty as a result of the alliance's failure to meet the target date for completion, in accordance with the pre-ordained risk/reward regime.

- **Will most changes be design development?**

The program is to finalise design development by September. Ongoing refinement will continue throughout the project.

One of the advantages of the alliance approach is that it is possible to get the building and services contractors on early to test the buildability of the design. Any future change will result from this dialogue between the designers, the building and services contractors, and the Department.

- **Will the client have the power to order a true variation and the contractor will be required to carry it out?**

Yes. The Department could at any time order a true variation and the contractor would be required to carry out the change. Failure to do so would constitute wilful default.

- **Are there risks associated with this approach, particularly cost blow outs or late completion?**

As with any form of contracting strategy, there are risks of cost overrun and late completion. Unlike other forms of contracting strategy, however, the parties have pre-ordained how they will share overruns or late completion, and cannot pass the loss off onto one or some of the parties only. This provides an enormous incentive for all parties to focus their skills and efforts on ensuring that such over-runs do not occur.

**Savings**

Savings generated in delivering the project are shared between the parties.

- **Are cost overruns also shared?**

Yes, on the same pre-ordained basis as the savings between the parties are shared.

- **How will attribution of fault or responsibility for cost overruns be determined?**

Alliances work in a no fault, no blame, culture. The contractual arrangements do not allow for litigation except for wilful negligence. It is the obligation of all alliance participants to find solutions to cost overruns. As the risk reward arrangements are the same for all participants it is in the commercial interests of all to overcome problems rather than to apportion blame.

- **If party A is responsible for cost overruns, will that party be penalised?**

Yes, but only to the extent of its pre-ordained contribution to each dollar of cost overrun. There is no allocation of blame unless Party A was in wilful default, in which case it carries entire responsibility for any resultant cost overrun.

- **Has the Department considered the appointment of a mutually agreed independent third person to act as an arbitrator or expert to resolve any disputes?**

The Department has seriously considered this option and decided not to appoint an arbiter. Experience with alliances to date has shown that the pressure to reach solutions without resorting to an outside arbiter is very effective in ensuring solutions to problems. The availability of an arbiter can lead to the abandonment of attempts to find solutions. If an expert or third person is appropriate to assist the alliance in resolving a particular problem, the alliance has the power to engage expert or third person assistance as may be appropriate for that particular problem. No alliance in the region to date has had to resort to such independent advice or arbitrator.

- **Where will the maximum pressure be exerted for all parties to preserve their profits in an alliance arrangement?**

Preservation of profit in traditional contracts is often at the expense of quality. In an alliance the incentive is reversed so that quality improvement is rewarded by increased profit. Normal profits can only be achieved by the parties if they meet the project objectives. Hence, maximum pressure will be exerted by the parties to meet or exceed the project objectives in order that they can preserve the profits. Failure to meet those objectives results in financial penalties for the alliance participants.

#### **History of alliancing**

According to Mr Guthrie, there have been casualties in alliances on the part of builders and service providers and on the part of clients.

- **What happened in these cases?**

Mr Guthrie has advised that these individuals are usually allocated to a more traditional form of contract by lump sum.

#### **The process of selection**

- **When, in the development of a project, should expressions for alliance partners be called?**

Alliance partners ideally should be sought as soon as possible in order to maximise the opportunity to ensure buildability and have effective value management and value engineering throughout the design phase.

#### **Quality control of the finished product**

- **How will this be managed in an alliance, especially towards the completion of the project?**

- **How will quality control be managed?**

An objective of the alliance is to achieve the highest quality result possible for the budget. The alliance participants will be rewarded for innovations that enhance quality without increasing cost. The Department will be advised by an external expert and the Construction Coordination Committee on quality. The architects have a strong desire to ensure that quality is of the highest order.

- **What happens in the event of a dispute between the client and the builder / services provider (or his / her subcontractors) regarding quality of finish or quality control?**

The client has the right to insist that work be redone. The cost associated with this rework would be borne by the alliance participants in accordance with the preordained risk/reward regime.

- **Will there be a document signed at the formation of the alliance which all parties must adhere to?**

Yes, a legally binding alliance agreement will be entered into at the formation of the alliance.

#### **Risks to the Commonwealth**

- **What would happen if one of the alliance parties walks away from the job?**

The participant could be sued for wilful default and would be liable to the client for damages arising from its decision to walk away from the job.

#### **Protection of Subcontractors**

- **What mechanism will be available to arbitrate in disputes between head contractors and subcontractors?**

The Alliance Leadership Team will approve the subcontracting strategy, including dispute resolution arrangements. In the event of a significant dispute under a subcontract, the Alliance Leadership Team will determine how that dispute is to be managed. The costs of the dispute and its settlement affect the risk/reward outcome for the participants; hence they are driven towards cost effective settlement of any disputes.



- Will the participants work to an agreed timeline? If so, what are the implications of either the construction and services contractors (or their subcontractors) being unable to commence work on a component of the project due to the late completion of work by the other party(ies)?

The parties will work to an agreed timeline. If the construction or services contractors cannot start on time due to late completion by others, they will not be able to claim extensions of time. The parties will have to work with the other alliance participants to overcome the effects of any such delay in order to preserve their profits, which they can only do if, inter alia, they meet the target date for completion.

If subcontractors are delayed and have a claim, it is dealt with as per the answer to the previous question.

Department of Communications and the Arts

April 1998

NEW FACILITIES FOR THE NATIONAL MUSEUM OF AUSTRALIA AND  
THE AUSTRALIAN INSTITUTE OF ABORIGINAL AND TORRES STRAIT  
ISLANDER STUDIES ON ACTON PENINSULA

Information extracted from the Department's paper on project alliancing and  
the four Hansard reports relating to the list of questions from the  
Public Works Committee

Changes and variations

In an alliance, the impact of changes on time and cost budgets is continually monitored. If these changes have an adverse effect, the client is able to decide if they are essential and where savings can be offset.

- How will the essentiality of timely completion of various elements be determined?

*PWC Hansard, 8 December 1997:*

page 84 Mr Thomson—The setting of goals is by the department; the way of getting there is agreed between the parties.

*PWC Hansard, 17 December 1997:*

page 459 Mr Thomson—The whole concept of alliancing is that it removes man marking so that you have a single integrated team. It removes the adversarial behaviour because you have preordained the commercial outcome on the project. You have decided up front on what the risk-reward regime is going to be.

*Attachment B, New Facilities for the National Museum of Australia and the Australian Institute of Aboriginal and Torres Strait Islander Studies—Project Alliancing, presented in the Department's supplementary submission to the PWC (March 1998):*

page 10 5.9—Strategic decision making is by the Alliance Leadership Team, which is in effect a board comprising senior representatives of each participant.

Day-to-day decision making is by an Integrated Project Team, which is a unified team comprising the best available individuals from each of the alliance participants.

- Who will bear responsibility for slippage in the construction timetable due to things such as inclement weather or industrial disputes?

*PWC Hansard, 8 December 1997:*

page 85 Mr Thomson—...a good example is Wandoo alliance, which was a project alliance carried out in Western Australia. There was a casting base and a bund wall failed—a geotechnical problem—and it flooded. The alliance participants speak about the strength of the alliance in those circumstances. That would have stopped the project ordinarily for two or three months because no-one would have been prepared to spend a large amount of money until responsibility had been resolved for the issue.

In an alliance with the risk award structure, a problem like that affects both parties. Everyone suffers pain in that situation, so the issue is: how do we get out and fix it? There is no blame associated with it so one person cannot take the other to court. The pain is being shared on the basis of the pre-agreed risk award structure. The goal posts are not shifted. The obligation to finish on time remains the same; there is no such thing as an extension of time for latent conditions.

*PWC Hansard, 17 December 1997:*

page 459 Mr Thomson—[project alliancing] does not allow for claims for extensions of time for latent conditions and all the usual sorts of things that one encounters on a project.

*Proof PWC Hansard, 13 March 1998:*

page 624 Mr Thomson—Alliancing stops the sending of a whole bunch of contractual letters to each other. Alliancing is simply focused on putting all your effort into project outcomes because the reward comes from achieving project outcomes. One of the benefits that you obtain is to focus all the project management onto delivering project outcomes.

page 625 Chair—The opportunity for litigation between the parties and the customer is removed in this arrangement. Is that a matter of fact?

Mr Thomson—That is correct, Mr Chairman.

- **Will most changes be design development?**

*PWC Hansard, 17 December 1997:*

page 459 Mr Thomson—Because of the nature of changing technology—and we have already heard that, to an extent, it is a technologically driven project—the Commonwealth wants to ensure that it can have an involvement in the design in the period between now and the opening of the museum.

*Attachment B, New Facilities for the National Museum of Australia and the Australian Institute of Aboriginal and Torres Strait Islander Studies—Project Alliancing, presented in the Department's supplementary submission to the PWC (March 1998):*

page 6 second dot point—the stakeholders need maximum opportunities to ensure the design meets their evolving functional requirements. For example, the exhibition component of the Project is bound to mean changes between now and the Project opening to ensure that developments and improvements in technology can be incorporated if appropriate.

- **Will the client have the power to order a true variation and the contractor will be required to carry it out?**

*Attachment B, New Facilities for the National Museum of Australia and the Australian Institute of Aboriginal and Torres Strait Islander Studies—Project Alliancing, presented in the Department's supplementary submission to the PWC (March 1998):*

page 10 5.8—The Department has the power under the alliance agreement to insist upon the final design and quality.

page 11 5.13—Most changes are design development, not 'variations' as such. For a true variation, the Department has the power to order it and the contractor participants have to carry it out (failure to do so constitutes wilful default). Any change to the risk / reward structure must be agreed to by the Department, failing which the current risk / reward structure remains unchanged.

*Proof PWC Hansard, 13 March 1998:*

page 632 Chair—As the client in the alliance, how do you intend to manage that overseeing role?

Mr Service—In the standard process using an external cost consultant and the architect, the architect and the other technical consultants have a responsibility to look at and understand the cost of changes that they propose. If the architect says, 'Look, I really think you should not build this bit like this, you should build it like that', they have then got to say that that is going to cost you money or is not going to cost you money, as the case may be. Then the independent cost consultant actually applies his or her professional mind to it and says, 'Yes, if you go down that track it is going to cost you, in my opinion, another \$134,000', for example. In an alliance you then have, as part of that process, the contractor who is actually going to spend the money, and the contractor has a responsibility to confirm, 'Yes, \$134,000 is right' or 'It isn't right, because I have been talking to my electrical subconsultant, for example, who says 'No, you cannot do it for \$134,000, it is actually going to cost you \$172,000'. So you end up with an actual agreement about what it will cost, and then it is the client's responsibility to say, 'Yes, we will spend that money' or 'No, we won't.'

Senator Murphy—How is that different from the lump sum thing we just had explained a minute ago?

Mr Service—It is not; The process of control is exactly the same. The difference is that the contractor, as part of the alliance, has no incentive to, if you like, inflate the cost of variation...in the alliance process variations do not add to your profit. There is no mechanism for them to add to your profit because all you get paid is the actual cost, and the actual cost is a disclosed thing.

- Are there risks associated with this approach, particularly cost blow outs or late completion?

*PWC Hansard, 17 December 1997:*

page 459 Mr Thomson—[project alliancing] does not allow for claims for extensions of time for latent conditions and all the usual sorts of things that one encounters on a project.

*Proof PWC Hansard, 13 March 1998:*

page 630 Mr Hollis—What happens if the plans change? Where do the costs become locked in, or are there allowances there for basic changes—not minor changes but basic changes—...? That must be a huge variation in cost.

Mr Guthrie—Well, it could be. What you have got so far is an overall figure on this, as I understand it. You have done some design work and you have had experts give you their view of what the costing is. That is the best number you have got at the moment. Those people should be able to come up with numbers that cover what it is buildable for. Where it usually comes off the rails is people building more into it or not being concerned with what is actually happening to the electrical when they make an airconditioning change or a building change. But you must start with that industry best guess from experience of what the dollars are. Then you continually monitor it on the way through as the design comes out. If you have got a problem... You then sit down between you and cost that out to get a budget.

Mr Ashton—...one of the advantages of alliancing, say, over a fixed lump sum contracting method in the instance you mention of significant design change. If Ralph M. Lee, for example, were the electrical contractor, they are being paid on the basis of their costs, in the Boyne Island example, a percentage of their overheads and profit depending on performance. That all stands exactly as it is, as I understand it, if there is a design change. Their costs may change because of their design change but they are reimbursed those costs—and they still have the responsibility for performing against the preset criteria for the overall job, which means they would have an incentive to do whatever they could to minimise any deleterious effects of such a change and to take advantage of any positive effects of such a change within the alliance structure. On the other hand, in an instance where they were on a fixed price lump sum contract, what you would have is a big variation. I am sure you would know that if you are trying to take out of a lump sum contract something by variation, you are trying to take out \$100 and the builder will offer you \$50 and if you are lucky you might get him up to \$75. If you

try to put it in, it will cost you \$200 and if you are lucky you might get him down to \$150...and you will probably get a claim for a time extension while you are at it, with prolongation costs. However, under an alliance none of that applies...

### Savings

Savings generated in delivering the project are shared between the parties.

- Are cost overruns also shared?

*PWC Hansard, 8 December 1997:*

page 85 Mr Thomson—The parties share in the cost overruns and also in the cost underruns. The cost overruns are usually capped at a level where the contractor does not make any profit and gets no overhead contribution to the works at all.

*PWC Hansard, 17 December 1997:*

page 476 Mr Thomson—The commercial basis for this proposed alliance will be that the selected alliance participants would agree to work to a budget that is less than the approved budget for this project. As they spend every dollar over that budget which is less than the approved budget for the project, the alliance participants contribute, say, in the order of 60c in that dollar themselves. If the project cost goes over the approved budget, by that stage the alliance participants are already losing money in terms of, initially, loss of profit, then loss of overhead contributions, so they are in a hard-dollar loss situation. Generally, in an alliance this is capped at the bottom end, which is really the overhead contribution or in that order of magnitude.

...If you run over the budget, the contractors have lost money and they cannot shift the goalposts. That is the nature of alliancing. The parties enter into it accepting those fundamental objectives; the same as if the date is not met, the parties lose money. And it is not a question of why they missed—it is simply a question of the fact that they missed.

*Attachment B, New Facilities for the National Museum of Australia and the Australian Institute of Aboriginal and Torres Strait Islander Studies—Project Alliancing, presented in the Department's supplementary submission to the PWC (March 1998):*

page 4 risk / reward graph, paragraph 4—Cost overruns are also shared...but can be capped to ensure the project does not exceed the allocated budget.

page 5 risk reward graph, paragraph 1—If construction is not completed on schedule, the overrun costs are shared. However, the sharing of cost cannot exceed the total project budget.

- **How will attribution of fault or responsibility for cost overruns be determined?**

*Attachment B, New Facilities for the National Museum of Australia and the Australian Institute of Aboriginal and Torres Strait Islander Studies—Project Alliancing, presented in the Department's supplementary submission to the PWC (March 1998):*

page 4 paragraph 1—There is no blame associated with a poor outcome; the parties have already agreed how to share any pain or gain...all the effort goes into ensuring performance rather than justifying non-performance.

- **If party A is responsible for cost overruns, will that party be penalised?**

*Attachment B, New Facilities for the National Museum of Australia and the Australian Institute of Aboriginal and Torres Strait Islander Studies—Project Alliancing, presented in the Department's supplementary submission to the PWC (March 1998):*

page 4 paragraph 2—...the contractor [participants are] putting at risk in the order of 10-15% of the contract value in the event of poor performance.

- **Has the Department considered the appointment of a mutually agreed independent third person to act as an arbitrator or expert to resolve any disputes?**

*PWC Hansard, 9 December 1997:*

page 307 Mr Thomson—...alliances are specifically drafted and exclude access to the courts in all circumstances except wilful default.

*PWC Hansard, 17 December 1997:*

page 459 Mr Thomson—The whole concept of alliancing is that it removes man marking so that you have a single integrated team. It removes the adversarial behaviour because you have preordained the commercial outcome on the project. You have decided up front on what the risk-reward regime is going to be.

page 475 / 476 Mr Davidson—The whole process of partnering or alliancing is based on establishing, firstly, that those who tender are prepared to enter into such an agreement, and so it becomes a condition of tendering that they must do so, so you are only going to get people tendering who know what they are in for. They will tender a figure, a sum of money, and it is then based on the fact that the project is run with mutual trust between the partners rather than in an advocacy situation where everyone is trying to screw everyone else the whole time.

There is a series of procedures and processes that can be brought into this alliancing or partnering concept which determines that matters are settled right at the work face between individuals before it gets to the site architect or the site manager or to the people further up the chain.

...you can go into an alliancing or partnering agreement where you determine that you shall proceed without disputation, other than following a series of settlement procedures at the very early stages.

page 476 Chair—The assumption I have had is that these people get together and that they make an agreement about how much it is going to cost, but if you are going to have tendering you are now suggesting that there be a condition of tender that they do not fight.

Mr Davidson—Yes, it is very simple.

*Proof PWC Hansard, 13 March 1998:*

page 624 Mr Thomson—Alliancing stops the sending of a whole bunch of contractual letters to each other. Alliancing is simply focused on putting all your effort into project outcomes because the reward comes from achieving project outcomes. One of the benefits that you obtain is to focus all the project management onto delivering project outcomes.

page 625 Chair—The opportunity for litigation between the parties and the customer is removed in this arrangement. Is that a matter of fact?

Mr Thomson—That is correct, Mr Chairman.

### **The process of selection**

- **When, in the development of a project, should expressions for alliance partners be called?**

*PWC Hansard, 8 December 1997:*

page 83 Mr Thomson—One of the biggest advantages of alliances is that you get the entire team together very early and that includes, in particular, mechanical and electrical services.

*PWC Hansard, 17 December 1997:*

page 458 / 459 Mr Thomson—True value management is obtained by bringing on board the builders and services people early in the process rather than later in the process. As you can envisage, if we do our design before we get those people involved, and then they get involved, they could have helped you do your design in a better way.

*Proof PWC Hansard, 13 March 1998:*

page 630 Mr Guthrie—One of the things that you get out of this process is, if you can take [your services contractors and your builder] on early, they sit down with the designers and advise on buildability.

#### **Quality control of the finished product**

- **How will this be managed in an alliance, especially towards the completion of the project?**

*PWC Hansard, 17 December 1997:*

page 477 Mr Thomson—The Commonwealth sets the goalposts for the product that is delivered at the end of the day to make sure that it is satisfied with the quality of the product.

*Attachment B, New Facilities for the National Museum of Australia and the Australian Institute of Aboriginal and Torres Strait Islander Studies—Project Alliancing, presented in the Department's supplementary submission to the PWC (March 1998):*

page 10 5.8—The Department has the power under the alliance agreement to insist upon the final design and quality.

- **How will quality control be managed?**

*Proof PWC Hansard, 13 March 1998:*

page 639 Mr Service—The primary control of that is with the project manager...The people who form the alliance partnership at the beginning commit to deliver what is in the design documents at that stage. The one thing that clearly has to be agreed at that stage is levels of quality. If after that the client chooses to change its mind about the quality, we then go back to the issue Mr Hollis rightly raised before of how you manage variations.

Mr Ashton—We have the responsibility to have a very good cost planning process and we will have a very good cost planning process. By cost planning process, I mean that the level of detail of costing that we have now increases all the time through the process so that by the end of the schematic design phase we will have a reasonably detailed document that spells out all the major elements and how much money is allocated to each of those elements. By the end of the design development phase that will be a very detailed document, and that document is then monitored by the quantity surveyors and the project manager as we move through the documentation phase.

page 640 Mr Ashton—The other thing is that if you are in an alliance...there is no incentive for the builder to cut costs; it is irrelevant to them. Their incentive is to meet the project objectives, and in this project I know one of the things we are going to try to do in our alliance structure is to have objectives which very strongly tie all the performance to quality.

page 641 / 642 Mr Ashton—By the conclusion of the design development phase...the client and, indeed, the whole design team, have a very good idea of what all those sorts of allowances ought to be. By then we will know what the external finishes are, what the internal finishes are, what the structural system is, where all the doors and windows are, how big they are—everything is known to a reasonable degree of accuracy at the conclusion of the design development phase. That would be reflected in the cost plan that is approved at that stage.

page 642 Mr Ashton—The final finish package of work—the gold taps, if you want to use that example—would not be documented and let until a fair bit later on in the process. We would already know, though, that we were aiming for the kind of finish in those kind of areas, and that would be in the design development cost plan. If, subsequent to the approval of that cost plan, we had a cost problem in reality somewhere that was unforeseen and which could not, for some reason, be coped with through contingency, we would still have the opportunity, well ahead of the time of documenting the tap package, if you like, to make adjustments in the remaining part of the work to try to cope with that outcome.

#### **What happens in the event of a dispute between the client and the builder / services provider (or his / her subcontractors) regarding quality of finish or quality control?**

*PWC Hansard, 13 March 1998:*

page 624 Mr Thomson—Alliancing is simply focused on putting all your effort into project outcomes because the reward comes from achieving project outcomes. One of the benefits that you obtain is to focus all the project management onto delivering project outcomes.

*Attachment B, New Facilities for the National Museum of Australia and the Australian Institute of Aboriginal and Torres Strait Islander Studies—Project Alliancing, presented in the Department's supplementary submission to the PWC (March 1998):*

page 10 5.8—The Department has the power under the alliance agreement to insist upon the final design and quality.

page 11 5.14—Alliancing has worked in other industries with similar traditions. It works because it takes away the adversarial risk allocation of traditional contracts and works on a true risk sharing based upon project outcomes.

**Risks to the Commonwealth**

- **What would happen if one of the alliance parties walks away from the job?**

*PWC Hansard, 9 December 1997:*

page 307 Mr Thomson—In the event of bankruptcy, you pursue the alliance participant as you would under any standard form of contract for the costs associated with replacing the contractor...alliances are specifically drafted and exclude access to the courts in all circumstances except wilful default.

*Attachment B, New Facilities for the National Museum of Australia and the Australian Institute of Aboriginal and Torres Strait Islander Studies—Project Alliancing, presented in the Department's supplementary submission to the PWC (March 1998):*

page 9 5.6, third dot point—A defaulting alliance participant can be replaced.

page 9 5.6, last paragraph—The worst scenario, which could arise under any Project delivery system, would be the insolvency of a major alliance participant through an event which the financial analysis phase of the tendering process did not foresee. In such circumstances, the other participants would need to identify a replacement participant or let the works on some other basis, depending upon the circumstances. The risk / reward structure for the remaining participants remains in place, hence as always there would be a common drive amongst all remaining participants to remedy the problem as soon as possible.'

page 10 5.10, last paragraph—...if there is wilful default the anti-litigation provision does not apply to that default.

**Protection of Subcontractors**

- **What mechanism will be available to arbitrate in disputes between head contractors and subcontractors?**

*Attachment B, New Facilities for the National Museum of Australia and the Australian Institute of Aboriginal and Torres Strait Islander Studies—Project Alliancing, presented in the Department's supplementary submission to the PWC (March 1998):*

page 12 5.16 paragraph 1—In an alliance the contractual arrangements between small sub-contractors and builder or service providers would be similar to those in a lump sum tender. However, small sub contractors would be protected by the contractual arrangements between the Commonwealth and the other members of the alliance team.

page 12 5.16, paragraph 2—In an alliance all payments to sub contractors by alliance members are treated as costs to the project. Alliance members are only paid costs after the Commonwealth's auditors and cost consultants have determined that the work is completed and the cost is accurate. The books are open to all members of the alliance team and alliance members are not paid by the Commonwealth if sub contractors have not been paid.

- **Will the participants work to an agreed timeline? If so, what are the implications of either the construction and services contractors (or their subcontractors) being unable to commence work on a component of the project due to the late completion of work by the other party(ies)?**

*PWC Hansard, 17 December 1997:*

page 459 Mr Thomson—[project alliancing] brings the key players on board together; it puts in place a commercial structure which does not allow for claims from the builders and services contractors against the Commonwealth for delay in providing design or for any other fault on behalf of the Commonwealth other than acts of wilful default; and it does not allow for claims for extensions of time for latent conditions and all the usual sorts of things that one encounters on a project.

Department of Communications and the Arts

April 1998