

*Gentle Annie Stream Bridge (Queenstown to Cromwell Road).*—This bridge consists of one 60 ft. and one 40 ft. span, in concrete, and was completed during the year. The work was carried out under adverse labour and other conditions.

*Toko Bridge (Milton).*—A concrete bridge of four 30 ft. and one 20 ft. spans, nearing completion.

*Lilburn No. 1 Block.*—638 chains formation practically completed.

In addition to the construction-works as above detailed, maintenance-work has been done over considerable lengths of roads under Government control, the principal items being: Rotorua-Tauranga roads; Rotorua-Taupo-Mohaka; Kohuratahi-Tatu; Clarence-Parnassus Road; Glenhope-Westport; Inangahua-Greymouth-Hokitika-Waiho Road; Waiho to Westland County Boundary Road; Hokitika-Otira-Bealey Road; Mohikinui-Karamea; Pukaki - Mount Cook Road.

## IRRIGATION.

### IDA VALLEY SCHEME.

During the season water was supplied to eighteen irrigators by means of about 50 miles of races.

The Syndicate race extension has now been completed, but nothing further has been done in connection with the drainage.

The German Hill race has been enlarged from 5 m. 29 ch. to 12 m. 46 ch. Flumes at Moa Creek (0 m. 29 ch.), Maori Creek (7 m. 54 ch.), and Dovedale Creek (9 m. 36 ch.) are in hand. A number of concrete culverts and private crossings, together with 68 chains of road-formation, have been completed.

The German Hill race extension has now been completed from 12 m. 46 ch. to 22 m., but there is still a certain amount of culverting to complete, and this is being gone on with.

### GALLOWAY FLAT SCHEME.

Water has been supplied under this scheme during the past season to twenty-three irrigators. The revenue derived is not at present sufficient to cover outgoings, but the scheme is in its infancy, and the position will improve very greatly as the settlers become established.

### OLRIG TERRACE SCHEME.

This scheme has not yet been by any means fully developed, and at present only a comparatively small amount of water is being supplied by means of an old existing race. Excellent results should be obtained here with further development.

### MANUHERIKIA SCHEME.

During the year the concrete lining of the intake tunnel was completed, as well as the inlet and intake gates, and a concrete gravel-trap at the outlet end of the tunnel. The concrete lining of the race in the Manuherikia Gorge has been finished. A number of concrete culverts and four large iron flumes have been completed, and all excavation is now in a finished condition. The Chatto Creek siphon, consisting of a double line of pipes, 1,800 ft. in length, and varying from 22 in. to 26 in. in diameter, was assembled, and is now in working-order. Distributory races HI, XYZG, CDE, and F have been completed.

### ARDGOUR SETTLEMENT SCHEME.

The surveys for the permanent line and siphons have been located, and the necessary plans prepared. Six miles of construction have been completed, and 5 miles are in hand. Fifteen concrete culverts have been installed, and 24 chains of race have been lined with concrete. The concrete intake and stop-gate are in hand.

### EARNSCLEUGH IRRIGATION SCHEME.

This scheme has, with the exception of two concrete culverts, been sufficiently completed to supply all the land which has so far been taken up. It will, however, require to be extended somewhat as more land is occupied.

### GENERAL SURVEYS.

*Upper Manuherikia Scheme.*—A detailed survey of the wall for the upper-dam site at Lauder has been made, and 60 miles of race have been levelled and pegged. Rough surveys have been made of the Falls and the Dunstan Creek dam sites, and trial race-lines have been run with a view to irrigating the northerly end of Ida Valley as well as the Manuherikia Valley, in all about 100,000 acres.

*Arrow River Scheme.*—Preliminary surveys for a pipe-line,  $3\frac{1}{2}$  miles long, in the Arrow River gorge, to carry 48 heads and to irrigate about 6,500 acres on the Arrow flats, have been made, and a reconnaissance survey for 45 miles of race-lines and about 2 miles of pipe-lines has been made.

*Ida Valley Scheme.*—Further investigations were made with a view to diverting water from Hope's Creek to the Manorburn dam, three different proposals being examined.