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THE PARLIAMENT OF THE COMMONWEALTH OF AUSTRALIA

PARLIAMENTARY STANDING COMMITTEE ON PUBLIC WORKS

REPORT

relating to the

EXPANSION OF INTERNATIONAL TERMINAL COMPLEX,
SYDNEY (KINGSFORD-SMITH) AIRPORT

(Thirteenth Report of 1988)



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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

Mr George Gear MP

Senator John Robert Devereux

Mr Robert George Halverson OBE MP

Senator Dr Glenister Sheil

Mr John Graham Mountford MP

Mr William Leonard Taylor MP

**Sectional Committee on Expansion of International Terminal
Complex, Sydney (Kingsford-Smith) Airport**

Mr Colin Hollis MP (Chairman)

Mr Percival Clarence Millar MP (Vice-Chairman)

Mr Robert George Halverson OBE MP

Senator Bryant Robert Burns

EXTRACT FROM THE
VOTES AND PROCEEDINGS OF THE HOUSE OF REPRESENTATIVES
NO. 74 DATED THURSDAY 1 SEPTEMBER 1988

32 PUBLIC WORKS COMMITTEE -REFERENCE OF WORK - EXPANSION OF
INTERNATIONAL TERMINAL COMPLEX, SYDNEY (KINGSFORD-SMITH)
AIRPORT: 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: Expansion
of International Terminal Complex, Sydney
(Kingsford-Smith) Airport.

Paper: Mr West presented the following paper:

Sydney (Kingsford-Smith) Airport - Expansion of
International Terminal Complex - Technical report by the
Federal Airports Corporation, dated August 1988.

Debate ensued.

Question - put and passed.

PARLIAMENTARY STANDING COMMITTEE ON PUBLIC WORKS

EXPANSION OF INTERNATIONAL TERMINAL COMPLEX
SYDNEY (KINGSFORD-SMITH) AIRPORT

By resolution on 1 September 1988 the House of Representatives referred to the Parliamentary Standing Committee on Public Works for consideration and report the proposal for the Expansion of the International Terminal Complex, Sydney (Kingsford-Smith) Airport.

THE REFERENCE

1 The proposal provides for the expansion of the existing International Terminal Complex (ITC) at Sydney (Kingsford-Smith) Airport to cope with the enormous growth in international air passengers and traffic at the airport.

2 The works as referred to the Committee comprise:

- . a new 47 000 m² four-level terminal building to the south of and integrated with the existing ITC
- . a new 17 000 m² three-level pier to provide an aerobridge connection to six aircraft of Boeing 747-400 size and an additional two gates without aerobridge connection
- . new aircraft aprons and taxiways
- . alterations to landside roadworks
- . a new bus parking area
- . related engineering works, security fencing, signage and landscaping.

3 The estimated capital cost of the proposed works when referred to the Committee in September 1988 was \$170m at April 1988 prices. This figure, however, is essentially a budget figure and is subject to further definition in the technical specification and design stage of the project. Consultant fees associated with the project are \$21m resulting in a total cost of some \$191m at April 1988 prices.

4 At the public hearing the Federal Airports Corporation (FAC) advised the Committee that on 27 September 1988 the Board of the FAC considered the proposal and agreed to an amount of \$214m at April 1988 prices to cover the scope of the work as outlined plus the following additions:

- . an automated outbound baggage handling system
- . moving footways in transfer corridors
- . canopies over the arrivals and departures roadways.

As a result the Committee considered the full proposal for \$214m.

5 In order to meet the commissioning date in early 1992 the full proposal has been referred to the Committee at the conceptual design stage so that if the project is endorsed by the Committee it would enable the FAC to fast-track the development. As a consequence of that approach, the design and construction details on the project that are available to the Committee are necessarily limited as the project has not yet proceeded to detailed design and there may be some changes in the scope, size and cost of various components in working towards the final design. In fact, further refinement of the proposal occurred after the referral of the project to the Committee and resulted in minor changes in the floor space of the terminal from 47 000 m² to 50 642 m² and the pier from 17 000 m² to 21 780 m².

THE COMMITTEE'S INVESTIGATION

6 The Committee received a submission and project drawings from the FAC and took evidence from its representatives at a public hearing held in Sydney on 4 and 5 October 1988.

7 The Committee also received submissions and took evidence from:

- . Ansett
- . Australian Customs Service
- . Australian Quarantine and Inspection Service, Department of Primary Industries and Energy
- . Australian Tourism Industry Association Ltd (ATIA)
- . Botany Independent Action Group; Botany Citizens Airport Group; Residents Airport Co-ordinating Committee
- . Botany Municipal Council
- . Department of the Arts, Sport, the Environment, Tourism and Territories (DASETT)
- . Environmental Impact Reports Pty Ltd
- . Mr Glenn Goyen
- . Inner Sydney Regional Council for Social Development Co-op Ltd
- . Inner Sydney Regional Transport Group
- . International Air Transport Association (IATA)
- . Marrickville Airport Watch
- . New South Wales Government
- . Professor Gordon Mills, University of Sydney, Department of Economics (private submission)
- . Qantas
- . Summer Hill Action Group
- . The Stanmore Society.

A list of the witnesses who appeared at the public hearing is at Appendix A.

8 Written submissions also were received from the following organisations and are incorporated in the Minutes of Evidence:

- . Australian Heritage Commission
- . Board of Airline Representatives of Australia
- . The Council of the Municipality of Rockdale
- . Department of the Premier and Cabinet, Victoria
- . Lewisham/Petersham Residents Group
- . Lord Mayor of Wollongong.

9 Prior to the public hearing the Committee inspected the site for the proposed development and the existing ITC at Sydney (Kingsford-Smith) Airport.

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

BACKGROUND

The Federal Airports Corporation and Its Charter

11 The FAC is a government business enterprise established by, and incorporated under, the Federal Airports Corporation Act 1986. On 1 January 1988, the FAC assumed responsibility for the ownership, management and development of Australia's 17 federal airports. The aim of the FAC is to operate on private enterprise lines and use business management and systems to make the airports profitable and commercially self-supporting in a safe, efficient and environmentally acceptable manner. The \$214m redevelopment of Sydney (Kingsford-Smith) Airport is the first major capital works program to be conducted by the FAC.

Sydney (Kingsford-Smith) Airport

12 Sydney (Kingsford-Smith) Airport occupies an area of approximately 700 hectares and is situated on Botany Bay, some 8 km south of Sydney's Central Business District (see Figure 1 Appendix C). It is located within the municipalities of

Botany and Rockdale and is adjacent to Sydney's largest and most important industrial zone, the Central Industrial Area. The bulk liquid and container berths of the port of Botany Bay are located nearby at Port Botany. The airport is surrounded by waterways (Botany Bay in the south, Alexandra Canal in the northeast, Cooks River in the west and Lachlan Swamps in the east) except for the northeast boundary which is adjacent to the Central Industrial Area at Mascot. The land use and zoning in the immediate vicinity of the airport comprise a mixture of commerce, industry, residential and open space. The areas further afield are predominantly residential although there are small pockets of other uses scattered throughout.

13 The site for the airport was acquired in 1921 and initially developed as a grass airfield. In the 1930s the size of the site was expanded and further developed to the extent that in 1935 the airport was declared an international airport. By 1947 a temporary international terminal building had been provided and this was modified several times during the 1950s and early 1960s. A new international terminal building was opened in 1970. This terminal currently is undergoing major improvement works to enable it to better cope with the continuing growth in passenger numbers.

14 During the past 60-70 years Sydney (Kingsford-Smith) Airport has developed to the extent that it is a major enterprise in its own right and a key part of the State's infrastructure. It occupies a strategic position in the Sydney, New South Wales and wider Australian economy, being a critical facility for international tourism, business activity and cargo.

15 Key indicators of Sydney (Kingsford-Smith) Airport's significance include:

- . it handles about 60% of Australia's international tourists (in excess of 4 million international passengers used Sydney airport facilities in 1987)

- . it handles over 50% of Australia's air freight
- . it services the financial centre of the South Pacific
- . it is the busiest regular transport airport in the southern hemisphere
- . it is the preferred international gateway to Australia accounting for some 57% of international visitor arrivals to Australia
- . it serves 33 international airlines operating on an average 80 flights per day
- . it employs approximately 16 000 people in over 120 companies and organisations.

Consequently, any inadequacies or problems with the airport have significant economic implications for the regional, State and national economies.

16 As the airport has developed in importance and significance so has the character and significance of its surrounding environs. Development in the Kogarah and Rockdale areas has been mostly residential while considerable industrial development has taken place in Botany, Mascot, St Peters, Marrickville and Sydenham. Generally the effects of the airport on the zoning of land in the area have been incremental over a long period of time. Some residential areas in Rockdale have been zoned to prevent high density residential development in areas subject to high aircraft noise. Airport-related industrial development has spread into Mascot during the past ten years with Qantas and other freight firms locating in the area. Recent planning adjacent to the airport has established an airport-related zone in which occupants are required to justify an airport-associated use such as hotels, office, tourism and service industries.

17 As a result of those changing land use patterns and the considerable growth in the participation - citizens movements, etc - the direction of development of the Botany subregion has received substantial attention particularly during the past 10-15 years often with associated controversy and conflict. Development at the airport brings into focus the differing views and expectations of those people who want to see the Botany subregion as a residential area, with a very high residential amenity, and those who want the continuing economic development of the area.

Sydney (Kingsford-Smith) Airport Inquiries

18 The resolution of those conflicts and the problems at the airport have received substantial attention from all levels of government and interested citizens for some years with the result that there have been many reports and investigations. At present there are two major inquiries into aspects of Sydney (Kingsford-Smith) Airport. They are:

- . Senate Standing Committee on Transport, Communications and Infrastructure reference on The Adequacy of International Terminal and Aircraft Handling Facilities at Sydney Airport

- . Joint Commonwealth/New South Wales Government Task Force on Airport Needs of Sydney Basin investigating how airport needs of the Sydney Basin might best be met, the need for additional airport infrastructure and how the existing infrastructure can best be used.

19 The Public Works Committee also has investigated facilities at the airport on a number of occasions. In 1965 the Committee examined a proposal to construct Buildings and Services for the International Terminal Complex and Associated Aircraft Pavements in the Northwest Building Area (Twelfth Report of 1965). Construction of those facilities was endorsed by the Committee and form the existing Sydney ITC which was opened in 1970.

Progress with Current Works

20 In November 1985 the Public Works Committee investigated the need for improvements to the existing terminal. The Committee concluded that it was not expedient for the proposed works to proceed and recommended that planning for the provision of a new or substantially expanded international terminal building should commence immediately (Second Report of 1986). That recommendation was rejected by the Government and major improvements of \$20m (at September 1985 prices) commenced in early 1987 and are expected to be complete in mid-1989.

21 During the site inspections at Sydney (Kingsford-Smith) Airport the Committee reviewed progress with the current works. At the public hearing the FAC informed the Committee that the works will now cost \$37m. The cost escalation is the result of some works, which originally had been removed to meet the budgetary figure of \$20m, being reinstated by the FAC when it took over the running of the airport and there were some additional costs associated with asbestos treatment works. The FAC also told the Committee that the completion of the works is behind schedule at present but it should be finalised by mid-1989.

22 The Committee notes the delays and additional costs associated with the current works and trusts that the FAC will make every effort to prevent a similar situation arising with the works outlined in the current proposal.

THE NEED

Deficiencies in the Existing International Terminal Complex

23 For some time Sydney's ITC has been the subject of serious criticisms. Problems stem from the fact that the ITC, opened in 1970, was only designed to accommodate narrow-body jet aircraft (B707) delivering up to 1000 passengers per hour. Since

then the demands on the terminal have increased rapidly especially since the introduction of the B747 aircraft which carry two to three times the passenger loads of the B707 (some 440 passengers compared with 140 to 180, respectively).

24 As a result, in peak periods congestion occurs through the entire terminal system, on the taxiways and on the airport roads system. The level of service and comfort associated with processing passengers through the terminal has fallen well below that envisaged in the original terminal design.

25 In an effort to contain this problem Schedule Control Rules (SCR) have been introduced to limit the peak passenger loadings on the terminal. However, the practical realities of passenger growth and airline scheduling requirements have meant that within the rules peak passenger loadings of 1800 passengers per hour (80% above the original terminal design capacity) are frequent and sometimes exceeded. The delays, queues, discomfort and criticisms continue.

26 When the current \$37m improvement works at the ITC are complete, the terminal will better service the current loads and the situation will improve somewhat. However, a major expansion of the ITC is needed to allow for airline schedule expansion and to accommodate the increased peak passenger flows that are forecast.

Growth in Passenger Demand

27 The FAC advised the Committee that the growth in passenger movements in the twelve months to June 1988 was 19.8% and that the historical average growth of 7% per annum can be confidently projected at least into the medium-term future with peak period rates likely to be similar to annual growth rates.

28 Qantas believes the passenger growth rates will be substantially higher. Its fleet purchase program and market

objectives assume the actual growth of 18% in 1987 will fall to 16% in 1988, 12% in 1989 and around 9% per annum for 1990 to 2010.

29 The FAC has assured the Committee that the proposed development strategy is sufficiently flexible that it allows for significant immediate expansion to accommodate higher growth rates in passenger demand should they prevail over the longer term.

30 The projected growth in passenger movements largely is attributed to growth in tourism with tourist organisations projecting the number of international visitors arriving in Australia will increase from 1.8 million in 1987 to 2 million in 1988 and to 4.5-5 million per annum by year 2000. The New South Wales Government emphasised that financial and economic sector travel to Sydney also is increasing.

Growth in Aircraft Gate Demand

31 The gate is the area from which departing passengers gain access to the aircraft and through which arriving passengers gain access to the terminal. The FAC has assessed peak demand for apron gates simply in terms of annual passenger growth and apron occupancy considerations. Results of the analysis indicate that if seven to eight additional gates could be provided, they would service a wide combination of growth rates and possible apron management practices.

Public Perception of Existing Services and Facilities

32 The FAC is conscious of the poor public image of the existing terminal. Criticisms from the public, passengers and the media have focussed on the poor level of service provided at key areas in the building and subsequent low regard by many overseas visitors for what is the first and last impression of Australia. These views are shared by many Australians travelling overseas and those meeting and greeting visitors at the airport.

DASETT, the New South Wales Government and the ATIA reinforced those comments in evidence to the Committee. The need for terminal facilities at Sydney (Kingsford-Smith) Airport consistent with internationally accepted levels of service is crucial to overcoming those criticisms.

Aircraft Size

33 The next size of aircraft, the longer-range 65-metre wingspan B747-400, will begin operations to Australia early next year. Still larger derivatives of the B747 series of aircraft with greater passenger carrying capacity are under consideration for introduction possibly before the year 2000. All of the gates on the proposed new facility will be sized for the B747-400 series and, notwithstanding that, the FAC has allowed for 80-metre wingspan aircraft in the development of the Pier C complex.

34 In summary, the demands associated with increasing numbers, sizes, loads and concentration of international aircraft determine that a commitment is required now to expand Sydney's ITC.

Alternatives to Expansion

Further Restrictions on Schedule Control Rules

35 In evidence to the Committee the FAC stated that the only alternative to expansion of the facilities at the ITC is to impose ever increasingly restrictive SCR to force further spreading of peak operations. There are limits, however, within which this compromise can be achieved. Despite the current SCR helping in the short term to alleviate congestion at the airport, the SCR have resulted in many services per week being shifted from preferred to available time slots for the 1988-89 schedules. Both airline and resident groups have reservations about this strategy for dealing effectively with the problem.

36 A number of organisations that raised objections to the current proposal suggested alternatives to the ITC expansion. In evidence to the Committee the FAC provided the following comments on those alternatives:

Early Commencement of Sydney's Second International Airport - Badgerys Creek

37 The Federal Government has plans to build a second international airport at Badgerys Creek some 46 km west of Sydney. Badgerys Creek is not an FAC airport at this stage so timing of its development is a matter for the Government, not the FAC. The proposed expansion at Sydney (Kingsford-Smith) Airport is aimed at meeting a shortfall in international facilities at Sydney in the short to medium-term, a need which could not be met at Badgerys Creek in the same time frame.

Use of Williamstown and Richmond as Alternative Airports

38 This view overlooks the desire of passengers to reach Sydney, the limitations of those airports and local environmental difficulties.

Improved Passenger Processing Facilities

39 Such an alternative does not address the need for additional aircraft parking and manoeuvring areas, baggage handling capacity, check-in facilities nor road access arrangements.

Additional Use of Facilities at Bankstown Airport

40 There already has been some relocation of aircraft traffic from Sydney (Kingsford-Smith) Airport to Bankstown Airport. There is continued growth capacity available at Bankstown and the FAC will attempt to encourage small aircraft to use that airport.

Peak Period Pricing

41 The FAC advised the Committee that it supports, in principle, a system of peak period pricing for airports. However, the effectiveness of such a system in helping spread the peak load demand is strongly influenced by other factors involved in determining the aircraft arrival pattern. These factors include the competitive nature of the industry; airlines flying preferred schedules; arrival and departure times between destinations within different time zones; worldwide curfew constraints; aircraft fleet utilization; crew management, etc. Taking these factors into account, the FAC does not consider such a system would sufficiently defer the need for new terminal construction at Sydney (Kingsford-Smith) Airport.

42 None of the alternatives suggested, neither individually nor in combination, is a viable alternative to the proposed expansion of facilities at Sydney (Kingsford-Smith) Airport.

Committee's Conclusion

43 There is an urgent need for the expansion of the International Terminal Complex at Sydney (Kingsford-Smith) Airport to meet continuing growth in passenger and aircraft gate demands and the facility provided will need to meet the demands of its customers for a modern, serviceable, secure and functional facility.

THE PROPOSAL

44 To fulfil the projected growth in passenger traffic the FAC proposes to expand the existing international terminal facilities at Sydney (Kingsford-Smith) Airport.

45 The proposed site for the new facility is in the northwest corner of the current boundaries of the international terminal area immediately adjacent to and south of the existing terminal

complex. The new facility will be fully integrated in processing, servicing, space and form with the existing terminal.

46 In its submission to the Committee, the FAC stated that the design solution for the new facility has been developed following careful consideration of the existing terminal and other similar Australian and overseas terminals and the complex site conditions at the airport. It will facilitate the provision of a level of service consistent with prevailing world standards and represent a considerable improvement over that of the existing terminal. In addition, the new work will match and blend aesthetically with the existing structures.

47 The proposed development comprises:

- . a new four-storey terminal building providing some 50 642 m² of floor space with:
 - a basement complex containing a fully automated outbound baggage handling system and a services area for delivery vehicles, plant and workshop
 - an arrivals level with baggage reclaim hall, transfer concourse linked to the existing Pier B, inward immigration and customs inspection zones, passenger transfer area, rental-car office, tourist information, etc
 - a departures level with check-in area, retail area, preflight security checks, outward immigration zones
 - upper level for concessions, airline offices and lounges, administrative offices for management and government agencies
- . a 21 780 m² pier with a six-gate capacity (and an option for two additional gates) with three levels coinciding with terminal levels and the existing Pier B

- . an aircraft apron of some 68 000 m² and associated taxiway pavement for the efficient manoeuvring and parking of aircraft up to B747-400 size at the new pier
- . modifications to the landside road system including realignment of access roads and the car-park to accommodate the expansion of the arrivals level out under the existing elevated road and improved management of set-down, pick-up and short-term parking at other levels
- . related engineering works including water supply, power, sewerage and drainage; security fencing; external signage for roads; car-parks and pedestrian ways; and landscaping of disturbed areas.

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

48 The proposed works will comply with all relevant codes and planning controls and regulations. Particular attention will be given to the provision of facilities for those who use the premises including the public, staff and disabled persons.

MASTER PLAN FOR SYDNEY (KINGSFORD-SMITH) AIRPORT

49 At present there is no master plan for the development of Sydney (Kingsford-Smith) Airport and as a result development on the site has been largely ad hoc. The FAC told the Committee that it has been critical of the lack of planning but it is important to recognise that such master planning is a very complex task, especially when there are large areas of the domestic terminals which are leased to major domestic carriers which has precluded master planning in those sites. However, the FAC said that a master plan for the whole of Sydney (Kingsford-Smith) Airport is being addressed as expeditiously as possible. To this end, the FAC has retained the consulting group

of Kinhill-Stafford Moor and Farrington Joint Venture to develop a master plan for the international sectors of the airport.

50 The current proposal is the first stage of a possible three-stage plan conceived by the FAC to expand operations at Mascot. The further two stages would increase the number of aircraft bays available for the new generation of 747 jets to 27. There would be a multi-storey car-park, a hotel and office space. Further details on the plan are provided in the FAC's submission to the Committee and a copy of the master plan for the international sector is at Appendix C.

Committee's Recommendation

51 The Committee recommends that the Federal Airports Corporation prepares a master plan for Sydney (Kingsford-Smith) Airport as expeditiously as possible to ensure the overall orderly development and operation of the airport.

DESIGN OF THE INTERNATIONAL TERMINAL COMPLEX

Needs of Tenant Airlines and Government Departments

52 The airlines are responsible for a significant part of the processing of both arriving and departing passengers. To ensure that the needs of all international airlines at Sydney (Kingsford-Smith) Airport are met, the FAC surveyed the airlines or their agents and incorporated the results into a requirements document for the total facility. The FAC advised the Committee that the document has been endorsed by the IATA Airport Consultative Committee for use in the conceptual and detailed design phase. All of the airlines' needs have been totally met in the conceptual design phase; however, the details of space allocation to particular airlines will be finalised later and commercial agreements signed. In addition, discussions have been held with government departments (customs, immigration, quarantine and police) regarding their needs, the details of which will be finalised in the detailed design phase.

53 In evidence to the Committee the tenant airlines and government departments suggested a number of further changes and additions to the design of the proposed facilities such as the designation of specific areas for storage of ground handling equipment, space allocation for secondary customs inspection and aspects of quarantine space requirements. The FAC has agreed to discuss those issues with the relevant organisations as the detailed design of the project is developed.

Space and Quality Standards

54 While not necessarily opposing the proposal Professor Mills questioned the amount of terminal space per passenger and the quality of the terminal environment measured in terms of building costs per square metre of floor area - that is, just under \$2400 per square metre for the proposed terminal and just over \$2400 per square metre for the pier. Professor Mills suggested that the terminal extension may be conceived on a scale and in a manner that is more expensive than passengers want.

55 At the public hearing the Committee put this view to representatives from the airlines, government departments providing services at the airport, and the tourism organisations. Although most groups stressed the importance of efficient processing of passengers in a courteous manner as being more important to passengers than the aesthetics of the terminal, there was little support for downgrading the space and quality of the proposed terminal building. The FAC advised the Committee that the design standards used in the proposal are based on a synthesis of standards used around the world and the FAC is aiming to provide a facility which is adequate by world standards without being lavish.

Works Contributed by Other Organisations

56 Due to the complexity of the proposed international terminal development a significant component of the facilities

will be provided by other organisations. In Stage 1 those works include:

- . a hydrant refuelling system by user oil companies
- . any non common-use counters and associated systems by airlines or other tenant users
- . fitout of lounges, offices and other user-dedicated spaces by those users
- . fitout of commercial leased spaces by successful concessionaires
- . facilities for customs, health, immigration and police functions by relevant departments.

57 As part of the consultation process the FAC has discussed the provision of those works with the relevant organisations and told the Committee that the organisations have confirmed their support for the project and agreed to provide the facilities outlined.

58 The New South Wales Government also confirmed that it will co-operate fully with the FAC in obtaining any necessary approvals and in developing related infrastructure such as roads to allow the FAC to fast-track the project. The New South Wales Government has had discussions with the FAC concerning road access and congestion on roads to the airport. Over the past five years the New South Wales transport administration has pursued a policy of improving north-south access to the airport and plans to develop the F5 Freeway corridor which will provide an alternative route for traffic travelling south to bypass the airport distributor roads.

Committee's Conclusion

59 The Committee is satisfied that the design of the proposed works will fulfil the needs outlined for the expansion of the International Terminal Complex.

AMENITIES AND FACILITIES

Equality of Service Standards between the New and Existing Terminals

60 Ansett's submission raised the question of equality of service standards between the proposed Pier C facilities and the existing Pier B. In response, the FAC stated that it is intended that the new and existing facilities be fully integrated and operated as one terminal and that it supports the principle of equal service standards throughout the entire terminal. Improvements to the existing building are included in the FAC's master plan but will not commence until the new terminal is commissioned.

Security

61 Security arrangements for the proposed expansion will be identical with those currently existing. Security will be provided at the head of Pier C and once the passengers pass through they are able to circulate freely on the level on which they are located. Inwards and outwards passenger flows are separated. The Committee was advised that the security measures at the airport are on a sliding scale and can be varied, without major structural alterations to the terminal building, to suit a perceived threat or other circumstances that would indicate that a change is required.

Staff Amenities

62 Several of the airline and government department submissions stressed the importance of providing adequate accommodation and facilities for staff, particularly given the shift work nature of many operations and the concentration of work at peak arrival periods. The FAC assured the Committee that the internal environment of the building for staff would measure up against any amenity standard that generally would be applied.

Facilities for Disabled and Aged Persons

63 The FAC has included in the design of the building all of the facilities required to facilitate the use of the building by disabled persons. For example, there are lifts between the arrivals and departures levels where disabled passengers have to move to get to and from flights; the floor levels between the existing and proposed terminals have been maintained at the same level for ease of transfer; ramps will be provided at kerbs and locations where stairs occur; toilets for the disabled will be installed; and parking spaces will be provided for disabled drivers.

64 Many of the facilities provided for disabled persons also will be of value to aged passengers as will the inclusion of the moving footways in the transfer corridors.

Road Access and Car-parking

65 The Stage 1 development will be serviced by the existing road network in conjunction with improved management of set-down, pick-up and short-term parking and will include holding areas for buses, coaches and taxis, and well designed and clearly defined access routes for pedestrians. As the arrivals level will expand out under the existing elevated road, some realignment of the access roads and the car-park will be required.

Asbestos

66 Materials containing asbestos were used in the ceiling spaces of the existing terminal. The asbestos is in the process of being removed. As the proposed terminal expansion will be almost completely separate from the existing terminal until the final stages when the two buildings are linked, problems with asbestos in the proposed development should not occur. However, the FAC assured the Committee that where the proposed terminal works require disturbance of areas containing asbestos all appropriate precautions for the containment or removal of asbestos will be taken to ensure the safety of building workers and the public.

ENVIRONMENTAL CONSIDERATIONS

Federal Airports Corporation's Environmental Assessment

67 The FAC advised the Committee that under the Environment Protection (Impact of Proposals) Act 1974 it has conducted an assessment of the environmental effects of the proposal covering the impacts on air quality, water quality, road traffic congestion, noise, aircraft operation and flora and fauna, for both the construction activities and the operation of the completed terminal. The FAC's Assessment of Environmental Effects, July 1988, report was prepared internally with the aircraft noise information checked by Civil Aviation Authority experts and road traffic consultants carrying out all road traffic evaluations.

68 By making projections to 1995 the FAC's report identifies the following areas of possible impact on the environment:

- . higher rates of suspended particulates and dustfall are possible locally where unconsolidated sediments occur on the construction site, especially on windy days

- . removal of groundwater from the construction site to other areas could produce higher groundwater acidity elsewhere
- . considerable amounts of unconsolidated sediments are likely to occur on the construction site and stormwater runoff from this area may contain locally high sediment levels
- . wastes that have the potential to affect water quality are those which are deposited on the international apron and are subsequently washed into drains, channels and groundwater which find their way to the Cooks River and Alexandra Canal
- . construction noise level projections indicate that by day noise levels in residential areas are likely to be acceptable. By night, however, there may be some nuisance owing to the greater sensitivity of residents at this time even when acoustic barriers are employed
- . in 1995 significant delays to the airport related traffic (at the Centre Road/car-park exit/arrival-departure ramp roadway strip) would occur
- . the open channel adjacent to taxiway C is likely to be filled in as part of the ITC development
- . a small stand of pine trees to the north of the Cooks River should be incorporated into the final design concept.

69 The FAC's overall conclusion is that although the proposed works will inevitably cause some impact in the areas outlined, none is assessed as being environmentally significant. Aircraft noise is particularly noted as not being a significant impact associated with the project. In fact, the FAC states that the Civil Aviation Authority has forecast a general reduction in

aircraft noise impacts by 1995 (compared with 1986), even allowing for growth, due to the continued replacement of noisier aircraft by quieter jet aircraft.

70 The report also makes a number of recommendations to prevent or ameliorate the environmental effects outlined and the FAC advised the Committee that all of those recommendations will be implemented.

Comments by the New South Wales Government

71 At the public hearing the Committee asked representatives from the New South Wales Government for their reaction to the environmental assessment. They agreed to comment outside the Commonwealth-State agreement on environmental impact assessment.

72 In summary their conclusions were:

- . air quality issues are not of outstanding significance
- . construction of the extra sealed apron in close proximity to the Cooks River threatens significantly higher runoffs to the river which will inevitably have significant pollutant levels from fuel oils
- . noise from construction is significant because the construction period is well over six months and night construction is likely to be a local nuisance
- . roadside traffic noise will increase to 75 dB(A) and is significant in the context of the State Planning Control Commission's goal of 63 dB(A), though the noise level could be reduced if the link from Airport Drive to the F5 Freeway is introduced

- . provision of more peak period ground capacity for international flights will eventually result in greater numbers of international flights arriving. This will displace the landing opportunities for general aviation. There will be added off-peak pressure for general aviation landings and takeoffs
- . as much of the analysis on road access and congestion has been done with data supported by the New South Wales Department of Main Roads there are no objections to the information provided by the FAC
- . protection of the Cooks River ecosystem must be ensured
- . it is highly desirable that the stand of pine trees near the Cooks River be retained and integrated into the development.

73 The New South Wales Government also drew attention to the impact of the proposal on several planning issues. As the terminal expands there will be a tendency for commercial airport-related uses to expand into the surrounding areas. This will affect existing landuse patterns and inevitably generate more traffic. This is a problem for the New South Wales Government because it has a policy to concentrate commercial traffic generating uses in selected decentralised centres with an off-road or efficient public transport system. As the policy does not designate Mascot as a centre and Mascot does not have the required public transport services this will remain a concern for the New South Wales Government.

Concerns of Resident Groups and Local Councils

74 In evidence to the Committee resident groups and local councils expressed significant concern about the FAC's treatment and assessment of environmental issues particularly the limited information provided in its submission to the Committee. In response the FAC requested that the Committee distribute copies

of its environmental assessment report to all interested parties prior to the public hearing. Despite distribution of that report, the reservations and concerns of the residents and councils were not alleviated. At the public hearing those groups reiterated comments on the following major environmental issues: the FAC not pursuing an independent assessment of the environmental issues; noise levels; aircraft emissions; hazards, risk and safety level of the airport region; road access and congestion problems; water quality and fuel spills; and the lowering of the general quality of life in residential areas surrounding the airport.

75 As previously outlined, the FAC has fulfilled all of the requirements of the Environment Protection (Impact of Proposals) Act 1974 which does not preclude the FAC preparing its own environmental assessment of the proposal. Without questioning the quality of the report, the Committee shares the view of the residents and councils that the FAC would have been better served by having an independent environmental assessment prepared at least to obtain an alternative view on the issues and for public relation reasons.

76 Some of the resident groups expressed concern about the level of hazard and risk associated with the airport, particularly the airport's location in close proximity to the petrochemical industries at Botany Bay. The New South Wales Department of Environment and Planning's 1985 risk assessment study of the Botany/Randwick Industrial Complex and Port Botany shows the risk from an aircraft crash into the industrial complex to be low, relative to everyday risks in the Botany/Randwick area. This result is not surprising given Australia's world renowned aviation safety record. However, should such a disaster occur, most industries in the area have high standard, up-to-date emergency plans to deal with such situations. Sydney (Kingsford-Smith) Airport has an emergency plan. The individual industry plans also are co-ordinated into an overall emergency plan for the region.

77 One of the most disturbing issues for residents in the vicinity of the airport is the problem of noise levels. Residents already experience noise disturbance thus any increase in noise levels from their perspective would have a negative effect on their quality of life. On the basis of the evidence presented to the Committee the proposed ITC expansion does not appear to increase noise levels significantly above that which would normally be expected to occur; however, the Committee recognises that sensitivity to noise is a very personal issue.

78 The Committee acknowledges the difficulties that confront the FAC in trying to balance the need for developing an efficiently operating airport and the expectations of those people who want to see the Botany subregion as a residential area with a very high residential amenity. In undertaking its task of managing the Sydney (Kingsford-Smith) Airport the FAC has assured the Committee that it is very conscious of its responsibilities as a 'good neighbour' in the Botany subregion.

Committee's Conclusion

79 The Committee concludes that in view of the long history of sensitivity of residents and councils in the Botany subregion to the environmental effects of activities and developments at Sydney (Kingsford-Smith) Airport the Federal Airports Corporation would have been better advised to secure the services of an independent environmental expert to prepare the assessment of environmental issues.

CONSULTATION

80 The FAC advised the Committee that the following authorities and organisations have been consulted in the development of the proposal:

Commonwealth Government

- . Department of Industry, Technology and Commerce
- . Department of Primary Industries and Energy
- . Department of Immigration, Local Government and Ethnic Affairs
- . Department of Transport and Communications
- . Australian Federal Police
- . Australian Customs Service
- . Civil Aviation Authority

State Government

- . State Premier's Department
- . Department of Main Roads

Airlines and Airline Trade Organisations

- . Airport Operators Committee
- . Board of Airline Representatives of Australia
- . International Air Transport Association
- . New South Wales Labour Council
- . Qantas Airways Limited
- . Sydney Airport Consultative Committee.

Details of the concerns and objections raised have been outlined in earlier sections of this report.

81 As previously outlined, through a series of meetings and/or briefing sessions the facilities requirements of tenant airlines and government departments have been discussed and incorporated into the proposed conceptual design. The FAC also has had extensive discussions with other organisations contributing works to the project.

82 The FAC has attended two meetings of the Sydney Airport Consultative Committee and briefed members on the proposal. Members of that committee comprise representatives of the Local

Government Association of New South Wales, General Aviation Association, Australia Customs Service, airport concessionaires, State Chamber of Commerce and Industry, Civil Aviation Authority, New South Wales Department of Planning, Tourism Commission of New South Wales, Australian Council of Trade Unions, Australian Mayoral Aviation Council and the Airline Operators Committee.

83 Several of the residents' submissions were critical of the FAC for the lack of consultation with the New South Wales Department of Planning, State Pollution Control Commission, local government and residents.

84 The FAC rejected those criticisms and advised the Committee that consultation with State Government agencies is being co-ordinated by the New South Wales Department of State Development and has so far only involved the Department of Main Roads plus some contact with the State Pollution Control Commission and State Rail Authority during the preparation of the environmental assessment report. At the public hearing the New South Wales Government confirmed its satisfaction with consultations to date. Local councils were consulted as part of the briefings for the Sydney Airport Consultative Committee. The FAC also stated that having achieved a more detailed conceptual design proposal, now is the appropriate time for more extensive consultations with the public and staff.

Committee's Conclusion

85 While recognising the Federal Airports Corporation strategy for public participation when a more detailed design proposal had been reached, the Committee believes the Federal Airports Corporation should have informed the public on the timing of public consultations. The Committee is confident however, that the public consultation activities which the Federal Airports Corporation now is proposing will adequately meet that requirement.

INDUSTRIAL RELATIONS

86 At the public hearing the Committee raised the issue of the need for the FAC to ensure the establishment of a good industrial environment before the project commences and more specifically the value of the successful construction contractors entering into an industrial agreement with unions to ensure the project is delivered on time without industrial disputation.

87 The FAC told the Committee that it had considered this issue already and had positive preliminary discussions with Trades Hall officials. The Trades Hall representatives have advised the FAC that once the project has been approved that it would examine the project in detail and try to come up with an appropriate industrial agreement.

Committee's Recommendation

88 The Committee recommends that the Federal Airports Corporation encourages the development of an industrial agreement between the successful construction contractors and the unions as a means of ensuring that the project is completed as soon as possible, on cost and with the objective of eliminating industrial disputation.

DESIGN AND CONSTRUCTION PROGRAM

89 In view of the importance of the project in alleviating problems at the terminal the FAC believes the design and construction program itself should be designed to use lead times and advance the work at an efficient rate. Consequently, the FAC is fast-tracking the development - that is, the design and construction phases are proceeding in tandem to the maximum practical extent. By using this approach the FAC anticipates that the new terminal will be commissioned in 1992.

90 In its submission the New South Wales Government suggested that one option for further speeding up the process would be to let the entire project out to private contract on a design, construct and operate basis. It was further noted that developers approached by the Department of State Development have confirmed that the project could be designed and built in two to three years if put out to private contract.

91 In response to this comment, the FAC informed the Committee that it will give consideration to its fast-tracking options and all associated alternative contractual arrangements to ensure the project is advanced as expeditiously as possible.

92 As the new facility will be constructed adjacent to the existing complex there will be minimal disruption to the existing operations during the construction phase and the new facility can be brought on-line at one time and not partially opened during the construction.

FUNDING

93 The FAC advised the Committee that based on expert engineering advice it is anticipated the development and related expenditure for the project will be spread over four years consistent with traditional development patterns. The anticipated expenditure pattern is:

Year 1	Year 2	Year 3	Year 4
\$6m	\$45m	\$105m	\$58m

94 Project funding will be raised along traditional borrowing lines such as loans, securities and debentures, with Loan Council approval, independently of the Federal Budget. Debit servicing costs will be met by commercial returns generated through the new facility - that is, increased passenger throughput and spending rates and the improved ratio of commercial to total floor space.

95 A number of groups expressed concern that expenditure on Sydney (Kingsford-Smith) Airport may defer the development of Sydney's second international airport at Badgerys Creek. As the current proposal will be funded by the FAC independent of the Government's budget it will not affect funds for Badgerys Creek.

96 In its submission the ATIA suggested that private sector funding be explored in financing the proposal. In response to that comment the FAC told the Committee that it has a range of options in determining the financing arrangements for the proposal but all involve some form of private sector sourcing.

LIMIT OF COST

97 The limit of cost for the proposal is \$214m at April 1988 prices.

98 The limit of cost estimate includes the following:

	\$m
Direct building costs:	
. terminal expansion	82.5
. pier	29.8
. external works and services	<u>25.1</u>
 Sub-total	 137.4
 Provision for:	
. allowances and out-of-hours work	11.0
. construction management	7.4
. design contingency	7.2
. construction contingency	7.2
. design and documentation fees	<u>20.4</u>
 Sub-total	 53.2
 Direct building costs and fees for:	
. automated baggage system	4.5
. moving walkways	6.0
. canopies	<u>12.25</u>
 Sub-total	 22.75
 TOTAL	 <u>213.35</u>

The estimate does not include prolongation costs incurred during construction due to the uncertainty in the estimation of prolongation costs.

99 The FAC advised that the fitout of lounges, offices and other user-dedicated spaces and commercial leased spaces will be by users and successful concessionaires and costs for those works also are not included in the limit of cost.

Committee's Recommendation

100 The Committee recommends the construction of the works proposed in the reference to expand the International Terminal Complex at Sydney (Kingsford-Smith) Airport at an estimated cost of \$214m at April 1988 prices.

COMMITTEE'S CONCLUSIONS AND RECOMMENDATIONS

101 The conclusions and recommendations of the Committee are set out below with the paragraph in the report to which each refers:

- | | Paragraph |
|---|-----------|
| 1. There is an urgent need for the expansion of the International Terminal Complex at Sydney (Kingsford-Smith) Airport to meet continuing growth in passenger and aircraft gate demands and the facility provided will need to meet the demands of its customers for a modern, serviceable, secure and functional facility. | 43 |
| 2. The Committee recommends that the Federal Airports Corporation prepares a master plan for Sydney (Kingsford-Smith) Airport as expeditiously as possible to ensure the overall orderly development and operation of the airport. | 51 |
| 3. The Committee is satisfied that the design of the proposed works will fulfil the needs outlined for the expansion of the International Terminal Complex. | 59 |

4. The Committee concludes that in view of the long history of sensitivity of residents and councils in the Botany subregion to the environmental effects of activities and developments at Sydney (Kingsford-Smith) Airport the Federal Airports Corporation would have been better advised to secure the services of an independent environmental expert to prepare the assessment of environmental issues.

79

5. While recognising the Federal Airports Corporation strategy for public participation when a more detailed design proposal had been reached, the Committee believes the Federal Airports Corporation should have informed the public on the timing of public consultations. The Committee is confident, however, that the public consultation activities which the Federal Airports Corporation now is proposing will adequately meet that requirement.

85

6. The Committee recommends that the Federal Airports Corporation encourages the development of an industrial agreement between the successful construction contractors and the unions as a means of ensuring that the project is completed as soon as possible, on cost and with the objective of eliminating industrial disputation. 88
7. The Committee recommends the construction of the works proposed in the reference to expand the International Terminal Complex at Sydney (Kingsford-Smith) Airport at an estimated cost of \$214m at April 1988 prices. 100


Colin Hollis
Chairman

2 November 1988

APPENDIX A

LIST OF WITNESSES

- BARRY, Ms Margaret, Convenor, Inner Sydney Regional Transport Group, 69 Raglan Street, Waterloo, NSW 2017
- BEESELEY, Mr Bruce Lindsay, Manager, Airport Systems and Training, International Ground Services Division, Ansett Airlines of Australia, Building 321, Perimeter Road, Sydney International Airport, Mascot, NSW 2020
- CARTER, Mr Denis John, Vice-President, Summer Hill Action Group, PO Box 297, Summer Hill, NSW 2130
- COX, Mr Michael John Arthur, Property Director, Qantas Airways Limited, PO Box 489, Sydney, NSW 2001
- CROOK, Mr Robert Leonard, General Manager, Ansett Airport Terminal Services, Ansett Airlines of Australia, 501 Swanston Street, Melbourne, Vic 3000
- CUTHBERT, Mrs Diane Marjory, Director, Planning and Environment, Botany Municipal Council, 141 Coward Street, Mascot, NSW 2020
- DYE, Mr Malcolm Derek, Manager, Line Operations, Qantas Airways Limited, Qantas Jet Base, Kingsford-Smith Airport, Mascot, NSW 2020
- FISHBURN, Mr Bruce Ronald, Road Design Engineer, Department of Main Roads, PO Box 198, Haymarket, NSW 2000
- GIBBS, Mr Neil Cameron, Director, Australian Airport Operations, Qantas Airways Limited, PO Box 489, Sydney, NSW 2001
- GOYEN, Mr Glenn Anthony, 22 Trevelyan Street, Botany, NSW 2019
- GRAHAM, Mr Daniel Joseph, Assistant Secretary, Ministry of Transport, 227 Elizabeth Street, Sydney, NSW 2000
- HAWORTH, Mr Trevor, Deputy Chairman, Australian Tourism Industry Association Ltd, 80 William Street, Sydney, NSW 2000
- HICKS, Mrs Jennifer, Secretary, The Stanmore Society, PO Box 419, Petersham, NSW 2049
- HILLIER, Mrs Annie Newall, President, Botany Independent Action Group, and Member, Botany Citizens Airport Group and Residents Airport Co-ordinating Committee, 3 Queen Street, Botany, NSW 2019

JONES, Mr Rae Desmond, President, Summer Hill Action Group,
PO Box 297, Summer Hill, NSW 2130

KIBBLE, Mrs Gabrielle, Director of Planning, Department of
Planning, 175 Liverpool Street, Sydney, NSW 2000

KORTLANG, Mr Ian William, Director-General, Department of State
Development, State Office Block, Phillip Street, Sydney,
NSW 2000

KROLKE, Mr Ernst Jurgen, Manager, Fleet Planning and Scheduling,
Qantas Airways Limited, PO Box 489, Sydney, NSW 2001

LADE, Mr John William, Manager, Projects and Consulting Services,
Federal Airports Corporation, 77 Dunning Street, Rosebery,
NSW 2018

LANGFORD, Mr John Richard, Airport Development Engineer, Ansett
Airlines of Australia, Engineering Base, Operations Road,
Melbourne Airport, Vic 3045

LAWLER, Mr Peter Grant, Administrative Services Officer,
Department of Arts, Sport, the Environment, Tourism and
Territories, Canberra, ACT 2600

MATHESON, Mr Mark Lyndon, Spokesperson, Marrickville Airport
Watch, 22 Nicholson Street, Tempe, NSW 2044

MERTON, Mr John Raymond, Assistant Director, Australian
Quarantine and Inspection Service, Department of Primary
Industries and Energy, Edmund Barton Building, Barton,
ACT 2600

MILLS, Professor Gordon, Department of Economics, University of
Sydney, Sydney, NSW 2006

MURPHY, Mr Kevin John, Regional Manager, Passenger Processing,
Australian Customs Service, Sydney Airport, Sydney,
NSW 2020

O'CLERY, Mr Peter Christopher, Executive Director, Australian
Tourism Industry Association Limited, Canberra House,
40 Marcus Clarke Street, Canberra, ACT 2601

PILLORA, Mrs Stefanie, Member, Inner Sydney Regional Council for
Social Development Co-operative Ltd, 449A Pitt Street,
Sydney, NSW 2000

RAMSEY, Mr Alan Laughton, Financial Controller, Federal Airports
Corporation, 77 Dunning Avenue, Rosebery, NSW 2018

RUBIE, Mr Paul James, Deputy General Manager, Tourism Commission
of New South Wales, 140 Phillip Street, Sydney, NSW 2000

SHARP, Mr Derek Richard Granville, Manager, Airports Development,
Qantas Airways Limited, PO Box 489, Sydney, NSW 2001

SHEIL, Mr Chris, Senior Project Officer, New South Wales
Department of State Development, Level 28, State Office
Block, Phillip Street, Sydney, NSW 2000

SNELLING, Mr Peter, Airports General Manager, Sydney Airport,
Federal Airports Corporation, PO Box 63, Mascot, NSW 2020

TRAN, Mr Tan Phuoc, Senior Project Engineer, Federal Airports
Corporation, Natwest House, Civic, Canberra, ACT 2601

UNSWORTH, Mr Ian Houghton, Airport Development Manager, Ansett
Airlines of Australia, Engineering Base, Operations Road,
Melbourne Airport, Vic 3045

WARD, Dr Bryan Reginald, Acting Assistant Secretary, Tourism
Policy Branch, Department of Arts, Sport, the Environment,
Tourism and Territories, Canberra, ACT 2601

WHITE, Mr Sandy, Planning Manager, Federal Airports Corporation,
77 Dunning Avenue, Rosebery, NSW 2018

WIGGINS, Mr Joshua Clyde, Deputy General Manager, Professional
and Technical Services, Botany Municipal Council,
141 Coward Street, Mascot, NSW 2020

WILLIAMS, Mr Anthony Glencoe, Consultant, Leichhardt and
Marrickville Councils, 214A Old South Head Road, Vaucluse,
NSW 2030

WOODHEAD, Mr William Robert, Project Director, Kinhill-Stafford
Moor and Farrington Joint Venture, c/- Kinhill Engineers
Pty Ltd, 645 Harris Street, Ultimo, NSW 2007

CONSTRUCTION DETAILS**TERMINAL BUILDING**

The 50 642 m² terminal expansion has four levels corresponding to those in the existing terminal and retaining the present road and apron elevation. It thus maintains the vertical separation of arriving and departing passengers.

The building will have steel and concrete framing founded on piles, with reinforced concrete floor slabs. Externally, precast sections will provide compatibility with the existing building. Internally, finishes generally will be carpeted floors, perforated metal suspended ceilings and durable low-maintenance wall finishes. In commercial areas no wall or floor finishes or fitout will be provided as these will be provided by the tenants or concessionaires. Toilets, restrooms and other wet areas will be tiled.

Public and office/administration areas will be air-conditioned to appropriate standards. The air-conditioning system will comprise a central energy source and separated plant areas so that energy cost savings can be achieved when areas are not in use.

A comprehensive system of public information and direction will be provided throughout the terminal and pier spaces and at the arrivals and departures levels. International standard symbols will be used throughout and, in special cases, multi-lingual signs.

Basement

A fully automatic outbound baggage handling system will be provided in the basement. The central service basement with provision for loading and unloading bays and some plant and workshop space will reduce the requirement for delivery and other vehicles to penetrate airside. The basement will have structural retaining walls and appropriate waterproofing necessitated by prevailing site conditions.

Arrivals Level

Centred on a 90 metre x 50 metre baggage reclaim hall, the arrivals level is bordered on the airside by an 8-metre transfer concourse. This concourse links Pier C and the existing Pier B. Moving footways will be provided in this concourse. On the landside an arrivals hall of some 18 metre depth connects with the existing arrivals hall.

The baggage reclaim hall encloses four 75-metre presentation baggage reclaim units, each capable of delivery and holding all baggage from a B747. Zones allocated for waiting, circulating and trolley storage allow a high degree of comfort. Primary

inspection (immigration) and secondary inspection (customs) zones conform to levels of service criteria for queue lengths, processing times and waiting space.

Space between the baggage reclaim hall and the existing building will concentrate passenger services such as transfer desks, rental-car offices, tourist information and will feature escalators, stairs and lifts to provide easy connection to upper levels.

Departures Level

The departures level in the new terminal expansion is an extension of the existing terminal area, and has a long entrance frontage to the existing elevated departure road.

The junction of the new and existing spaces also features the escalators, stairs and lifts that join all levels and an expanded retail area. In line with current practice maximum benefits to farewellers are provided by permitting them to remain with passengers after check-in and by the provision of ample retail opportunities on the departures level.

Check-in areas also follow the existing island pattern but have expanded local areas designated for passengers only for queuing and preflight security checks. The check-in desks allow for either dedicated or common use arrangements.

The outward immigration zone designed for Pier C can be expanded later as a common exit for Piers C and D. A transfer corridor links Piers B and C facilitating staff and transfer passenger movement between piers. This corridor can later be extended to also link Piers A and D. Moving footways will be installed.

The departures level contains a retail area of some 2250 m² with clear and easy connections by escalators and stairs to concession areas on the floors below and above.

A major characteristic of the new departures level will be the generous two-storey open spaces connecting the upper level of the concessions and office space which will allow daylight to penetrate into this rather large deep space and so increase the sense of space, light and openness.

Upper Floor

The upper level, now more obvious and accessible, will provide space for concessions, airline offices and lounges, and administrative offices for management and government agencies. Concessions space is located close to kitchen facilities in the existing terminal and is linked by a service lift to the service basement.

THE PIER

The 21 780 m² pier, with an eight-gate capacity, has three levels established by relation to the terminal levels and the existing pier and retains the vertical separation of arriving and departing passengers.

Structurally the pier will be of similar construction to the main terminal building. External finishes will be of prefinished metal cladding with provision for observations windows and the maximisation of natural lighting. The roof will be of prefinished metal. Principles for providing internal finishes will follow those established for the main building.

The 36-metre wide pier is designed for varying or changing use and places all boarding access outside the pier zone to allow relatively easy relocation of aircraft parking positions if necessary to accommodate future aircraft.

Boarding or disembarking is via a combined aerobridge and ramp, designated an "aero lobby" which will be a lightweight structure connecting the arrivals and departures levels of the pier by a spacious ramp system to the aerobridge and a stair to the apron level.

The upper departures level can be arranged as desired with open or closed lounge areas and varying sized concession areas. Escape stairs link this level with the apron and there will be moving footways in the centre of the pier. Extensive glazed areas and some skylights will ensure pleasant conditions.

The mid level, arrivals, has a secure corridor from disembarking points down to primary line and transfer corridor, and will have concession areas for duty free stores.

Other areas, tentatively allocated for VIP lounges and administrative offices are accessible only from the departures level via stairs and lifts.

The apron level of the pier has a central service road, airline operators spaces and storage areas for equipment.

AIRCRAFT APRON

The Stage 1 development includes construction of apron and associated access taxiway pavement for the efficient manoeuvring and parking of aircraft up to B747-400 size at the new pier.

The main features of the new apron will include provision for aircraft power-in/push-out as at the existing terminal; flexibility in geometry to accommodate larger aircraft (up to 80-metre wingspan) at a later date; hydrant refuelling facilities (provided by others); apron floodlighting; blast fencing to protect the airside roads; and airside road accommodating terminal area traffic functions.

ROADS AND CAR-PARKS

The Stage 1 development will be serviced by the existing road network in conjunction with improved management of set-down, pick-up and short-term parking. It will include holding areas for buses, coaches and taxis; access routes for pedestrians; and improved signage. As the arrivals level will expand out under the existing elevated road, some realignment of the access roads and the car-park will be required. Construction of a service basement will cater for all landside deliveries and garbage removal.

ENGINEERING SERVICES, SECURITY, SIGNAGE AND LANDSCAPING

The engineering services of Stage 1 expansion include provision for water supply upgrading to meet building and apron fire protection and domestic consumption demands; mains power and emergency power upgrading; sewerage reticulation extensions/modifications and pump station upgrade; and drainage relocation and lining and the provision of new or improved structures.

Other services to be provided will be: security gate and fencing requirements consistent with overall security needs; external signage for roads; car-parks and pedestrian ways; and landscaping of disturbed areas.

PROJECT DRAWINGS

Figure

- 1 Location Plan
- 2 Site Plan
- 3 Federal Airports Corporation Master Plan for the International Terminal Complex
- 4 Proposed Works
International Terminal Complex:
- 5 Basement Level
- 6 Arrivals Level
- 7 Departures Level
- 8 Upper Level
Artists Sketch of:
- 9 Canopy over the Arrivals Roadway
- 10 Check-in Area
- 11 Baggage Reclaim Hall
- 12 Sydney Airport Australian Noise Exposure Forecasts 20 ANEF for 1986 and 1995

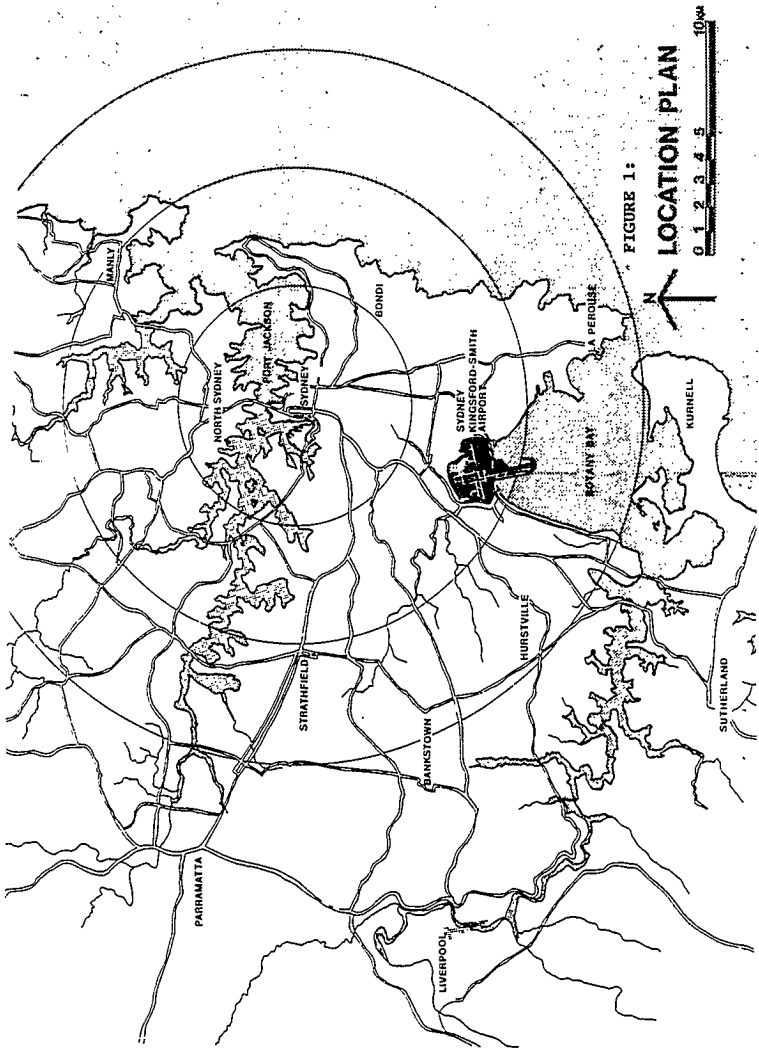


FIGURE 1:

LOCATION PLAN

0 1 2 3 4 5 10 KM

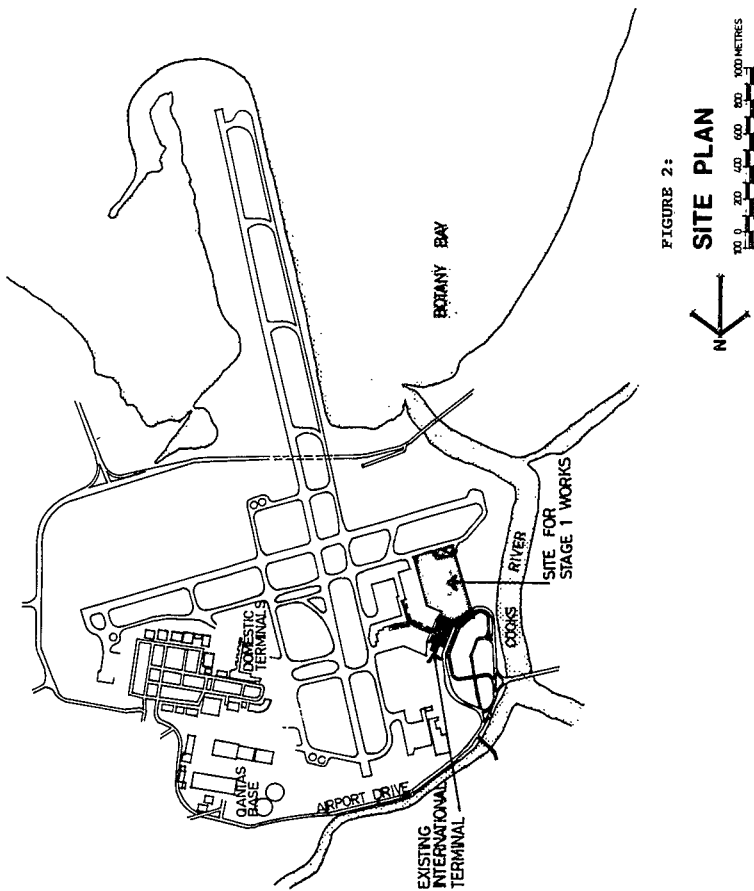


FIGURE 2:

SITE PLAN

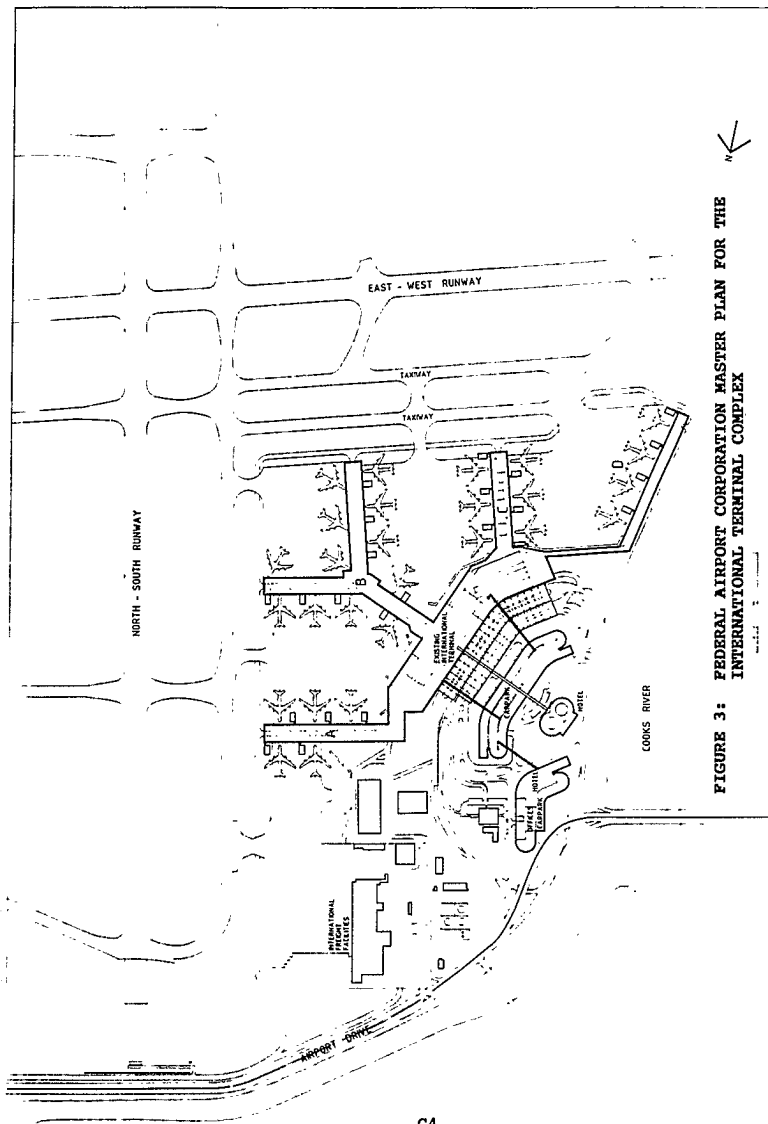


FIGURE 3: FEDERAL AIRPORT CORPORATION MASTER PLAN FOR THE INTERNATIONAL TERMINAL COMPLEX

FEDERAL AIRPORTS CORPORATION - SYDNEY (KINGSFORD - SMITH) AIRPORT - INTERNATIONAL TERMINAL COMPLEX EXTENSION
 CONCEPTUAL DESIGN STUDY - SEP 1986 - KIRKALL - STAFFORD MOOR & PATERSON - JOINT VENTURE - ARCHITECTS & ENGINEERS

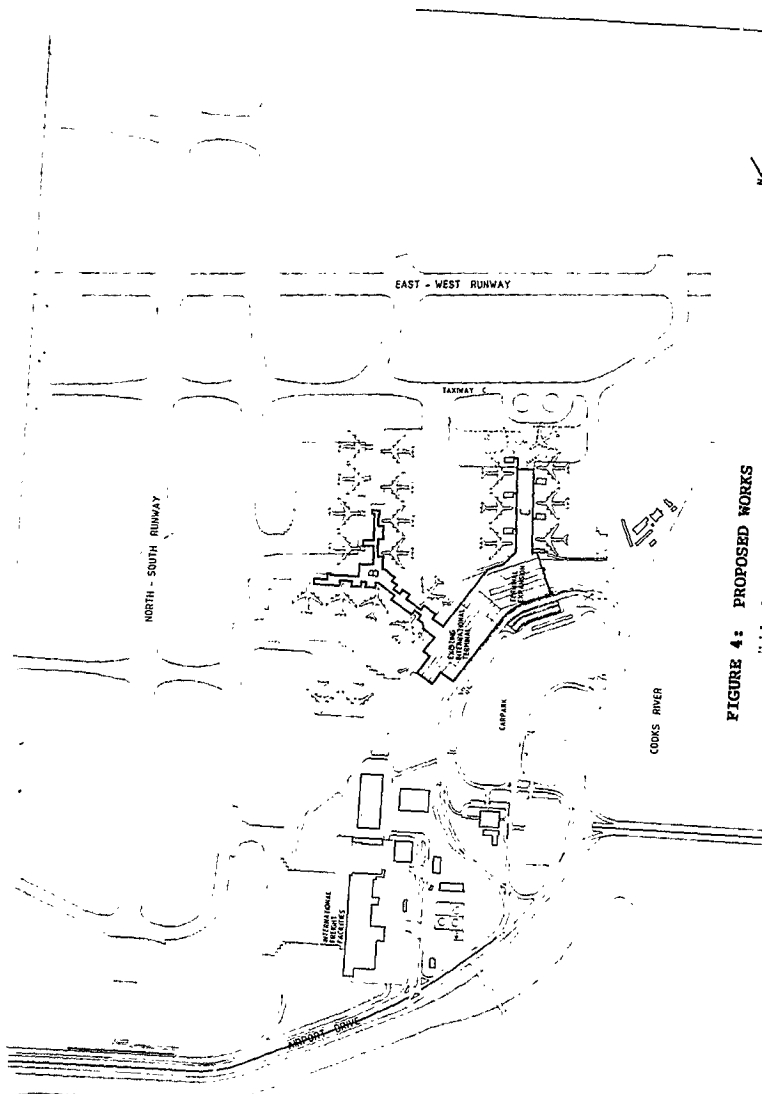


FIGURE 4: PROPOSED WORKS

FEDERAL AIRPORTS CORPORATION - STONEY (KINGSFORD - SMITH) AIRPORT - INTERNATIONAL TERMINAL COMPLEX
 CONCEPTUAL DESIGN STUDY - Sep 1988 - KIMHILL - STAFFORD MOOR & FARRINGTON - JOINT VENTURE - ARCHITECTS & ENGINEERS

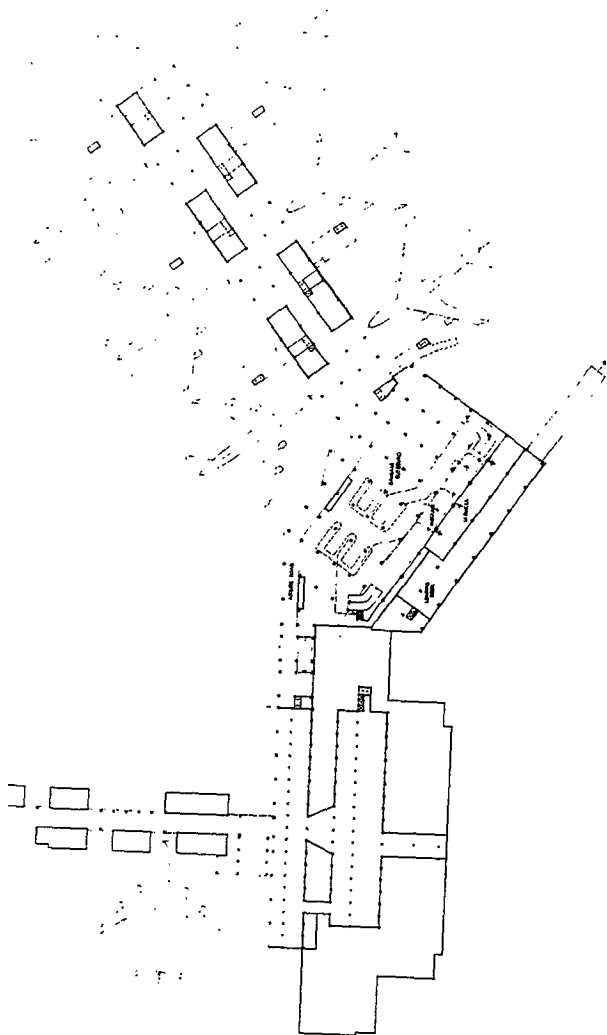


FIGURE 5:

BASEMENT LEVEL

20 0 20 40 60 METRES



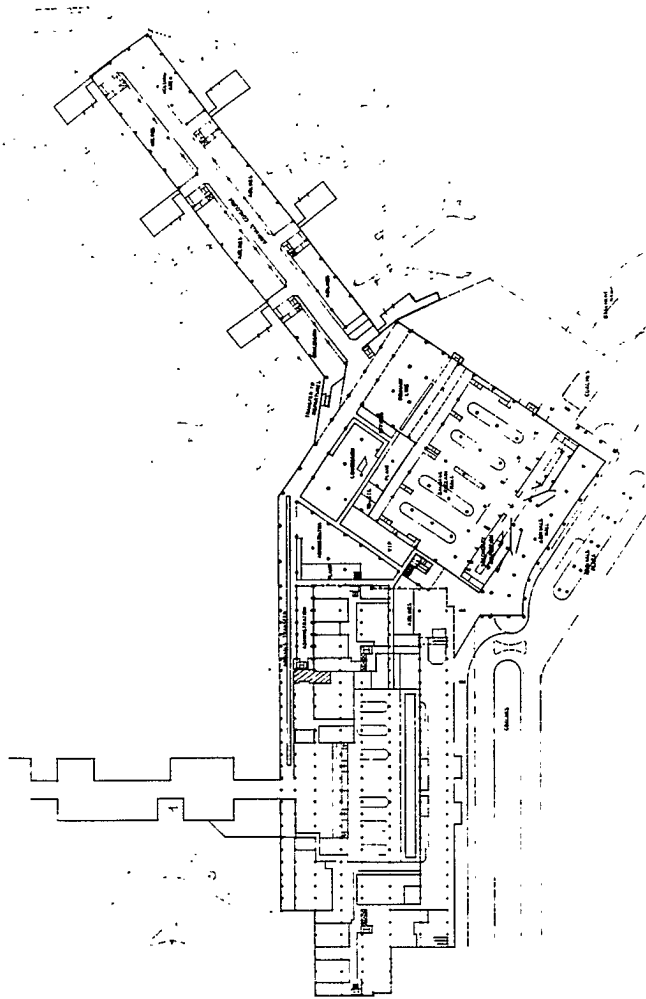


FIGURE 6:
ARRIVALS LEVEL
0 20 40 60 METRES

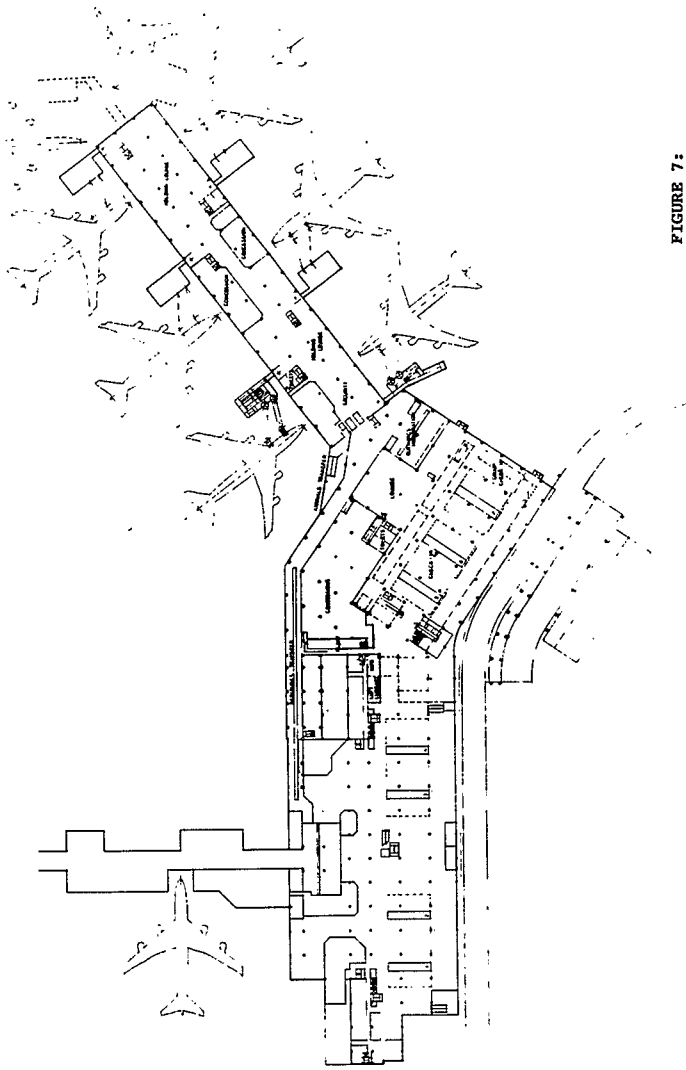


FIGURE 7:

DEPARTURES LEVEL



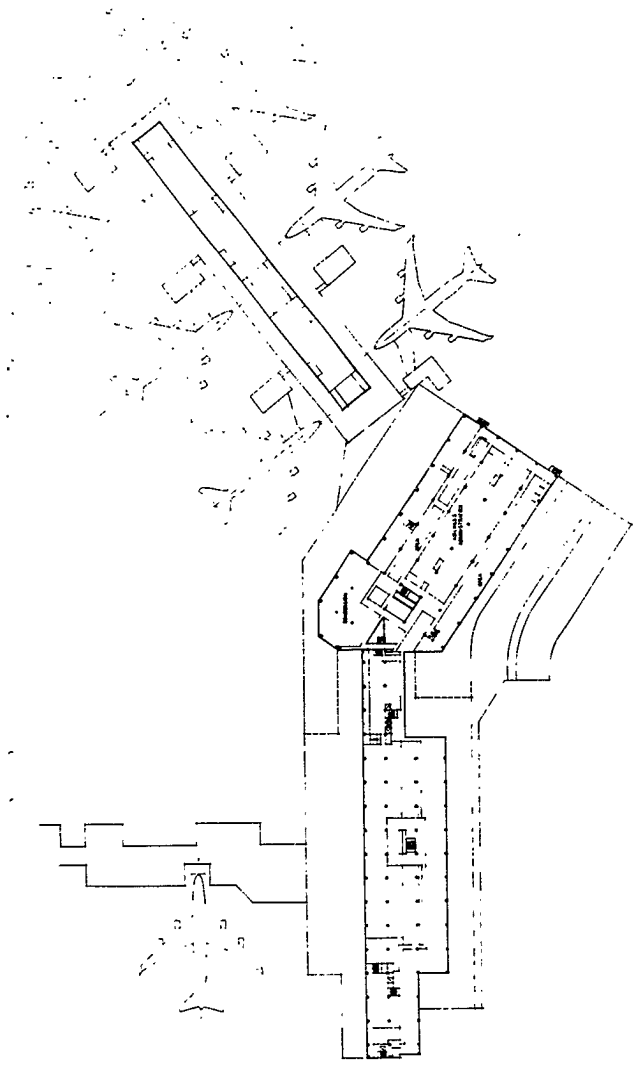


FIGURE 8:

UPPER LEVEL



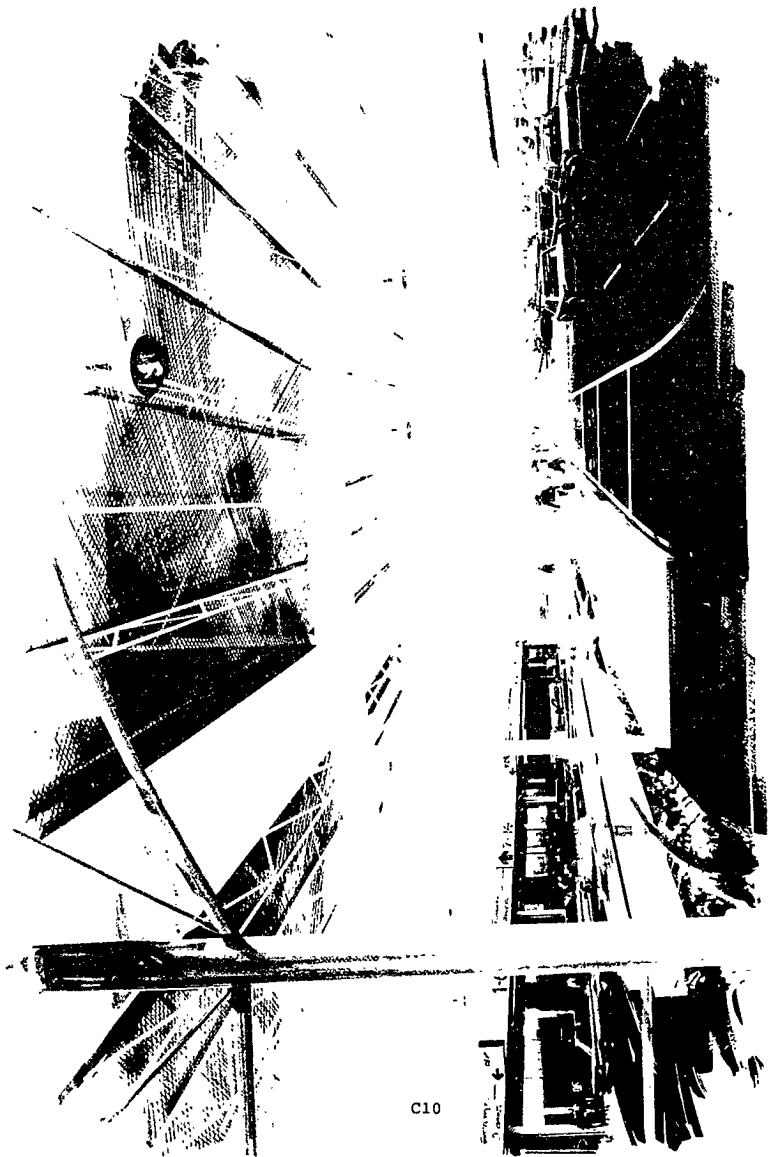


FIGURE 9: CANOPY OVER THE ARRIVALS ROADWAY.



FIGURE 10: CHECK-IN AREA

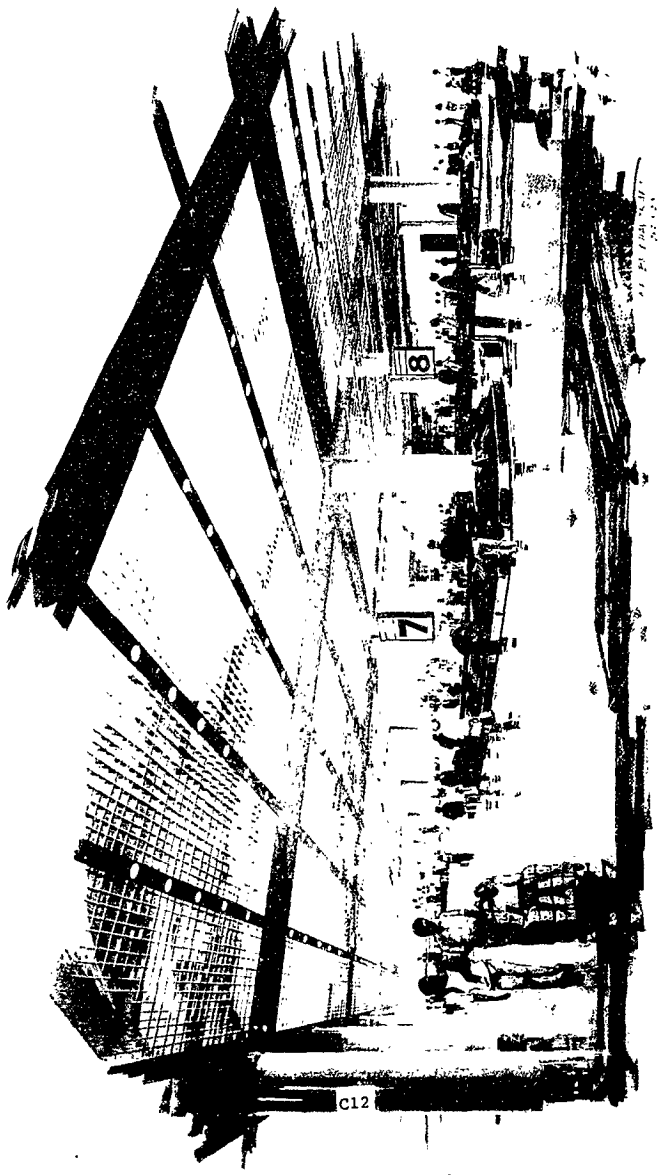


FIGURE 11: BAGGAGE RECLAIM HALL

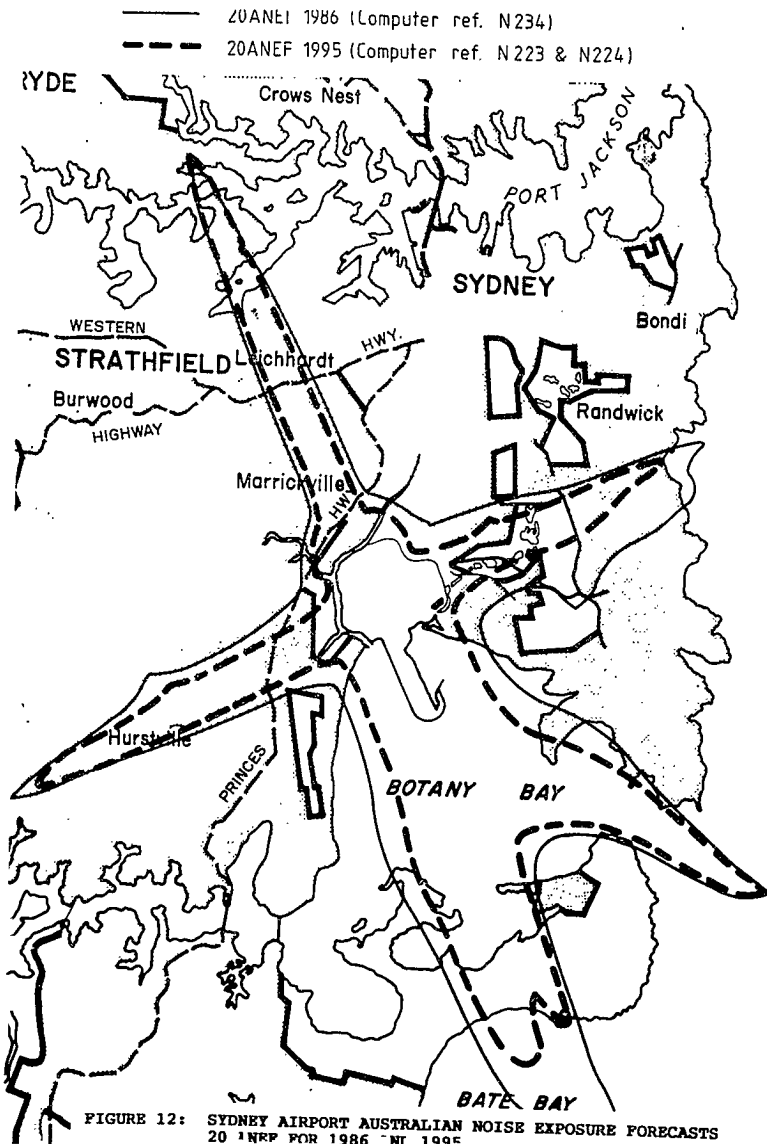


FIGURE 12: SYDNEY AIRPORT AUSTRALIAN NOISE EXPOSURE FORECASTS
 20 ANEP FOR 1986 - NT 1995