

Substantial repair work following damage by a flood has been carried out on the main $3\frac{1}{4}$ -mile pipe-line out of the Arrow River gorge.

Surveys and Investigations.—Extensive preliminary surveys and investigations have been made into several alternative schemes for the diversion of Hopes Creek for the purpose of augmenting the supply of water to Ida Valley and Galloway.

Field survey work on the Maniototo scheme ended during the year, but the preparation of plans and the collection of data are still proceeding with a view to the production of a final report on this scheme in the near future.

WATER-SUPPLY

Wellington Water-supply Scheme.—Progress on this scheme has turned out much better than anticipated at the beginning of the year, mainly owing to an improvement in the steel plate and pipe supply position.

The first quantity of steel plate released comprised 360 tons of $\frac{3}{8}$ -in.-diameter plate, estimated to fabricate into 1 mile of 36 in. pipe. A contract was let to Hume Steel, Ltd., for this work, the pipe to be concrete lined. A further 2,000 tons of $\frac{3}{8}$ -in.-diameter steel plate has been ordered from England and the first two shipments (220 tons) have been landed. Tenders have been called for the manufacture of this steel into 36 in. pipe.

In July, 1949, a contract was let to Stewart and Lloyds, England, for bituminous lined and coated 36 in. pipe. The first order of 18,000 ft. of $\frac{5}{16}$ in.-diameter 36 in. pipe commenced to arrive in December. In January further orders were placed with the same firm for 4,500 ft. of $\frac{5}{16}$ in.-diameter 36 in. pipe and 3,500 ft. of $\frac{3}{8}$ in.-diameter 36 in. pipe, this to be fitted with "Johnston" couplings instead of having welded joints as in the case of the 18,000 ft.

The specials and valves for the above-mentioned pipes have also been ordered, which completes the requirements for No. 1 section, Mangaroa to Silverstream.

During the year steady progress was made on the lining of Nos. 1 and 2 tunnels, No. 1 tunnel (length 2,226 ft.) being completed and No. 2 tunnel (length 9,101 ft.) having 2,650 ft. of lining completed.

The left half of the river has been coffer-dammed and approximately 560 cubic yards of rock have been excavated for the weir base. Reinforcing-steel and specials have been ordered. Concreting plant and scaffolding have been erected.

The flume bridge is 70 per cent. complete and is being used as an access bridge to the south end of No. 1 tunnel. No further work can be done until the weir job is further advanced.

On the No. 3 tunnel (length, 1,422 ft.), driving has been completed but is yet to be lined. This completes all the pipe-line tunnels except for the lining of No. 3 tunnel, Nos. 4, 5, and 6 tunnels having been completed in the previous year.

Pipe-laying at the No. 1 section (2 m. 17.80 ch. to 12 m. 32 ch.) commenced at 2 m. 21 ch. on 1st February, 1950, since when 2,000 ft. of welded-joint Stewart and Lloyd pipes have been welded and laid in the trench. Trenching has been completed from 2 m. 21 ch. to 3 m. 20 ch.

A contract for the Trentham reservoir of 500,000 gallons was let on 21st July, 1949. Work commenced on 8th November, 1949, and is 35 per cent. complete.

For the Trentham reservoir branch, 3,142 ft. of 8 in. pipe and specials have been ordered. To augment the present Upper Hutt supply, 6,000 ft. of 9 in. fibrolite pipe have been ordered to connect (via the new Trentham reservoir) the camp and the Upper Hutt reticulation with the camp well-pumping station. This temporary supply should be brought into use about July, which is the estimated date for the completion of the reservoir.

Water-supply, Thames Borough Council.—The second contract is proceeding satisfactorily. During the year, 3,888 ft. of 12 in.-diameter pipes were laid, bringing the total to date up to 27,671 ft.