

A number of bridges have been strengthened for military traffic.

The $1\frac{3}{4}$ miles Topuni deviation on the Birkenhead–Maungaturoto State highway has now been formed and metalled.

North of Auckland, the 57 ft. Awaroa bridge at Helensville and the Croydon Road overbridge were completed, together with their approaches. The improvement works south of Helensville have been suspended.

The reconstruction of $5\frac{3}{4}$ miles on the Pokeno–Paeroa State highway was completed and the length has now been sealed. This completes the sealing of this highway, which may be considered the principal improvement carried out in the district during the year.

On the Waihi–Coroglen highway, Grahams and Pepe Bridges have been erected, and the Waiwawa is in hand. Bridges throughout the district to the number of twenty-three have been repaired or strengthened.

The Tauranga and Gisborne districts had no major works in hand during the year. In the former district the protective work on the State highway along the shore of Lake Taupo was continued, and the position is now satisfactory unless further erosion becomes evident. This work is consequent on the controlling of the lake-level for hydro-electric purposes, and has required some 7,000 cubic yards of stone up to the present. Part of the cost is being met from the Hydro-electric Account.

In the Gisborne district tree-planting to minimize erosion has been continued, and some flood-protection works constructed.

In the Napier district new bridges over the Waikoau and Mataboura streams on the State highway to Gisborne are under construction, contracts having been let for these early last year. The foundations and piers have been completed in both cases.

A contract has also been let for the 42 chains of approaches to the Waikoau Bridge.

On the Napier–Palmerston North Highway the 70 chain Piri Piri deviation and 7 chains of approaches to the Manga-atua Bridge were sealed, also 41 chains of McLean Street main highway in Woodville.

Heavy slipping occurred as a result of floods and earthquake damage in the southern part of the district.

In the Taumarunui district the principal works comprised the construction of several short bridges and concrete culverts, and the restoration of flood damage, the latter being a recurrent item in this district.

The metalling of the remaining gap between Ohura and Aria was completed.

On the Stratford–Taumarunui highway, Stratford district, the 85 ft. No. 4 Mangotuku Bridge was completed, and No. 1 bridge of similar length is in hand.

The Wanganui district has been largely concerned with the effect of military traffic on highways, particularly that from Bulls through Taihape to Waiouru. The light metalling and tar-sealing applied a few years ago has failed over considerable lengths, and has been under extensive repair. Three miles were sealed below Waiouru, 8 miles resealed between Bulls and Hunterville, and further work is in hand.

In the Wellington district the principal items were the erection of three bridges, of moderate length, and two large concrete culverts, one being 12 ft. by 12 ft. by 52 ft.

The two severe earthquakes which occurred in June and August caused considerable damage to bridges in the Wairarapa area, and accentuated the effect of subsequent floods.

In the Nelson district, Murchison County, the 93 ft. Granity Creek bridge and several short timber bridges were erected. A considerable amount of flood-damage was repaired.

On the West Coast the year has been remarkable for heavy rainfall, with exceptional local storms, which have caused much damage to almost all of the highways. The outstanding item was the demolition of 280 ft. of the Big Wanganui Bridge, near Harihari, the restoration of which has now been completed by the erection of six 60 ft. hardwood truss-spans. Extensive protection works have also been necessary at several other bridges.

Two short bridges and several large culverts have been constructed, and the 4-mile creek water-drive, 160 ft. long, on the Nelson–Westport highway was completed. A 32 chain deviation on the Christchurch–Kumara highway was formed and metalled.

In Canterbury the approaches to the Benmore Bridge, in Cheviot County, comprising a 36 chain deviation, have been formed and metalled, and the approaches to the Waiau Bridge at Parnassus are being altered in consequence of the completion of the new railway bridge, which leaves the original bridge solely for highway traffic.

The Bower Bridge over the Avon near New Brighton, 90 ft. in length with a 30 ft. roadway, has been completed. A contract has been let for sealing 9 miles of the Tinwald–Westerfield highway.

In the Otago and Southland districts the chief works of importance were the completion of the approaches to the Wairuna Overbridge near Clinton, the erection of a short bridge on the Outram–Berwick highway, and the completion of a large twin concrete box culvert replacing Barratta Creek Bridge on the Balclutha–Kaka Point highway. A contract is in progress for the reconstruction and sealing of $5\frac{1}{4}$ miles south of Kurow, and a contract let for sealing $2\frac{1}{2}$ miles between Branxholm and Buxton's Corner, at Invercargill. A 20 chain deviation improving the alignment and grade of Jollie's Hill between Lowther and Atholl was completed, also a $1\frac{1}{2}$ miles deviation in Vincent County near Wanaka, which has been held up for some time.

Magnetic Truck.—The machine has been in operation throughout the year, principally on aerodromes and military camps, where it has done very useful work. The quantity of puncture-producing material picked up on these was $5\frac{1}{2}$ tons, and on highways $2\frac{3}{4}$ tons, the latter being at the rate of 2.4 lb. per mile, compared with 2.1 lb. in the previous year. The clearing of highways was practically confined to those traversed on journeys between camps and centres.