

CHAPTER VII.—FOREST ENGINEERING

53. *General.*—Labour continues to be quite inadequate for the amount of engineering work which is urgently needed in State forests, while the technical side is very much understaffed. Nevertheless, roads, bridges, buildings, and general engineering services have been maintained to a reasonable standard.

54. *Roads and Bridges.*—Approximately 55 miles of new State Forest Service roads have been formed and 40 miles metalled; maintenance work was carried out over more than 850 miles. Other works on the above roads included over 100 new culverts of various sizes and 6 new bridges, while 30 culverts and 26 bridges received maintenance. New tracks formed totalled 28 miles and old tracks maintained 40 miles.

55. *Transportation and Construction Equipment.*—This equipment comprises 301 trucks, 84 tractors, 5 carryall scrapers, and 300 items of miscellaneous plant; other vehicles are 30 cars and station wagons and 94 fire-engines. Much of the plant was purchased second hand from the Armed Forces and must before long be replaced, as maintenance under the present conditions of material and labour shortages is becoming increasingly difficult.

56. *Buildings.*—In spite of all efforts to provide further accommodation, particularly for married employees at State Forest Service projects, only 22 permanent residences were completed (although a further 51 have been commenced), and 19 temporary dwellings were completed and 9 more started. A hostel and several single men's camps complete with modern amenities have been established or enlarged, providing for the accommodation of some 180 men. Additional buildings under construction will be sufficient for a further 280 men. Sundry buildings completed comprise 3 fire lookouts, a sawmill building, 8 implement-sheds, &c., and pump-house and a small power-house. Work is proceeding on a number of others, including a large workshop to serve the Rotorua Conservancy. Two bores have been put down in Rotorua in order to utilize thermal heat for the heating of buildings.

57. *Water-supply and Drainage.*—The provision of water and drainage systems has been attended with the difficulties caused by current shortages, and as a result it has been necessary to employ temporary methods in a number of Forest Service communities; it is hoped, however, to replace these improvisations in the next twelve months with permanent installations. Additional bores for water-supply purposes have been put down at Kaingaroa, Minginui, and Glenbervie, while storage and/or additional reticulation have been provided at Rotoehu, Kaingaroa, Minginui, Pureora, Balmoral, and Eyrewell. For purely fire-fighting purposes, storage tanks have been installed at Balmoral Forest and small earth dams at Dusky Forest, while the opening-up of access roads to streams in the latter forest has been continued.

58. *Utilization Plant.*—The increase in kiln capacity at the Waipa Sawmill forecast in last year's report has been realized in part by the completion of one kiln unit; the second is nearing completion. Two additional boilers have now been installed, ensuring an adequate supply of steam to the new kilns and providing some relief to the original boilers which have been forced for many years.

A small experimental plant was built for the pressure treatment of timber with preservatives, and a log-splitting machine was designed and built. New plant, chiefly German reparations, has been installed in the fitters' shop.

A start has been made with the construction of a new export shed and the installation of an end-trimming and branding machine. Further extensions have been made to the sprinkler system, so that all buildings are now fairly well protected from fire.