

The following creeks have been traversed and levelled, and dam and reservoir sites surveyed thereon, with either cross-sections or parallel contours:—

- (1.) Manuherikia River above intake of proposed race: 3 dam-sites.
- (2.) Spenser or East Manuherikia River: 1 dam-site.
- (3.) Boundary or Johnston Creeks (branches of Spenser River): 1 dam-site.
- (4.) Idaburn No. 2 (above Idaburn No. 1): 1 dam-site, to store Idaburn water, the lower dam surveyed in the previous year being required to hold water brought in by the Manuherikia intake-race.
- (5.) Dovedale Creek: 3 dam sites, 2 of which are below the race from Idaburn.
- (6.) Maori Creek: 4 dam-sites, all above race-line from Dovedale Creek.
- (7.) Poolburn: 1 dam-site.
- (8.) Kirk's Creek: 1 dam-site.

A good site for a reservoir occurs at the head of the Poolburn, but the season is too far advanced to survey this at present. It will, however, be taken up during the coming summer.

Moa Creek was examined for some miles up, but no very favourable dam-site was found. The head of the Gimmerburn was also examined, but no suitable place for water-storage could be found.

The greater part of the time of the Engineer in charge of the survey during four months was taken up in conjunction with an officer of the Agricultural Department in inspection of land suitable for irrigation in Central Otago, and in mapping and defining areas of same. Surveys of the different race-lines and reservoir-sites in so many different places far apart necessitated a good deal of time being spent in moving about, and during the past nine months camp has been shifted ten times.

A survey of the large reservoir-site above the Taieri-Styx Junction is now in progress, and will take a considerable time, as the flat rises only about 45 ft. in thirteen miles as far as is known yet, and with a dam 70 ft. high the distance around the proposed edge of water will probably exceed fifty miles.

STEWART SETTLEMENT—IRRIGATION.

Surveys were undertaken to locate the position of the distributaries necessary to render the system complete, the main canal only having been previously constructed. The distributaries, over fifty miles in length, have all been set out, and plans are in course of preparation.

In addition to the plans and longitudinal sections of the races themselves, drawings and specifications have been made for all necessary details such as head-regulators, gauging-weirs, inverted siphons, culverts, &c. Considerable surveys were also undertaken in the vicinity of upper end of race, in order to determine the most suitable class of headworks.

Awamoko Stream Diversion.—A survey was made of the Awamoko Stream for a distance of about three-quarters of a mile in the vicinity of the crossing of main canal of Stewart irrigation scheme, the stream having overflowed its banks and caused damage to properties lower down. From this survey a scheme of protection was decided upon, and plans and specifications prepared in readiness for letting a contract. Work is at present suspended pending a settlement with Native owners.

OTEKAIKE SPECIAL SCHOOL.

A topographical plan of portion of the land connected with Otekaike Special School was made, and a scheme of water-supply and drainage decided upon. The pipe-lines, dam-site, reservoir, &c., are now being pegged out. Water is to be brought a distance of about 70 chains from a creek in the hills by a 2½ in. pipe into a service reservoir close to and 150 ft. above the main building. This reservoir will be constructed of ferro-concrete, and have a storage-capacity of 30,000 gallons. Water will be led from it by 4 in. pipes to various hydrants and service pipes. A septic tank will also be installed for dealing with sewage.

MARINE.

Kaipara River: Removal of Rocks below Mount Rex Wharf.—The Priestman dredge recently imported was sent to undertake this work in December last. The removal of the rocks by blasting and dredging was completed in seven weeks. On completion of this work the dredge was utilised for a fortnight to deepen the water at the Railway Wharf, Helensville, and is now being sent over to Havelock to undertake some dredging there.

Jetty for H.M.C.S. "Iris," at Devonport.—A crane for the end of this wharf was received and erected. Piles and extra framing were provided to carry the crane. A cable-tank was also erected by the Pacific Cable Company. A contract for mooring-buoys has been completed. The buoys have been satisfactorily laid, and are in use by the "Iris." A considerable amount of dredging had to be done as the "Iris" is moored 200 ft. from the end of the wharf instead of 400 ft. as was originally intended.

Huia Wharf, Manukau Harbour.—The Huia wharf and approach, which was let by contract, has been completed.

Motuihi Wharf and Road approach.—The contract for this wharf was completed in September, 1908, in a satisfactory manner. Great difficulty was experienced in getting the piles into the rock bottom. An approach road has been formed and fenced to the wharf from the old landing. Rails have also been laid on the wharf.