

additional hangarage and buildings for technical purposes and storage, as well as for barrack, mess, and recreation purposes. The extended building programme was nearing completion at the close of the year, and each station was operating to full capacity in February, 1941.

The expansion of the Royal New Zealand Air Force far beyond the limits contemplated at the outbreak of war soon disclosed that additional facilities would have to be provided for the technical training of ground staff, while existing stores accommodation at the Main Stores Depot, Hobsonville, proved inadequate. The Government therefore agreed to the taking-over for the period of the war the grounds and buildings of the Centennial Exhibition at Rongotai. A considerable amount of alteration and reconstruction was necessary to convert the existing buildings to their new purposes, but the Technical Training School and No. 2 Stores Depot, Rongotai, commenced operations in August, 1940.

Until the latter part of the year there was only one General Reconnaissance Squadron operating from the R.N.Z.A.F. Station, Whenuapai. With the decision to create three General Reconnaissance Squadrons within New Zealand, a further building programme had to be undertaken, and was nearing completion at the end of March, 1941. The No. 1 G.R. Squadron continued to operate from Whenuapai, but accommodation and facilities of a temporary nature for a Detached Flight were provided elsewhere. Two entirely new stations were constructed to accommodate No. 2 G.R. Squadron and its Detached Flight. Air Force personnel were in occupation of both stations early in 1941. No. 3 G.R. Squadron is to operate from existing aerodromes. The additional buildings and facilities are practically complete, and this Squadron will be in full operation by June, 1941.

Work on the extension and improvement of the flying-fields was continued during the year at most of the New Zealand Air Force stations. In most cases the turf surfaces have stood up satisfactorily to the extensive use occasioned by flying training, although in some instances they have caused considerable anxiety. Research has been undertaken on scientific under-drainage, soil stabilization, and the establishment of special aerodrome turf particularly resistant to the wear-and-tear of traffic. So far, in spite of the fact that the aerodromes so treated have been carrying traffic far beyond that contemplated at the time they were designed, the methods adopted have every prospect of success. The cost of dealing with aerodrome surfaces under the methods adopted is approximately one-eighth to one-tenth of the cost of laying paved runways of the type used extensively in Australia and the Far East, and, moreover, has the distinct advantage of providing a flying-field far less vulnerable to damage and resultant unserviceability from air bombing.

The construction of the large flying-field at Whenuapai was completed during the year, while additional areas have been brought into use at Taieri, Wigram, Harewood, Woodbourne, and Ohakea. Surface stabilization by the use of a thin layer of stone chips, gravel, or scoria rolled into the surface crust has had to be resorted to at Wigram, and, although not yet tested out by winter conditions, appears to be successful in producing a more resistant surface. It has been necessary to provide a much greater area of paved aprons for hangar surrounds than formerly contemplated, as it has been found that the concentrated traffic of taxiing aircraft and refuelling-wagons, together with the action of petrol and oil, has severely damaged the turf surface in their vicinity. Increased congestion, both in the air and on the flying-fields, has necessitated the provision of auxiliary flying-fields at all Flying Training Schools. Where possible, nearby civil aerodromes have been used for this purpose, but six additional fields have been selected and their natural surfaces improved.

The maintenance of all R.N.Z.A.F. stations has been undertaken by the Public Works Department with civilian staff, in accordance with a comprehensive agreement between the two Departments. Maintenance covers not only attention to the flying-fields, but also all repair and maintenance work for buildings, structures, gardens, lawns, essential services, sanitation, &c., and resulted in an expenditure of £85,686 during the year.

As an indication of the magnitude of the works and buildings programme carried out during the year, the following is a return of the capital expenditure for each station :—

	£
Initial Training Wing, Levin	52,800
No. 1 Elementary Flying Training School, Taieri	50,100
No. 2 Elementary Flying Training School, New Plymouth	26,000
No. 3 Elementary Flying Training School, Harewood	117,500
No. 4 E.F.T.S. and Operational Station, Whenuapai	340,600
No. 1 Flying Training School, Wigram	126,000
No. 2 Flying Training School, Woodbourne	190,000
No. 3 Flying Training School, Ohakea	248,100
School of Technical Training and No. 2 Stores Depot, Rongotai	81,300
Aircraft and No. 1 Stores Depot, Hobsonville	86,000
No. 2 General Reconnaissance Squadron Station	72,100
No. 2 General Reconnaissance Squadron Detached Flight	30,000
No. 1 General Reconnaissance Squadron Detached Flight	4,100
No. 3 General Reconnaissance Squadron Station	32,000
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	£1,456,600

Since the commencement of the expansion programme of 1937–38, the sum of £3,559,900 has been expended on works and buildings.