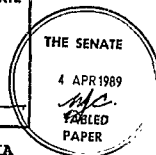


DEPARTMENT OF THE SENATE
PAPER No. 3716
DATE PRESENTED
- 4 APR 1989

Mary Egan



THE PARLIAMENT OF THE COMMONWEALTH OF AUSTRALIA

PARLIAMENTARY STANDING COMMITTEE ON PUBLIC WORKS

FINAL REPORT

relating to the

CONSTRUCTION OF NATIONAL BIOLOGICAL STANDARDS LABORATORY,
SYMONSTON, ACT

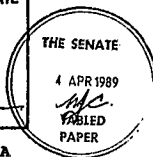
(Fourth Report of 1989)

THE PARLIAMENT OF THE UNITED KINGDOM

PARLIAMENTARY STATUTES

CONSTRUCTION OF MATTER

DEPARTMENT OF THE SENATE
PAPER No. 3716
DATE
PRESENTED
- 4 APR 1989
Mary Evans



THE PARLIAMENT OF THE COMMONWEALTH OF AUSTRALIA

PARLIAMENTARY STANDING COMMITTEE ON PUBLIC WORKS

FINAL REPORT

relating to the

CONSTRUCTION OF NATIONAL BIOLOGICAL STANDARDS LABORATORY,
SYMONSTON, ACT

(Fourth Report of 1989)

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MEMBERS OF THE PARLIAMENTARY STANDING COMMITTEE
ON PUBLIC WORKS

(Twenty-ninth Committee)

Mr Colin Hollis MP (Chairman)

Mr Percival Clarence Millar MP (Vice-Chairman)

Senate

House of Representatives

Senator Bryant Robert Burns

Senator John Robert Devereux

Senator Dr Glenister Sheil

Mr George Gear MP

Mr Robert George Halverson OBE MP

Mr John Graham Mountford MP

Mr William Leonard Taylor MP *

* Appointed on 29.9.88 following resignation of
Mr Maxwell Arthur Burr MP

EXTRACT FROM THE VOTES AND PROCEEDINGS OF
THE HOUSE OF REPRESENTATIVES

NO. 77 DATED THURSDAY 29 SEPTEMBER 1988

- 23 PUBLIC WORKS COMMITTEE - REFERENCE OF WORK - NATIONAL BIOLOGICAL STANDARDS LABORATORY, SYMONSTON, ACT - CONSTRUCTION: Mr West (Minister for Administrative Services), 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: Construction of the National Biological Standards Laboratory, Symonston, ACT.

Mr West presented plans in connection with the proposed work.

Debate ensued.

Question - put and passed.

PARLIAMENTARY STANDING COMMITTEE ON PUBLIC WORKS

CONSTRUCTION OF NATIONAL BIOLOGICAL STANDARDS LABORATORY, SYMONSTON, ACT

By resolution on 29 September 1989 the House of Representatives referred to the Parliamentary Standing Committee on Public Works for consideration and report the proposal for the construction of the National Biological Standards Laboratory, Symonston, ACT.

THE REFERENCE

1. The proposal provides for the construction of new facilities and the conversion of an existing laboratory for the development of the National Biological Standards Laboratory (NBSL) on Commonwealth-owned land at Symonston, ACT.

2. The proposed development comprises:

- . a new building complex of some 17 900 m² consisting of laboratories, barrier areas to cope with contaminants, experimental animal rooms, office accommodation, staff amenities and stores areas
- . completion of the conversion of the existing Brucella Vaccine Laboratory on the site to improve its capacity to breed experimental animals
- . provision of landscaped areas and paddocks for larger animals.

3. The estimated cost of the proposed work when referred to the Committee in September 1988 was \$51.4m at July 1988 prices, including \$900 000 for the Brucella Vaccine Laboratory modifications.

THE COMMITTEE'S INVESTIGATION

4. The Committee received written submissions and plans from the Department of Community Services and Health (DCSH) and Australian Construction Services (ACS) and took evidence from representatives of those organisations at a public hearing in Canberra on 21 November 1988. A list of the witnesses who appeared at the public hearing is at Appendix A.

5. Documentation also was received from the following organisations and has been incorporated in the Minutes of Evidence:

- . Australian Drug Evaluation Committee
- . Master Builders Construction and Housing Association of the ACT
- . National Biological Standards Advisory Committee
- . National Capital Development Commission
- . Professional Officers Association.

6. Prior to the public hearing the Committee inspected the existing facilities occupied by NBSL and the proposed sites for the new works.

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

8. Due to the heavy workload of the Committee in late 1988 it was recognised that the Committee would be unable to table its final report on this reference until early in the 1989 autumn sittings. As a result, on 30 November 1988 the Committee tabled a brief interim report informing the Parliament that it will recommend in its final report the construction of the works in the reference.

BACKGROUND

Role of the National Biological Standards Laboratory

9. The NBSL was established in 1958. It currently comprises the Pharmaceutical Laboratories Branch, the Biological Laboratories Branch and the Medical Devices and Dental Products Branch of the Therapeutics Division of the DCSH. The Therapeutics Division administers the Department's Therapeutic Goods Program which aims to provide protection for the Australian community from unsafe or ineffective drugs, vaccines and other biological products and therapeutic devices and ensures that therapeutic goods conform to high standards of quality, safety and effectiveness within the limited powers available under the Customs (Prohibited Imports) Regulations and the Therapeutic Goods Act. The Therapeutic Goods Program includes the following components:

- . evaluation of pharmaceuticals, biologicals and therapeutic devices
- . laboratory analysis of therapeutic goods
- . inspection of Australian therapeutic goods manufacturers

- . monitoring experiences with drugs and devices
- . development of standards for therapeutic goods
- . maintenance of the National Therapeutic Goods Register
- . provision of specialised advice, training and education
- . monitoring drug information
- . administration of import and export controls over pharmaceutical and biological products.

10. The need for the NBSL to perform these functions is demonstrated by the fact that these activities continue to highlight problems with therapeutic goods, that is:

- . about 10 percent of therapeutic products tested in 1986-87 failed to meet acceptable standards
- . about 35 percent of manufacturing establishments inspected in 1987 failed to meet acceptable standards of manufacturing practice
- . recalls of unsatisfactory products by manufacturers are presently occurring at a rate of about 140 products per year.

11. NBSL told the Committee that selfregulation by industry alone clearly is not an effective alternative to a mixture of self and government regulation. All developed countries have similar organisations to the NBSL and most of those organisations are government-run.

12. During the past few years the roles and responsibilities of the NBSL have been in a state of flux and further change is expected. For example, new Commonwealth legislation to control all locally manufactured therapeutic products (not only those recommended for listing as a pharmaceutical benefit as is presently the case) is expected and the Government in its 1988 August Budget announced that from 1989 the Therapeutic Goods Program would be operated on a cost recovery basis and that as part of that process charges would be introduced to meet the costs of regulating therapeutic goods. Further, following the 1987 Public Service Board Review of Drug Evaluation Procedures, consideration is being given to the proposal that the Therapeutic Goods Program might be more appropriately administered by a bureau or statutory authority. DCSH told the Committee that this proposal is still under active consideration and that a change in the status of the organisational arrangements would not affect the need for the NBSL functions to be carried out nor would it affect the location of those functions.

13. The Drug Evaluation and Evaluation Support Branch of the Therapeutics Division are not part of the NBSL and therefore are not part of the current proposal. DCSH told the Committee that it was a Cabinet decision not to include drug evaluation in NBSL. In DCSH's opinion this is partly because drug evaluation activities are essentially non-laboratory based involving evaluation of Australian and overseas reports on the effects of drugs on animals and in subsequent human clinical trials.

Early Attempts to Acquire Specialist Accommodation for NBSL

14. During the 1970s two major attempts were made to obtain a single integrated complex for the NBSL but both failed.

15. The first attempt in the early 1970s was overtaken by delays, changes in locational priority for Australian Government employment and rapid growth and change in the functions of the NBSL.

16. The second attempt occurred in late 1979 when the Public Works Committee (Ninth Report of 1979) recommended the construction of a new purpose-designed complex for the NBSL at Symonston, ACT at an estimated cost of \$26m at June 1979 prices. Preliminary site works were completed but the project did not proceed beyond that stage due to a series of reviews and inquiries into Commonwealth functions including the NBSL.

17. In 1975 the Brucella Laboratory was constructed on the site at Symonston, ACT for the Brucella vaccine testing component of the National Brucella Eradication Campaign. Later the building was no longer required for that purpose and in 1984 it was partially converted for breeding specific pathogen-free small animals.

THE NEED

Accommodation Currently Occupied by the NBSL

18. Since its formation the NBSL has experienced a number of unsatisfactory situations regarding its accommodation. The NBSL has operated in a variety of leased and government-owned premises which have been subject to continuous modification, expansion and repair.

19. The NBSL's present functions are dispersed widely throughout Canberra in nine sites as well as on two sites in Melbourne. Details of those locations are at Table 1.

20. Of the eleven sites currently occupied by NBSL only four are Commonwealth-owned - that is, the Commonwealth Serum Laboratory (CSL) site in Melbourne and in the ACT the Downer, Braddon and Acton sites; the rest are leased. Current rental costs are \$420 000 per annum. The cost of essential repairs and maintenance also is high amounting to \$238 000 in 1987-88. Of the eleven sites occupied by NBSL, only the Brucella Vaccine Laboratory has been purpose-built and even that is now used for a different function from that initially envisaged. Other sites include an ex-restaurant in a government-owned block of flats, sites in Canberra's industrial zone and premises constructed in 1952 for the Australian National University as temporary animal breeding houses which are also close to residential development.

TABLE 1: SITES AND BUILDINGS CURRENTLY OCCUPIED BY NBSL

Site	NBSL Section/Unit	Number of Buildings on Site
Australian Capital Territory		
Downer	Microbiology	1
Braddon (Currong Flats)	Sterility Testing	1
Acton	Antibiotics	1
Fyshwick (Townsville St)	Pharmacology	1
Fyshwick (Yallourn St)	Pharmaceutical Chemistry	3
Fyshwick (Isa St)	Stores/Purchasing Workshop	3
Woden	Administration	1
Symonston (Brucella Vaccine Laboratory)	Animal Services	1
Mawson	MDDP Management Information Secretariat NBSL Library CMP Inspectors Recalls	1
Melbourne		
CSL Grounds	Virology	4
Abbotsford	HDDP Management Clinical Dental Materials Medical Engineering	1

21. The current conditions of NBSL accommodation were evaluated in September 1988 by ACS consultant architects and engineers. The facilities occupied by the Microbiology, Antibiotics, Virology and Pharmaceutical Chemical Sections were reported to be inadequate. To varying degrees, the buildings are overcrowded, dilapidated and unsafe and several are considered to have a very limited life span. The other NBSL facilities were found to range from satisfactory to excellent though all functions suffer from the physical separation from related areas which is a major hindrance to the efficient and effective operation of the organisation.

22. DCSH told the Committee that there are strong pressures to move some NBSL facilities. Resident action groups in Downer, ACT (Microbiology Laboratory) and Braddon, ACT (Sterility Laboratory) strongly object to the presence of laboratories in their immediate neighbourhood due to the close proximity of animal houses, laboratories emitting steam and chemical odours and the existence of industrial rubbish hoppers etc. The Antibiotics Laboratory in Acton, ACT occupies a prime site reserved for large and prestigious institutions in Canberra's inner city area and ACT planning authorities have been encouraging NBSL's relocation for some years. The Virology laboratories on the CSL site in Melbourne have for some time prevented CSL from making further use of its overcrowded site and CSL has requested that NBSL move on several occasions.

23. The unsatisfactory nature of much of NBSL's present accommodation has been recognised by a number of independent bodies including the Public Works Committee (Ninth Report of 1979), the Ross Committee Inquiry 1983, the Nossal Inquiry 1984, Joint Parliamentary Committee on Public Accounts (240th Report of 1985) and the NBSL Advisory Committee. In addition, staff

associations have expressed considerable concern about the conditions under which some of their members must work.

24. In evidence to the Committee both the DCSH and ACS reported that substantial expenditure would be required on upgrading existing accommodation if the current proposal did not proceed. Given the limited life span and poor condition of many of the buildings DCSH considers that one of the main challenges facing NBSL will be to survive the next four years in its existing accommodation while the proposed new complex is being constructed.

25. As a consequence of NBSL's dispersed accommodation pattern stores, services, plant and equipment are duplicated; NBSL has eight vehicles whereas five would suffice in a single building; additional travel costs are estimated at \$27 000 per annum and loss of staff time due to travel at some \$11 000 per annum; efficient coordination of work activities between various sections is hampered; and the development of a shared scientific ethos and maintenance of staff morale is difficult.

26. In evidence DCSH further stated that substandard animal housing facilities and associated experimental areas have exposed a significant number of NBSL staff to the risk of animal allergies, a problem which recently has been recognised as an industrial disease of some significance in the United Kingdom. During the past five years seven NBSL staff have been redeployed due to animal allergies.

27. In summary, the poor state of much of the NBSL's present accommodation and its dispersed distribution over many sites and buildings has resulted in a number of operational, managerial and scientific inefficiencies in NBSL activities.

Modifications to the Brucella Vaccine Laboratory

28. The Brucella Vaccine Laboratory has been partially converted to breed specific pathogen-free small animals and conventional small animals for those sections of the NBSL which use experimental animals. DCSH told the Committee that further modifications are necessary now to:

- . minimise the possibility of infections within the breeding colonies which would lead to severe disruption to laboratory testing programs
- . improve staff amenities and safety to acceptable levels
- . improve the efficiency of operations.

Advantages of the Symonston, ACT Site

29. The principal advantages of locating the proposed new development on the Symonston site are that:

- . the animal breeding laboratory already is on the site and following the proposed modifications should be adequate for the foreseeable future - to replace this facility would cost some \$7.5m
- . the site has adequate space for the new building as well as an appropriate buffer zone from potential future surrounding development
- . it would be extremely expensive to obtain a similar site in another major city

- . 70 percent of the NBSL staff currently are located in the ACT thus minimising costs of transfer.

Transfer of NBSL Staff from Melbourne to Canberra

30. The NBSL's Medical Services and Dental Products Branch and Virology Section are located in Melbourne at Abbotsford and CSL respectively and the current staffing level is about 54 people. It is proposed to move all 54 staff members to Canberra to occupy the new building. The costs of that move have been estimated at some \$30 000 per person. DCSH anticipate some problems in retaining staff during the relocation process and are attempting to address this issue now.

Committee's Conclusion

31. There is an urgent need for the construction of a single purpose-built complex to house the National Biological Standards Laboratory and to modify the existing Brucella Vaccine Laboratory to improve its capacity to breed experimental animals.

THE PROPOSAL

32. To fulfil the accommodation requirements of the NBSL the DCSH proposes to construct a new building to provide 17 900 m² of space with a functional area of 9500 m² to accommodate some 226 staff and to modify the existing Brucella Laboratory.

33. The proposed site of 20 hectares is located at Symonston, ACT (Block 3 Section 126). It is bound on the northwest by Narrabundah Lane and on the northeast by open land adjoining Jerrabomberra Avenue. The Brucella Laboratory has been located on the site since 1975. The site is well positioned in relation

to road networks and ACS informed the Committee that the proposal meets all current planning controls and regulations for the area.

34. In evidence ACS stated that the design solution has evolved from site conditions, planning criteria, the design brief and the location of preliminary site works developed as part of the previous proposal to the PWC. The preliminary site works comprise road and car park construction, hydraulic services and general site formation works completed in 1981. These have been valued by ACS at some \$1m at current prices.

35. The design solution for the proposed new development incorporates:

- . a new two-storey complex consisting of two linear wings linked by a central concourse area providing the following accommodation:
 - biological, chemical and engineering laboratories
 - barrier areas to exclude contaminants
 - barrier areas to prevent escape of contaminants
 - experimental animal rooms
 - office accommodation for administrative and scientific support staff
 - staff amenities areas including meeting rooms, library and lunchroom
 - workshops and stores areas
 - plant rooms
- . modifications to the existing Brucella Laboratory on the site to complete its conversion for the breeding of specific pathogen-free and conventional small animals used in test procedures by:

- upgrading staff toilet amenities
 - upgrading and increasing the number of entrances to the specific pathogen-free barriers
 - replacing the air handling control system and improving the air supply system to animals
 - improving the waste disposal system
 - replacing the manually-operated boiler with an automatic boiler
 - modifying two small incinerators to provide emergency backup for waste disposal
- . provision of landscaped areas and paddocks for larger animals.

36. The proposed building is considerably smaller than the building approved in 1979 because less space is required for staff and for housing animal breeding areas. NBSL now has 40 percent less staff than that envisaged in 1979 and the number of animals used in laboratory testing programs is considerably smaller due to changes in animal experimentation practices over time.

37. Further details on the construction of the building are provided at Appendix B and project drawings are at Appendix C.

Committee's Conclusion

38. The Committee is satisfied that the design of the proposed building and modifications to the existing Brucella Laboratory will satisfy the accommodation needs as outlined for the National Biological Standards Laboratory.

AMENITIES AND FACILITIES

Staff Amenities

39. Amenities including toilets, showers and a centralised canteen will be provided in accordance with the scales and standards applicable to such development proposals. By centralising the canteen facilities DCSH hopes to facilitate communication between NBSL staff, a situation which has been difficult in the current dispersed accommodation.

Facilities for Disabled Persons

40. Parking spaces, automatic doors at the main entrance, ramps, lifts and toilets for the disabled have been included in the design of the building.

Car Parking

41. DCSH told the Committee that about 85 percent of the staff of NBSL travel to work by private vehicle. About 190 car spaces are provided by an existing car park to the west of the site. ACS informed the Committee that this allocation meets ACT planning requirements. In addition, parking spaces will be provided adjacent to the building entrance for visitors and disabled persons. There is no public transport to the site and no plans to provide a bus service in the foreseeable future. The nearest bus set-down point is about 2 km from the proposed NBSL site. DCSH told the Committee that in discussions with staff the lack of public transport has not been identified as a problem with the proposed development.

Energy Usage

42. The building is potentially a high energy user because of the need for extensive ventilation to control odours and contaminants. Consequently, the building has been designed to maximise energy conservation by including features such as: a high standard of insulation and other passive building design features to conserve heat; configuration of systems and controls to minimise or eliminate energy input after normal operating hours; utilisation of fresh air for cooling purposes when outside air temperatures are suitable; and recovery of waste heat in air-conditioning and process steam systems.

Security

43. A security alarm system will be installed in the main building with intrusion detectors in key areas and areas containing items of high asset value or commercially-classified material. An electronic access system will control and monitor access to the building. In addition, the site is surrounded by a large buffer zone which will be landscaped but open enough to allow identification of intruders approaching the building. At night there will be security lighting surrounding the building and a commercial security patrol firm will be employed to keep the building under surveillance.

Fire Protection

44. A laboratory by its nature is a higher fire risk than other buildings though the proposed NBSL building is probably towards the lower end of fire risk by laboratory classification. Nevertheless, ACS has proposed a comprehensive fire protection scheme developed in close consultation with the ACT Fire Brigade.

The building will be of fire resistant construction, and subdivided into compartments by fire-rated walls, floors and fire doors etc. It will be protected by a fire sprinkler system with the exception of a few areas where sprinklers are not permitted such as in areas containing micro-organisms or major electrical equipment. Where appropriate these areas will be protected by fire-rated enclosures, detector systems and external drenching. Smoke detectors will be installed in all return air-ducts. Fire protection measures such as internal fire hydrants will be provided throughout the complex and alarms will be connected to the local fire brigade.

ENVIRONMENTAL CONSIDERATIONS

45. DCSH advised the Committee that as part of the 1979 proposal a Notice of Intention had been submitted but that an Environmental Impact Statement had not been required. However, particular emphasis was given to the safeguards and assurances set out in the Notice of Intention relating to biological security and the disposal of radioactive, chemical, pathologically-contaminated and other wastes. In relation to the current proposal the Department of the Arts, Sport, the Environment, Tourism and Territories has reconfirmed this view.

Waste Disposal

46. Wastes expected to emanate from the proposed facility have been categorised in several classifications and their treatment, handling and disposal arranged to meet all agreed local authority requirements. A detailed management strategy has been prepared to handle this situation.

Landscaping

47. The site for the proposed development consists of woodland and open pasture. Landscaping will extend the woodlands on the west of the site using native trees to provide shade for car parks and informal screening of the complex from the street. Closer to the complex, landscaping will be more formal. Maintenance of the woodlands areas will be minimal and the formal areas only will require an automatic irrigation system.

Buffer Zone

48. Currently there is little development in the Jerrabomberra Valley in which the proposed NBSL complex will be located. Discussions with ACT planning authorities have revealed that development is unlikely to occur in the area until around the year 2000 and in future planning proposals a buffer zone would be retained to separate residential development from the proposed building complex. The proposed building design also has addressed issues such as emissions, noise, waste disposal and other factors which people perceive are associated with such a laboratory. In addition, there would be a fairly extensive tree planting program to screen the development from the residential area.

Committee's Conclusion

49. The Committee concludes that the Department of Community Services and Health and Australian Construction Services are developing appropriate measures and safeguards to ensure the biological security of the proposed development and the safe disposal of all wastes.

CONSULTATIONS

50. DCSH and ACS informed the Committee that the following authorities and organisations have been consulted in the development of the proposal, none of which raised any objections:

- . ACT Electricity and Water Authority
- . ACT Fire Commissioner
- . ACT Radiation Council
- . AGL Canberra Ltd
- . Australian Council for Rehabilitation of the Disabled
- . Department of Administrative Services, Food Services Section
- . DASETT
 - ACT Administration (City Engineering Section and Environmental Protection Section)
 - Environmental Group Assessment Branch.

51. The proposal also was discussed with relevant staff associations, namely:

- . Association of Drafting, Supervisory and Technical Employees
- . Australian Clerical Officers Association
- . Australian Public Service Association
- . Professional Officers Association.

In addition, the building has been discussed at DCSH Accommodation Consultative Committee meetings at which unions are represented.

52. There also has been extensive consultation by DCSH with staff in both Canberra and Melbourne during the development of the design brief and the actual design of the building. ACS has

made two formal presentations on the proposal to staff. DCSH assured the Committee that further staff consultation will continue as the project develops.

53. Letters of support for the proposal have been received from:

- . Drug Evaluation Committee
- . NBSL Advisory Committee
- . National Capital Development Commission
- . Master Builders Construction and Housing Association of the ACT
- . Professional Officers Association.

54. To date NBSL has not been the subject of criticism by the animal liberation movement. DCSH consider this to be partly attributable to the work of the NBSL's Animal Experimentation Ethics Committee which ensures that practices followed are acceptable by the wider community. Members of the RSPCA are represented on that Committee.

DESIGN AND CONSTRUCTION PROGRAM

55. In view of the importance of the project in alleviating problems in existing facilities, Federal Cabinet has given approval for concurrent documentation - that is, ACS can proceed with the design, development and documentation of the project while the proposal is being examined by the Public Works Committee. By using this approach ACS anticipates that the modifications to the Brucella Vaccine Laboratory will commence in May 1989 and be complete in February 1990 with the main new building complex scheduled for completion in December 1992.

56. There will inevitably be some disruption to NBSL testing during the proposed relocation especially with the move of staff and facilities from Melbourne to Canberra. DCSH reported however, that it is expected that dislocation can be kept to a minimum with careful forward planning.

LIMIT OF COST

57. The limit of cost for the proposal is \$51.4m at July 1988 prices including \$0.9m for modifications to the Brucella Laboratory.

58. The limit of cost estimate includes the following:

- . building work
- . mechanical, electrical and hydraulic services, lifts and fire protection
- . landscape and external services
- . Brucella Laboratory modifications.

59. ACS advised the Committee that additional fitout costs associated with the project will be about \$50 000. Compared with the fitout of other projects this figure is very low as most of the fitout in the current proposal will be fixed benches and equipment which is included as part of the limit of cost. The additional \$50 000 mainly covers the costs of relocation of desks, equipment, etc.

Committee's Recommendation

60. The Committee recommends the construction of the proposed work for the National Biological Standards Laboratory at Symonston, ACT at an estimated cost of \$51.4m at July 1988 prices including \$0.9m for modifications to the Brucella Laboratory.

COMMITTEE'S CONCLUSIONS AND RECOMMENDATION

61. The conclusions and recommendation of the Committee and the paragraph in the report to which each refers are set out below:

Paragraph

1. There is an urgent need for the construction of a single purpose-built complex to house the National Biological Standards Laboratory and to modify the existing Brucella Vaccine Laboratory to improve its capacity to breed experimental animals. 31
2. The Committee is satisfied that the design of the proposed building and modifications to the existing Brucella Laboratory will satisfy the accommodation needs as outlined for the National Biological Standards Laboratory. 38
3. The Committee concludes that the Department of Community Services and Health and Australian Construction Services are developing appropriate measures and safeguards to ensure the biological security of the proposed development and the safe disposal of all wastes. 49

4. The Committee recommends the construction of the proposed work for the National Biological Standards Laboratory at Symonston, ACT at an estimated cost of \$51.4m at July 1988 prices including \$0.9m for modifications to the Brucella Laboratory.

60



Colin Hollis

Chairman

9 March 1989

APPENDIX A

LIST OF WITNESSES

- BEECH, Dr Derrick Roy, Assistant Secretary, Medical Devices and Dental Products Branch, Therapeutics Division, Department of Community Services and Health, Alexander Building, Phillip, ACT, 2606
- GRAHAM, Dr David Trevor, Assistant Secretary, Pharmaceutical Laboratories Branch, Therapeutics Division, Department of Community Services and Health, Alexander Building, Phillip, ACT, 2606
- LIGHTFOOT, Mr Bruce Richard, Architect and Design Project Leader, Australian Construction Services, Department of Administrative Services, Sirius Building, Furzer Street, Phillip, ACT, 2606
- MOODY, Mr Trevor, Acting Project Manager, Australian Construction Services, Department of Administrative Services, Sirius Building, Furzer Street, Phillip, ACT, 2606
- NEWTON, Mr Barry, Acting Deputy State Manager, Australian Construction Services, Department of Administrative Services, Sirius Building, Furzer Street, Phillip, ACT, 2606
- O'NEILL, Mr Graeme Denis, Project Engineer, Australian Construction Services, Department of Administrative Services, Sirius Building, Furzer Street, Phillip, ACT, 2606
- PFLAUM, Mr Peter Theo, Head, Therapeutics Division, Department of Community Services and Health, Alexander Building, Phillip, ACT, 2606
- ROCHE, Mr Michael John, Deputy Secretary, Department of Community Services and Health, Alexander Building, Phillip, ACT, 2606
- ROUGHTON, Mr Fraser John, Director, Facilities and Forms Management Section, Corporate Services Division, Department of Community Services and Health, Alexander Building, Phillip, ACT, 2606
- WITHELL, Mr John, Assistant Secretary, Biological Laboratories Branch, Therapeutics Division, Department of Community Services and Health, Alexander Building, Phillip, ACT, 2606

CONSTRUCTION DETAILS

Building Description

The main building will be a two-storey linear structure. It will be planned on a uniform grid to provide flexibility for future change. The building will consist of two wings housing laboratories and related facilities, linked by a central enclosed concourse.

The ground floor will be occupied by technical support functions, amenities and the specialised engineering laboratories of the Medical Devices and Dental Products Branch. Conventional chemistry and biology laboratories of the Pharmaceutical and Biological Laboratories Branches will be situated on the first floor.

The main entry will be located towards the western end of the building for access from the carpark. Medical Devices and Dental Products Branch administration and laboratories, both subject to frequent outside visits, will be sited near this entry. Common amenities such as meeting rooms, lunch room and library will be located centrally.

On the eastern end of the building, technical support sections such as Stores and Animal Services will adjoin the service vehicle access. On the first floor, animal-using laboratory groups will be sited above Animal Services. The centre of the building at the upper level will be occupied by laboratory groups whose disciplines represent a transition between those biological functions on the east and chemistry functions on the west. A Central Plant room, supplying reticulated services and heating and cooling media, will be situated on the eastern end of the building, below Animal Services. Local plant for laboratories will be housed in roof top plant rooms.

The Site

Planning studies for the proposal confirmed the suitability for re-use of previously constructed works on the site, namely

- . Brucella Vaccine Testing Laboratory
- . access roads and carparks
- . stormwater drainage system
- . site formation works
- . reticulated services.

The main building will be located on the existing earthworks platform and will use the existing carpark for staff parking.

The single entrance road from Narrabundah Lane will provide controlled access for staff, visitors and service vehicles. The Brucella Building will be connected to a service access road within the site which continues to the rear of the main building. The orientation of the building follows the alignment of Narrabundah Lane, providing views to the north and south.

Building Structure, Materials and Finishes

A reinforced concrete frame with beam and slab floor system will be adopted. The beams and slabs will be cast integrally with reinforced concrete columns. Roof framing will be of steel. The structural frame will be supported by individual column pad footings, except where the depth of excavation to the weathered rock foundation is considerable, in which case bored piers will be used.

The external walls will be clad with a lightweight, insulated panel system, with durable paint finish. Windows will be generally single glazed with double glazing in areas of controlled humidity. Sunshading will be provided to all laboratory glazing. The roof will be prefinished insulated metal deck.

Throughout laboratory areas, partitioning will be steel framed with waterproof plasterboard cladding, glazed where appropriate. Special treatment will control transmitted noise where required. Plasterboard ceilings will be provided throughout and floors will be covered with welded sheet vinyl.

Rooms requiring sealed construction (e.g. for containment or fumigation) will be purpose-designed and constructed as integrated systems of walls, floors, ceilings, doors and airlocks using materials such as fibreglass, steel or moulded marine quality plywood. These enclosures or barriers will be built to close tolerances and high standards of workmanship, under close supervision.

Amenities and Administration areas will incorporate glazed or demountable partitions, carpet and acoustic ceilings suitable to their particular functions.

Mechanical Services

A basement plantroom will accommodate Central Plant providing heating water, steam, chilled water and compressed air. A cooling tower will be located in a separate enclosure remote from

the building. Provision will be made for the accommodation of at least one additional machine (i.e. chiller, boiler etc.) and auxiliaries for future expansion of each major central energy system to allow expansion of services without major building work.

Airconditioning and ventilation will be provided for specialised functions and human comfort. The airconditioning systems for Laboratories, Animal Services and specialised areas will allow for high rates of fresh air ventilation and high quality air filtration.

Many areas have specific functional requirements including close temperature control, humidity control and the prevention of uncontrolled air movement. The need for total control and/or containment of airborne contaminants in these areas will be achieved by the design of appropriate enclosures, airconditioning plant, controls and services as integrated systems. Sealed room construction, ultra high efficiency air filtration and room air pressure control will also be a feature.

Despite the diversity of functional requirements throughout the facility, a consistent approach has been adopted in the provision of airconditioning services.

A number of local ventilation systems also will be provided for the control and removal of contaminants or local heat dissipation. These systems will frequently incorporate specialised equipment such as bio-hazard hoods and fume cabinets.

A number of specialised reticulated laboratory services will be provided, including laboratory reagent grade pure water, domestic hot water, compressed air, natural gas, nitrogen gas, vacuum and steam. These services will be grouped for common access and reticulated through assigned service routes above or below the laboratory spaces being served.

A number of items of specialised equipment will be provided including autoclaves, industrial washing plant, cool rooms, cold rooms, constant temperature rooms and fume cupboards.

Stand-by generating plant consisting of a single diesel engine alternator, with fuel system and controls, will be located adjacent to the Central Plantroom and will supply electric power to maintain the operation of essential services in the event of a power failure.

A computer-based Central Monitoring System will be used primarily for monitoring the operation of systems and services for correct functioning and efficiency. It will also provide the capability

for sequencing and programming the starting and stopping of plant so that systems are operated only as necessary to meet user requirements. A third major capability will be for logging selected plant and equipment operation.

The design and installation of all mechanical services will ensure that noise and vibration levels are within acceptable limits especially in areas where there is equipment sensitive to vibration.

Electrical Services

Electrical supply to the site will be provided by ACT Electricity and Water. Two 11 000 volt services will be provided. These will be connected as a ring main supply through two substations located in the building to ensure maximum reliability of the mains supply. An essential supply from the standby generator set will be provided to maintain partial operation of laboratory lighting and equipment during prolonged power failure. An uninterruptable power supply will be provided to maintain critical functions, such as the main computer, during momentary power failure.

Fluorescent lighting generally will be used throughout the building. However, special purpose task lighting will be provided in laboratories, experimental rooms, the workshops and where screen-based equipment is used. Where necessary, fittings will be designed to ensure microbiological security and to withstand decontamination processes. An energy management system will control lighting to minimise costs.

Screened rooms will be provided to protect critical experimental equipment from electromagnetic interference due to power cables in the building and a future ACTEW 132kV powerline to be installed adjacent to the site.

Two electrohydraulic lifts will be provided for movement of equipment and staff, including disabled staff and visitors.

Hydraulic Services

Water will be provided from an external augmented supply and reticulated for domestic, fire and irrigation services. Wastes discharged to the sewer will meet the requirements of the Canberra Sewerage and Water Supply Regulations. Stormwater drainage will be discharged into formed channels on the site. Sedimentation/pollution control ponds will be provided at the site boundaries to minimise downstream contamination.

APPENDIX C

PROJECT DRAWINGS

Figure

- 1 Location Plan
- 2 Precinct Plan
- 3 Site Plan
- 4 Ground Floor Plan
- 5 First Floor Plan
- 6 Elevations
- 7 Sketch of the Building from the Site Entry.

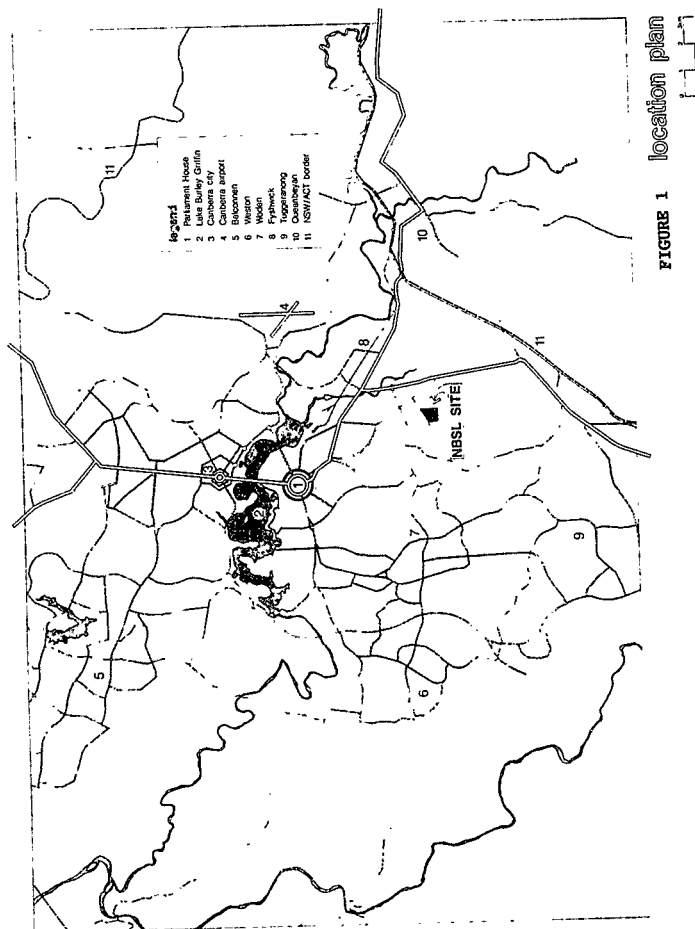


FIGURE 1 location plan

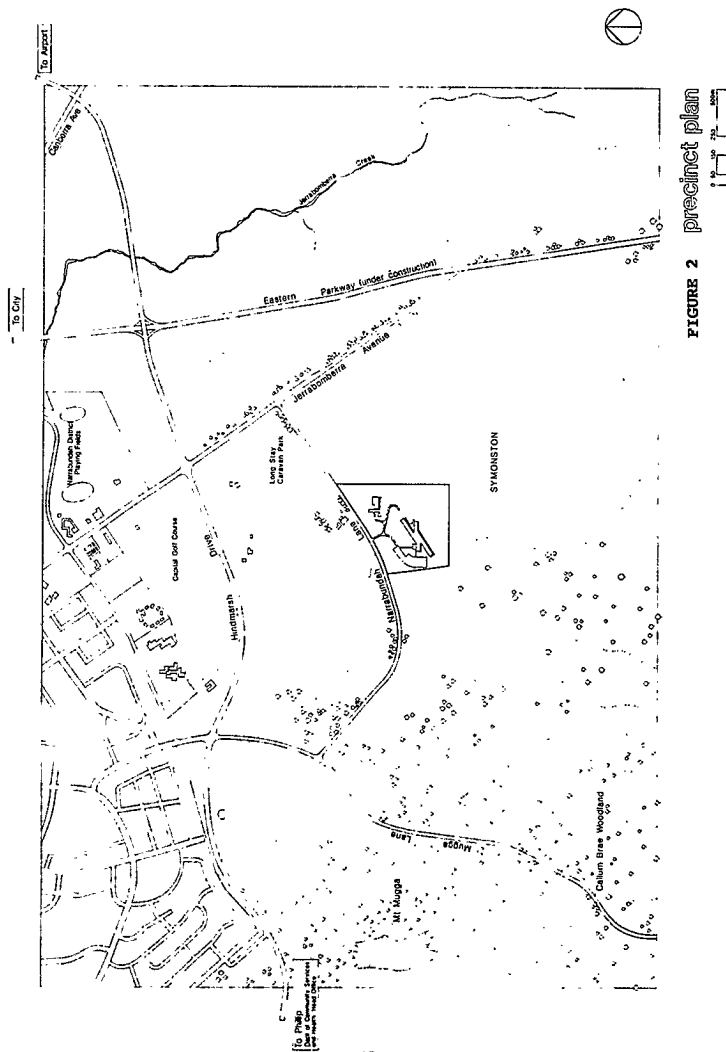


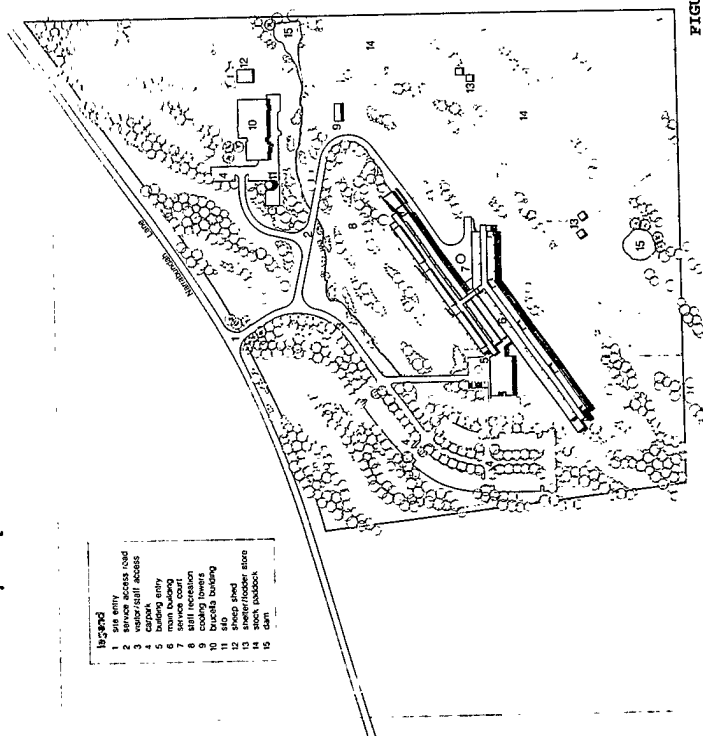
FIGURE 2 precinct plan



site plan

Scale: 1" = 100'

FIGURE 3



- Legend**
- 1 site entry
 - 2 service access road
 - 3 main building
 - 4 carport
 - 5 building entry
 - 6 main building
 - 7 main building
 - 8 still recreation
 - 9 cooking towers
 - 10 busola building
 - 11 main building
 - 12 sheep shed
 - 13 shelter/hobby store
 - 14 stock paddock
 - 15 gate

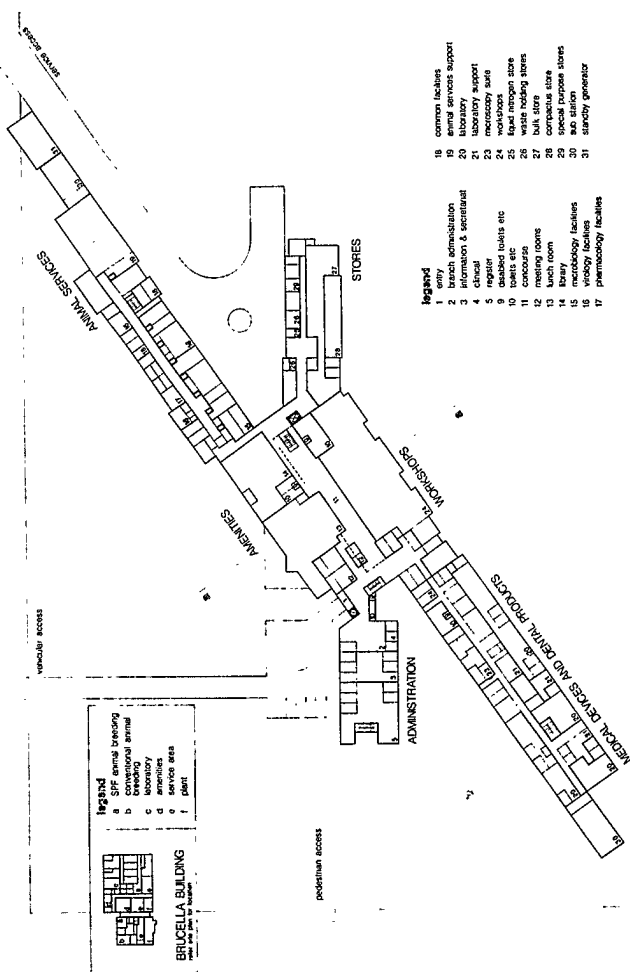
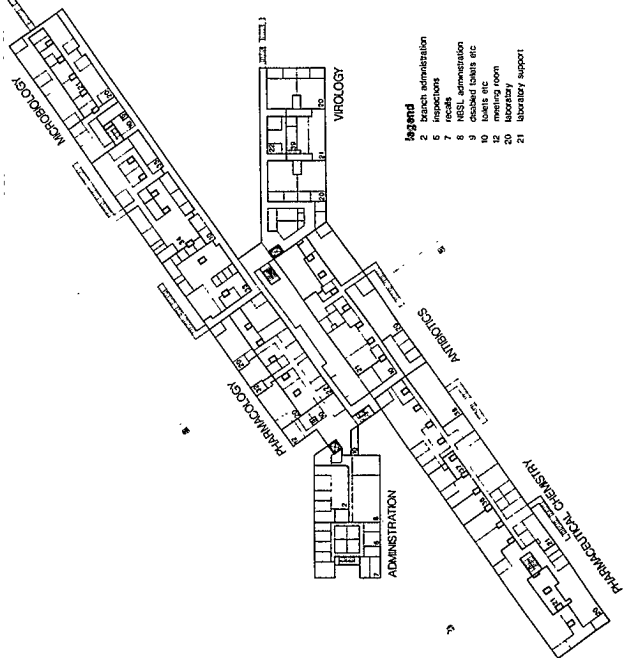


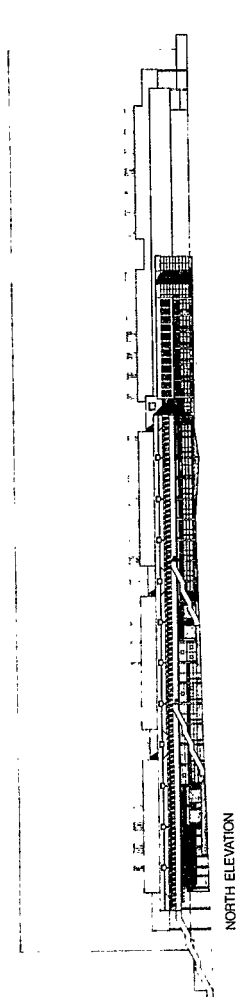
FIGURE 4 ground floor plan



Legend

- | | | | |
|----|-------------------------|----|-------------------------|
| 22 | clinical support | 22 | clinical support |
| 23 | clinical research | 23 | clinical research |
| 24 | clinical research | 24 | clinical research |
| 25 | sterile testing | 25 | sterile testing |
| 26 | non sterile testing | 26 | non sterile testing |
| 27 | atomic absorption suite | 27 | atomic absorption suite |
| 28 | cytotoxic suite | 28 | cytotoxic suite |
| 29 | chemistry washup | 29 | chemistry washup |
| 30 | bioassay laboratory | 30 | bioassay laboratory |
| 31 | laboratory support | 31 | laboratory support |

FIGURE 5 first floor plan



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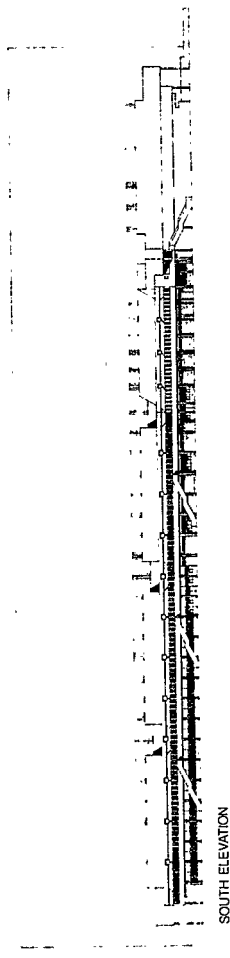
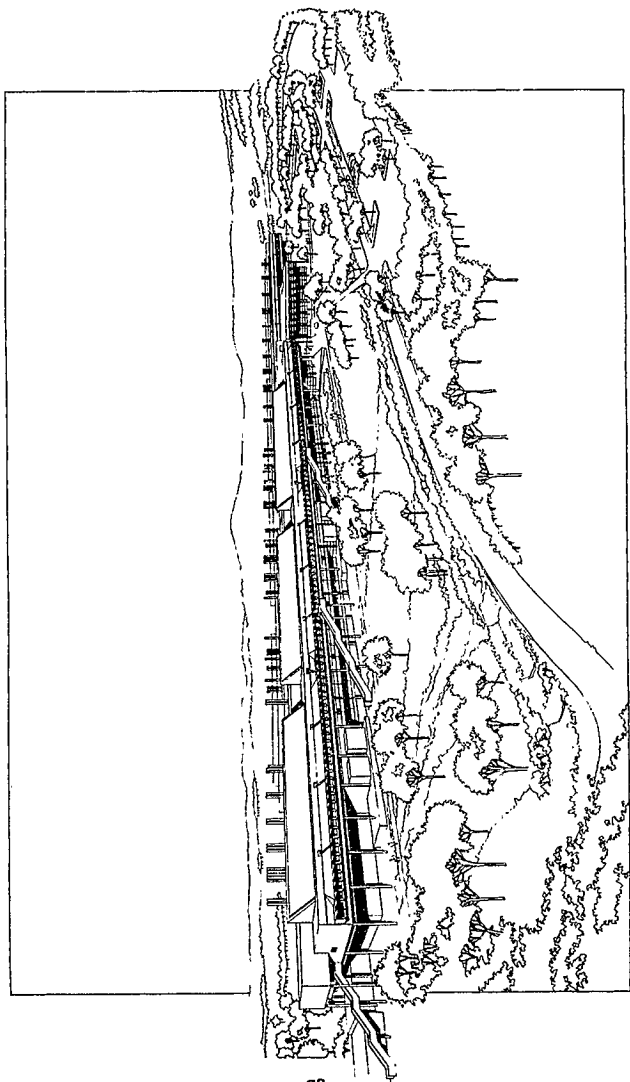


FIGURE 6 elevations





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FIGURE 7 - SKETCH OF THE BUILDING FROM THE SITE ENTRY