

Each issue of Design in Steel features a prominent designer who has considered a problem in building design and found a solution using a steel structure.

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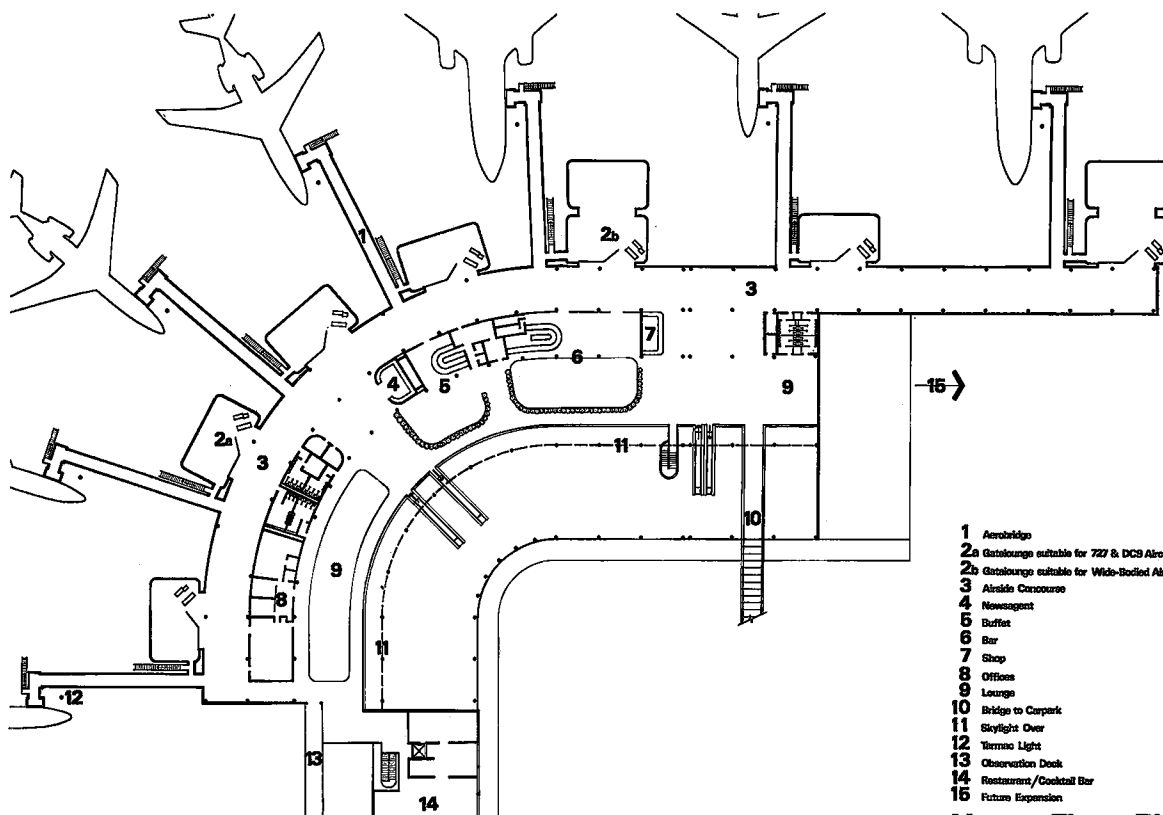


# Design in Steel

April, 1975

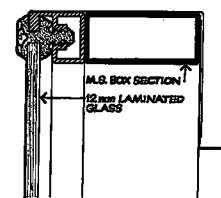
# Design in Steel

*Don Gazzard's Sydney  
Terminal for TAA*

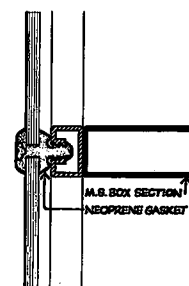


- 1 Aerobridge
- 2a Gateways suitable for 727 & DC8 Aircraft
- 2b Gateways suitable for Wide-Body Aircraft
- 3 Airside Concourse
- 4 Newsagent
- 5 Buffet
- 6 Bar
- 7 Shop
- 8 Offices
- 9 Lounge
- 10 Bridge to Carpark
- 11 Skylight Over
- 12 Terrace Light
- 13 Observation Deck
- 14 Restaurant/Cocktail Bar
- 15 Picture Expansion

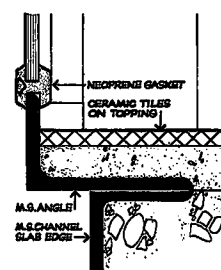
**Upper Floor Plan**



head

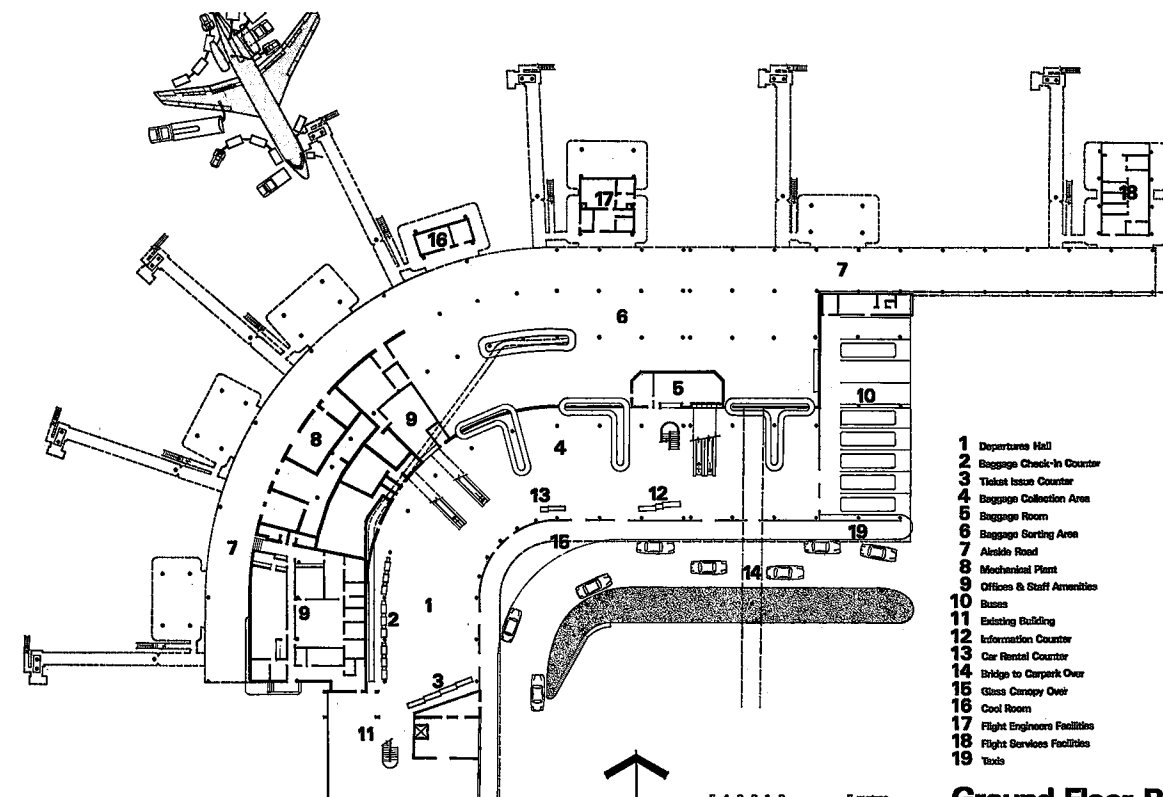


mullion



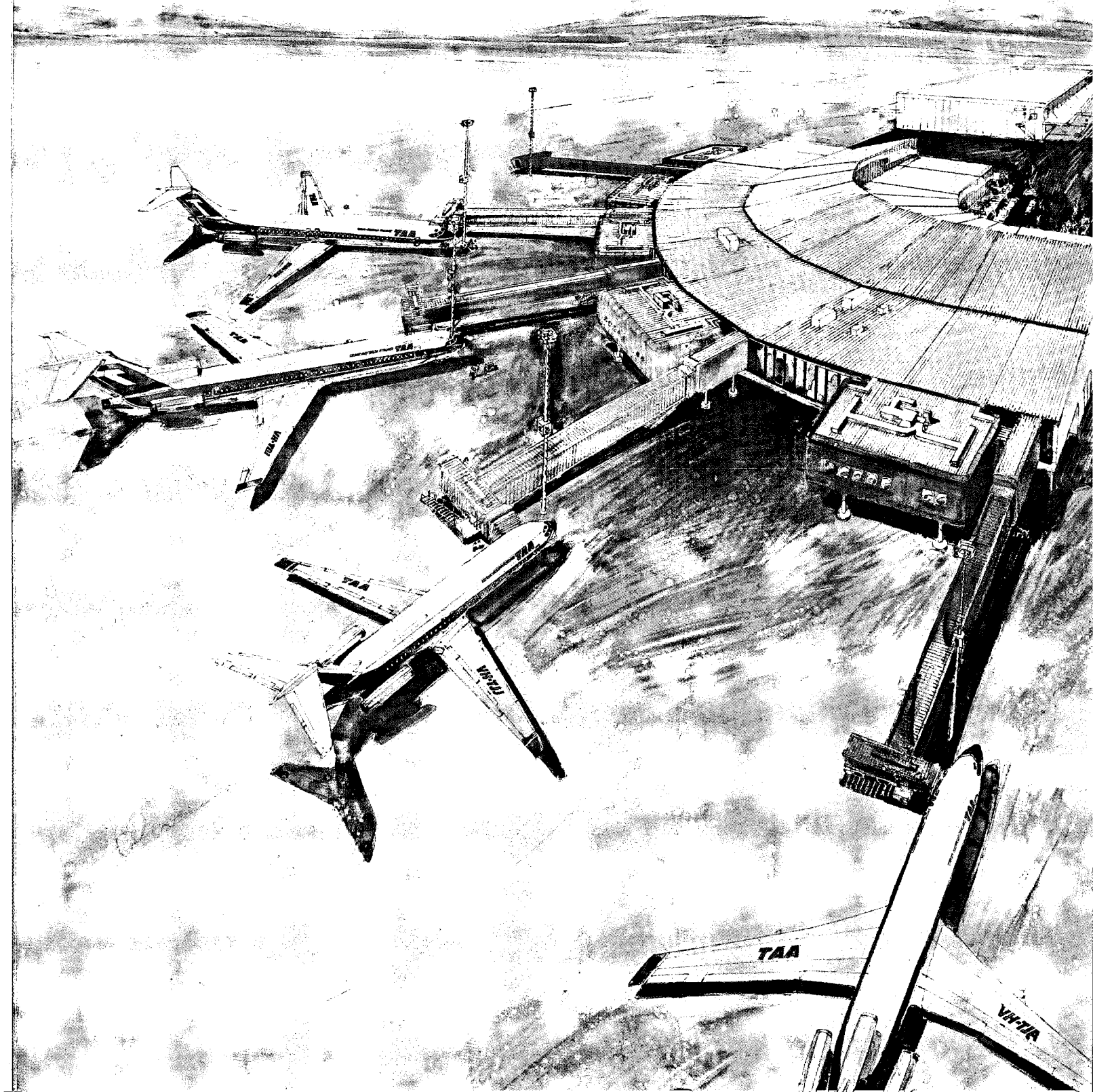
cill

**Glazing Details**



- 1 Departure Hall
- 2 Baggage Check-In Counter
- 3 Ticket Issue Counter
- 4 Baggage Collection Area
- 5 Baggage Room
- 6 Baggage Sorting Area
- 7 Airside Road
- 8 Mechanical Plant
- 9 Offices & Staff Amenities
- 10 Buses
- 11 Existing Building
- 12 Information Counter
- 13 Car Rental Counter
- 14 Bridge to Carpark Over
- 15 Glass Canopy Over
- 16 Cool Room
- 17 Flight Engineers Facilities
- 18 Flight Services Facilities
- 19 Taxis

**Ground Floor Plan**



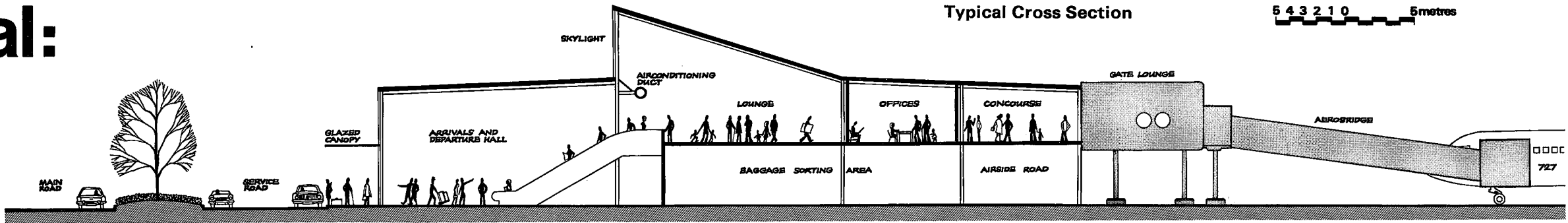
# Airport terminal: TAA Sydney

Sydney airport has been at its present Mascot location since 1919 when flying began from a 161-acre cow paddock. The first paying passenger was W. Marshall, a freelance photographer . . . In 1924 the first airline was launched, linking Sydney to Melbourne and Adelaide. The choice of site for a new airport must be the right one. It may still be in service 56 years later. Dr. P. Oppenheim: Airport Planning in the Sydney Region. Faculty of Architecture Research Report No. 12, University of New South Wales.

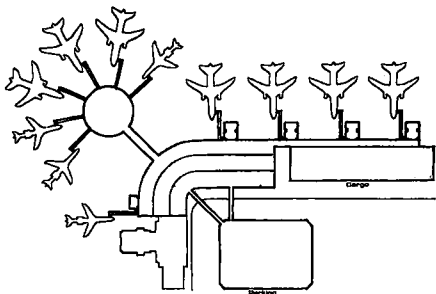
**Airport development** is a continuous process: flying is a public service and its efficiency should be up-to-the-minute. From the moment the passenger enters the terminal building he is protected from the weather. An escalator carries him upstairs and he is seated comfortably in conditioned space, surrounded by amenities. In Melbourne, one terminal building provides these comforts; in Sydney, the two domestic airlines and international operators are housed in three separate buildings. Completion of the first stage of the TAA Terminal at Mascot is the culmination of four years of planning and construction. The controversial matter of a second airport still unresolved, TAA was obliged to proceed in 1971 with plans for a new terminal to serve till at least 1985. The master plan followed the "domino" principle of re-building on an adjoining site and, after moving over, modernizing or re-building the original unit (see Brisbane Airport, Design in Steel, January 1974). The site was previously that of the international terminal. Now that TAA have moved in, the old TAA terminal will

be re-built to house Department of Transport operations and weather offices. The Department will then vacate the old huts which line the parking areas in front of TAA—there, a parking station will be built and connected by footbridge or tunnel to the new TAA Terminal. As operations expand, additional facilities will be erected on the area to the east of the new terminal and this work has already begun. Ultimately, a satellite terminal building will be constructed to the north, some distance from the present new terminal. This will allow the parking of more aircraft. The corner site for the **new terminal building** proved to be a blessing in disguise. The quadrant plan form is compact, resulting in minimal movement of passengers and services, avoiding long walkways. The longer, outside perimeter of the quadrant provides greater elbow room for aircraft parking; the circular outline brings a sense of radial movement which assists passengers in orientation within the building. It also determines the structural concept: radial steel frames consisting of three bays and (perhaps logically) hollow circular steel columns. Curved plates, cut from round hollow sections and welded to beam ends, serve for beam-column connections. Ring stiffeners 25 mm thick were slid inside

columns and plug welded in position to prevent local buckling at points of lateral loading. Lintel beams of curved plan form were shaped by jacking. Bolts were 18 mm black bolts. Apart from its fine, almost delicate appearance, the choice of steel also brought other benefits: economy, high level of daylighting, feeling of spaciousness and—perhaps most important of all in this rapidly changing industry—flexibility. Many passengers will identify the TAA Terminal by its forceful colour scheme. Exposed air ducts in the building are brilliant yellow, and the five **gate lounges** and **aerobridges** are painted red, lime, green, blue and purple in strongly contrasting hues, using polyurethane resins. The gate lounges where passengers are awaiting the boarding call and the aerobridges (tunnels) through which they reach the aircraft door, can be lifted from their pedestals and re-positioned for new aircraft types of the future. They are of steel construction and the tunnels are lined with steel panels for lightness and rigidity. The TAA Terminal was designed for a capacity of 6000 passengers per day, rising to 10,000 when the east side extensions are in place. Construction took 18 months and the project cost was \$3.2 million.



Client: Trans-Australia Airlines  
Architect: Clarke Gizzard Pty Ltd  
Structural Engineer: Woolacott Hale Corlett and Jumikis  
Contractor: Kell and Rigby Pty Ltd



Future Plan