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THE PARLIAMENT OF THE COMMONWEALTH OF AUSTRALIA

PARLIAMENTARY STANDING COMMITTEE ON PUBLIC WORKS

R E P O R T

relating to the proposed development of

AIRFIELD PAVEMENTS

at

ROCKHAMPTON AIRPORT, QUEENSLAND

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PARLIAMENTARY STANDING COMMITTEE ON PUBLIC WORKS

DEVELOPMENT OF AIRFIELD PAVEMENTS AT ROCKHAMPTON AIRPORT, QUEENSLAND

R E P O R T

On 14 August 1967, His Excellency the Governor-General in Council referred to the Parliamentary Standing Committee on Public Works for investigation and report to the House of Representatives, the proposal to further develop airfield pavements at Rockhampton Airport, Queensland.

The Committee have the honour to report as follows:

THE COMMITTEE'S INVESTIGATION

1. The Committee received written submissions and drawings from the Departments of Civil Aviation and Works and took evidence at public hearings in Canberra and Rockhampton from witnesses representing these departments and interested local organizations. We inspected the airport facilities at Rockhampton, including the areas in which the work is to be carried out and the portion of the Rockhampton Golf Club affected by the proposed runway extension.

THE PROPOSALS

2. The proposals referred to the Committee comprise:
- (a) extending the main or 150° runway at its south-eastern end by 1,510 ft to 6,500 ft;
  - (b) constructing a 200 ft long blast area at the south-eastern end of the 150° runway;
  - (c) strengthening and widening by 25 ft the existing taxiway (taxiway 'A');

2.

- (d) constructing a new 75-ft wide taxiway (taxiway 'C');
- (e) constructing levee banks to protect the extended runway; and
- (f) constructing a new road to compensate for the closing of Nine Mile Road by the runway extension.

3. The estimated cost of this work is \$1.1 million.

ROCKHAMPTON AIRPORT

4. The initial development at Rockhampton Airport took place in 1930 when Rockhampton Aerial Services was given a licence to operate an air strip on the present site, about two miles west of Rockhampton. In 1934, the area was purchased by the Rockhampton City Council which then leased it to successive private operators. During World War II, the airfield was extended and improved mainly for defence purposes and in 1944 the Commonwealth acquired it from the Council. By 1946 the pavements consisted of two 150-ft wide bitumen sealed runways - the 150° runway being 4,100 ft long and the 44° runway of 3,600 ft - and there was a building area in the north-eastern corner of the airport.

5. Facilities have been improved progressively since then and at the present time the airport covers 624 acres. The north-west/south-east or 150° runway was extended to the south-east in 1949 to its present paved length of 5,277 ft which includes a blast area 287 ft long at the north-western end. The extension comprised eight inches of gravel on a granite sand base and was designed for aircraft up to the Viscount. Strengthening work carried out in 1959-60, including patching and re-sheeting the original 4,100 ft of the runway with eight inches of fine crushed rock, upgraded the runway for operations by DC6 and Electra aircraft.

6. The north-east/south-west or 44° runway was extended to its present length of 5,390 ft in 1947. The pavement of the extension consisted of five inches of gravel on nine inches of decomposed granite and was bitumen sealed. Reconstruction of extensive sections of this runway, following failure under operations by DC3 and Convair aircraft, was undertaken in 1950, 1959 and 1961. In its present condition it is satisfactory for DC3, Fokker and Convair operations.

7. The original terminal apron, 300 ft by 200 ft, and taxiway 'A', 50-ft wide, were constructed in 1948-49 for the equivalent of Viscount aircraft. The apron was extended to 600 ft by 220 ft in 1960-61 for use by DC6s and Electras.

8. The present terminal and operations building were constructed in 1960 south of the first established building area and to the east of the 150° runway.

9. The Department of Civil Aviation's operations unit at Rockhampton exercises area control over aircraft flying in controlled air space from Charon Point in the north to Gladstone in the south. The control tower exercises approach control within about 30 miles of Rockhampton. The navigational aids consist of a visual aural range, a non-directional beacon, distance measuring equipment and runway lighting. A visual approach unit is to be installed at the north-west end of the 150° runway and a second unit will be installed at the other end when the extension is completed. The visual aural range is being replaced with a V.H.F. omni-range which will be in use later this year.

#### AVIATION ACTIVITY AT ROCKHAMPTON

10. At the present time, Ansett-A.N.A. and T.A.A. together operate 24 scheduled services a week north and south through Rockhampton using Electra, Viscount and Fokker aircraft. There are also nine services

weekly between Brisbane and Rockhampton and return and three Fokker or DC3 services a week to country centres west of Rockhampton.

11. The growth in the number of passengers carried in and out of Rockhampton over the past five years is shown in the following table:

<u>Year</u>	<u>Passengers</u>
1962	38,688
1963	43,368
1964	51,100
1965	61,202
1966	66,493

It has been forecast that passenger traffic will continue its upward trend and that the 1975 figure will be about twice that for 1966.

12. General aviation operations at Rockhampton take place from the original terminal area in the north-eastern corner of the airport. It is the home base of three charter operators, two aircraft repair and maintenance organizations, an aero club and a unit of the Queensland Ambulance Transport Brigade operating an aerial ambulance. About 20 light aircraft are located permanently at Rockhampton.

13. The growth in aviation activity at Rockhampton is shown in the following table of aircraft movements at the airport over the past five years.

<u>Year</u>	<u>Heavy Aircraft</u>	<u>Light Aircraft</u>
1962	5,366	12,646
1963	5,380	14,686
1964	8,478	11,634
1965	8,052	14,514
1966	8,420	26,074

PAVEMENT REQUIREMENTS

14. In the prevailing wind conditions, the 150<sup>0</sup> runway can take aircraft such as the Viscount and Electra. The aim of the proposals submitted to the Committee is to raise the standard of this runway for DC9s which the two major domestic operators propose to bring into regular service on the Queensland east coast, and for Boeing 727s on an infrequent charter basis or when substituting for other types of aircraft on regular services. The weight and tyre pressure of these aircraft compared with other aircraft now in use are:

<u>Aircraft</u>	<u>Maximum all-up-weight (lbs)</u>	<u>Tyre Pressure (p.s.i.)</u>
Douglas DC3	26,200	48
Fokker F27	42,000	75
Viscount 800	72,500	100
Electra	113,000	140
Douglas DC9	100,000	120
Boeing 727	160,000	145
Boeing 707-338	336,000	165

15. The Committee were told that tests with a pneumatic tyred roller, loaded to simulate the effect of an aircraft, and subsequent testing of pavement materials and foundations, have shown that the existing 150<sup>0</sup> runway and apron will be strong enough for the proposed aircraft but that strengthening of taxiway 'A' is required. We noted, however, that the runway needs to be 6,500 ft long for the satisfactory operation of DC9s and Boeing 727s on the services between Brisbane and Cairns and that a stopway, which can also serve as a blast area, is required beyond the extension.

16. Because of the results of the test rolling, the proposal also includes the strengthening of taxiway 'A' and due to the introduction of the larger aircraft, widening the same taxiway. It is also intended to construct a new taxiway 'C' to improve the flow of aircraft on the apron and to provide greater flexibility in its use.

17. The Committee concluded that in view of the impending introduction of DC9 aircraft on regular service and the intermittent use of Boeing 727s, there is a need for the airport pavement works in this reference.

#### ACQUISITION OF LAND FOR RUNWAY EXTENSIONS

18. We were informed that in considering the direction the proposed extension of the 150<sup>0</sup> runway should take, a close examination was made of the possibility of constructing it to the north-west. There were several important reasons against providing the additional length in this way, the most significant being that, in the short term, it would be necessary to either divert or bridge Lion Creek. It has been estimated that this would cost at least \$500,000 over and above the cost of construction at the south-eastern end, plus an additional \$250,000 if, in the future, a parallel taxiway is required. Other complicating factors are the need to divert Keipke Road and, in the long term, the problem associated with draining the Lotus Lagoon area, if a runway longer than 6,500 ft is ever needed.

19. The proposal submitted to the Committee for extending the runway in a south-easterly direction involves the acquisition by the Commonwealth of about 350 acres of mainly low-lying undeveloped land. The largest part is owned by the State but it does involve land belonging to the Rockhampton Golf Club and the Rockhampton City Council. The Committee were agreed that the decision to build the 150<sup>0</sup> runway extension in



this direction is, in all the circumstances, the correct one. It is not only the most satisfactory and economical from a construction viewpoint but, in the long term, will enable the Commonwealth to more satisfactorily meet the future development needs at Rockhampton Airport. The Committee were told that negotiations between the Commonwealth and the owners of the various parcels of land to be acquired are in progress and that acquisition will be completed, or rights of entry obtained, by the time construction commences.

20. Representatives of the Rockhampton Golf Club stated that the Club will be seriously inconvenienced unless negotiations which it has commenced for the purchase of other land adjacent to the course are completed quickly and the Club can take positive measures to commence replanning the layout of its course. The acquisition of Golf Club land by the Commonwealth will mean the complete loss of about four holes from the present layout and two or three others will be affected to a lesser extent.

21. The Golf Club has had some assistance from the authorities concerned, in the planning action it has taken since it knew that its course could be affected by the runway extension. It is apparent, however, that the Club will need further help from the Commonwealth, the Queensland Government and the Rockhampton City Council before the runway comes into service, if the inconvenience caused by the acquisition of the Club's land and the replanning of the layout is to be minimised. The Committee therefore recommend that the Commonwealth take such steps as it can to expedite completion of the negotiations for the land being sought by the Rockhampton Golf Club. We consider also that the Commonwealth should assist the Club, where possible, in replanning and re-establishing its course so that it suffers the least possible delay and inconvenience.

THE PROPOSED WORKS

22. The new aircraft pavements, including the 150<sup>o</sup> runway extension, the blast area at the south-eastern end of the runway, the new taxiway and the taxiway widening will comprise a three coat bitumen seal on ten inches of fine crushed rock on a base of at least 16 inches of granite sand. The shoulders of the taxiways and the runway will also be sealed.

23. Concurrently with the construction of the runway extension, it is proposed to carry out some shape correction and re-sheeting on about 1,100 ft of the existing pavement at the south-eastern end of the 150<sup>o</sup> runway. This work in which fine crushed rock will be used, will blend with the grades and levels of the extension. The section of the 150<sup>o</sup> runway re-sheeted in 1959-60 is satisfactory and requires no further attention at this stage.

24. The strengthening of taxiway 'A' will be carried out by re-sheeting the existing pavement with six inches of bitumen sealed fine crushed rock in conjunction with the taxiway widening.

25. Associated with the pavement works will be the installation of ducts for electrical and control cables and minor drainage works, including a culvert under taxiway 'C'.

26. Consequent on the closing of section of the Nine Mile Road for the runway extension work, it is proposed to construct a link from Nine Mile Road to Keipke Road, which runs across the north-west boundary of the airport. This work will include a new road half a mile long and a bridge over Lion Creek. From a point where the link road joins Keipke Road to Ridglands Road, north-east of the airport, Keipke Road will be re-sheeted and provided with a sealed pavement 12 ft wide with 4 ft wide shoulders. This work is required to raise it to a standard equivalent to the present condition of Nine Mile Road.

27. As parts of the airport in the south-eastern corner are subject to periodic inundation by flood water backing up in the Fitzroy River, or when Lion Creek floods, the runway extension is to be protected by adjacent levee banks constructed as part of this reference.

28. The Committee recommend the construction of the works in this reference.

CONSTRUCTION PROGRAMME AND STAGING OF WORK

29. It has been estimated that after an approval to proceed is given, documentation of the proposals and letting of a contract will take about six months. The construction period is expected to be 12 months.

30. Generally, the runway extension and taxiway 'C' can be constructed without affecting aircraft operations on the 150<sup>0</sup> runway. However, the work associated with re-sheeting the south-eastern end of the runway will take about 10 weeks and during this period scheduled aircraft services will be limited to Folkner aircraft, using the 44<sup>0</sup> runway or alternatively, a landing strip parallel to the 150<sup>0</sup> runway.

ESTIMATE OF COST

31. The estimated cost of the work when referred to the Committee was \$1.1 million as follows:

Runway works including extension, re-sheeting, and blast area	\$730,000
Taxiway works	\$190,000
Drainage and road works	\$180,000
	\$1,100,000

RECOMMENDATIONS AND CONCLUSIONS

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

Paragraph

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|----|--|----|
| 1. | IN VIEW OF THE IMPENDING INTRODUCTION OF DC9 AIRCRAFT ON REGULAR SERVICE AND THE INTERMITTENT USE OF BOEING 727s THERE IS A NEED FOR THE AIRPORT PAVEMENT WORKS IN THIS REFERENCE. | 17 |
| 2. | THE DECISION TO BUILD THE 150° RUNWAY EXTENSION IN A SOUTH-EASTERLY DIRECTION IS THE CORRECT ONE.  | 19 |
| 3. | THE COMMONWEALTH SHOULD TAKE SUCH STEPS AS IT CAN TO EXPEDITE COMPLETION OF THE NEGOTIATIONS FOR THE LAND BEING SOUGHT BY THE ROCKHAMPTON GOLF CLUB.                               | 21 |
| 4. | THE COMMONWEALTH SHOULD ASSIST THE CLUB WHERE POSSIBLE IN REPLANNING AND RE-ESTABLISHING ITS COURSE SO THAT IT SUFFERS THE LEAST POSSIBLE DELAY AND INCONVENIENCE.                 | 21 |
| 5. | THE COMMITTEE RECOMMEND THE CONSTRUCTION OF THE WORKS IN THIS REFERENCE.   | 28 |
| 6. | THE ESTIMATED COST OF THE WORK WHEN REFERRED TO THE COMMITTEE WAS \$1.1 MILLION.   | 31 |



F.C. CHANEY.  
Chairman.