

As most of the swamp lands situated within the area have now received a direct benefit from the construction of the works, it is advisable that the rating clauses of the Swamp Drainage Act should be brought into operation, as at the present time the maintenance of completed works, as well as interest on the capital expenditure, are charged up to the Capital Account. This will necessitate the preparation of a valuation roll of the district and the appointment of arbitrators to carry out the classification, after which the necessary rates could be struck.

The principal works carried out during the year have been the straightening and deepening of the Awanui River, excavation of the Whangatane spillway to take overflow from this river, and excavation of the Waihoe channel to drain Lake Tangonge and provide outlet for the Pukepoto and Okahu water-sheds. One dredge has been working on each of these channels throughout the year.

Rainfall records have been kept at Kaitaia, and readings taken daily on gauges showing the water-level in Awanui River. The total rainfall for the year was 49·23 in., the wettest month being October (7·92 in.) and the driest December (1·38 in.).

The following schedule shows details of rainfall for the past six years :—

Year.	Rainfall for Year.	Wettest Month and Rainfall.		Driest Month and Rainfall.	
	Inches.		Inches.		Inches.
1918-19 ..	47·30	Oct., 1918 ..	9·06	Aug., 1918..	1·39
1919-20 ..	31·71	July, 1919 ..	7·37	Dec., 1919..	0·62
1920-21 ..	53·11	May and Aug., 1920 ..	8·02 (each)	Mar., 1921..	1·13
1921-22 ..	49·42	Mar., 1922 ..	5·84	Jan., 1922 ..	2·24
1922-23 ..	44·81	Oct., 1922 ..	7·46	Jan., 1923 ..	2·02
1923-24 ..	49·23	Oct., 1923 ..	7·92	Dec., 1923 ..	1·38

The average annual rainfall for the past six years was 45·93 in.

The highest water-level recorded at Foster's Bridge was 69·80, and the lowest 54·80. At Church Road bridge the highest reading was 78·40 and the lowest 64·80.

*Awanui River.*—Dredger No. 7 (Priestman) was engaged in widening, deepening, and straightening this channel. 123 chains was dredged and 64,410 cubic yards of spoil removed, and a quantity of heavy timber taken out of the old river-bed. Cut No. 30 in Kaitaia Township was deepened by 5 ft., allowing the water to run through this diversion at all times. All timber removed by dredge was hauled clear with bullocks, and banks cleaned up as the dredging proceeded.

*Waihoe Channel.*—Dredger No. 10 (Priestmen) had practically completed this work by the end of the period. A channel has been excavated from the Awanui River to the middle of Lake Tangonge, and a branch from this channel taps stream leading into the Tangonge basin from the Okahu water-shed. 102 chains of channel, 30 ft. wide, was excavated and 56,776 cubic yards of spoil removed. Dredging proved difficult owing to the country being inundated after heavy rain, and there was considerable delay in waiting for flood-waters to subside. In addition, portion of the pontoon was destroyed by fire, and repairs had to be effected in a difficult position, so that further time was lost for dredging, consequently cost of excavation on this job for the year is heavy.

*Whangatane Spillway.*—Dredger No. 22 (Bay City Floater) was employed on this work : 97 chains of channel 30 ft. wide was excavated, and 40,895 cubic yards of spoil and a quantity of timber removed by the dredge. A new engine was fitted on this machine during the year, and improvements effected in the hoisting-gear of bucket to give extra lifting-power required to effectively deal with the very hard clay encountered. Bullock teams were employed in scooping an opening in the high country to enable dredge to get through, and approximately 11,800 cubic yards of spoil was removed by this means. Bridges have been erected as required on properties severed by the spillway, and openings cut in the spoil-bank to tap all waterways which had been blocked by the spoil thrown up. Ahead of the dredge the partly constructed channel has been cleared of weeds, &c., and kept open to allow water to flow down to the outlet into the Pairatahi Stream.

*Dredges.*—The three dredges, Nos. 7, 10, and 22, employed on works as above have removed 162,081 cubic yards of spoil, the cost being 10·72d. per cubic yard.

The following figures show comparison of output and cost per cubic yard for the past three years :—

	Spoil removed.		Cost per	
	Cub. yd.		Cubic Yard.	
1921-22 .. .. .	61,309		10·20d.	
1922-23 .. .. .	138,900		10·47d.	
1923-24 .. .. .	162,081		10·72d.	

*Drains and Roads.*—127 chains of new drains were constructed, 70 chains of double road-drain were deepened, and 70 chains of road-bank formed up with the spoil ; 150 chains of fencing was erected along roads. Maintenance of existing drains was attended to, and 22 miles 75 chains of drain was cleared of growth and slips.

*Stop-banks.*—50 chains of bank with drain alongside was constructed along tidal flats, and one concrete flood-gate placed in position. Near Unahi 4 chains of protective wall, consisting of large stones with outer face grouted, was constructed. Seven miles of stop-banks were kept in repair, and flood-gates on same inspected and repaired when required.

*Bridges.*—Five sill bridges were erected over drains severing properties, and two pile bridges erected over the Whangatane spillway.