

plains. This covers the most closely populated area thereof. It is not possible at the present stage to metal the peat roads, as they are slowly consolidating, and receiving skins of clay spoil from time to time.

The various public utilities supplied are necessary, and have been appreciated.

The difficulties of quickly bringing into condition for settlement areas of peat are ever increasing. It is quite the simplest portion of the work to excavate the outfalls and laterals. These immediately cause shrinkage in the adjoining lands, and have to be followed up from season to season to obtain freeboard and lower the general water-table. Then, it is impracticable to place settlers on areas merely served by bare peat roads, and these must be fascined and spoiled. The spoil is won, if possible, from the drains, upon clay being bottomed therein. If there is no chance of this being done, then it has to be conveyed distances involving from three- to four-mile leads. Necessarily this all takes time, and represents capital not yet brought to profit.

The foregoing remarks as to drainage difficulties are equally appropriate to all similar Government projects, and will not be referred to in the various other parliamentary reports, as Hauraki Plains represents quite the largest undertaking in hand presenting special peat features.

#### DREDGES.

The No. 1 dredge is still engaged on the Waitoa Canal, which has been completed for a total distance of 205 chains, 38 chains having been completed during the year. The total amount of spoil shifted was 42,115 cubic yards. The exceptionally dry weather experienced during the year made it difficult to keep sufficient water for floating and keeping the dredge supplied with coal.

The No. 2 dredge completed the Waitakaruru Canal and the trimming-up of banks and bottom. The dredge was then placed in the Waitakaruru Stream, and worked down from the wharf to the Maukoro Canal, widening and deepening the stream, and connecting same with the Maukoro Canal by a short cut at Preston's. The dredge is now working in the Maukoro-Waitakaruru Canal, and is widening and deepening same southwards. This end of the canal will be shortly reached, when the dredge will continue on with whole-cut work. The spoil from this work will be utilized in constructing the road to the soldiers' sections adjoining, while from a drainage point of view this canal will exercise a most beneficial effect on the land between the canal and the hills, which has always been difficult to efficiently drain. The total amount of spoil shifted was 62,800 cubic yards.

The No. 6 dredge, which is now in good order, is continuing the construction of the Awaitei Canal. The dredge was taken off this work for some months in order to widen and deepen the Patetonga Canal. The total amount of spoil shifted was 53,930 cubic yards.

These machines only worked one eight-hour shift per day, as it was not possible to obtain coal-supplies to run extra shifts.

The following table shows the amount of spoil dredged and cost per cubic yard for the past nine years :—

					Cubic Yards.	Cost per Cubic Yard.
1912-13	..	..	..	..	131,902	3·25d.
1913-14	..	..	..	..	147,740	3·20d.
1914-15	..	..	..	..	176,196	2·67d.
1915-16	..	..	..	..	146,905	3·35d.
1916-17	..	..	..	..	161,674	3·40d.
1917-18	..	..	..	..	130,664	2·53d.
1918-19	..	..	..	..	125,196	4·87d.
1919-20	..	..	..	..	138,310	6·90d.
1920-21	..	..	..	..	158,865	7·42d.

Increased cost of wages, coal, repairs, and supplies is reflected in dredging-costs.

#### AWAITI BLOCK.

The usual maintenance of drains in the above block was carried out, while grading-work on the roads was extensively undertaken during the year, and all the clay roads kept in a good state of repair. The main Awaitei Road was also cleared of stumps along its southern portion. In the main Awaitei outfall drain, rickers procured from adjacent bush were driven in the sides of the drain in order to arrest the fraying of the banks, and the result has been very successful. A great handicap to the drain-work and stability of this main drain is the want of a flood-gate to the Waihou River, but this will no doubt be soon constructed in connection with the Waihou and Ohinemuri Rivers improvement scheme.

The metalling of the Awaitei Road was continued, and 85 chains completed during the year, making a total of 125 chains. In addition to this the county portion of the road, from the junction of the Paeroa Road to the Hauraki Plains boundary, was also metalled by this Department, the distance being 42 chains. This work was to have been done by the Ohinemuri County Council out of loan-moneys raised by the settlers (£300) and subsidy by Public Works Department (£300), but owing to the inability of the Council to obtain the metal the work was undertaken by the Department. Several new culverts were constructed, and the works generally kept in good order.

#### CENTRAL DISTRICT.

The work in this district consisted principally of maintenance. The remetalling of the Kerepehi-Wharepoa Road (county portion) was completed, 17 chains being laid down during the year, making a total of 35 chains. The remetalling of this road from the Hauraki Plains eastern boundary towards Kerepehi was proceeded with and 80 chains completed. The formation of the new Puhanga-Torehape Road was attained by drain spoil for 35 chains at the Puhanga end, and 40 chains constructed at Torehape end by clay carted from pit.