

*Wolf's Bridge and Approach Road (Rodney County).*—This bridge, consisting of one 25 ft. and two 20 ft. spans, has been completed during the year. 16 ch. of approaches have been formed and metalled.

*Hikui - Whangamata Road (Thames County).*—Formation work on this road has been completed over a distance of 12 m. 66 ch. Four small bridges have been erected.

*Tapu-Coroglen (Thames County).*—During the year 15 ch. of formation was carried out. Metalling has been completed over a distance of 5 m. 33 ch. Of the full programme of 9 m. 63 ch. only 20 ch. now remain to be completed.

*Waihi to Whangamata Road (Thames County).*—This section of the road, 3 m. 41 ch. in length, has been completed and handed over to the Thames County Council. Two small bridges have been erected.

*Tauhei-Morrinsville (Waikato County).*—86 ch. of metalling were completed 12 ft. by 9 in. during the period.

*Owairaka Valley Deviation (Waipa County).*—Proposals have been approved for 229½ ch. of re-formation and culverting. 90 ch. of earthwork has been completed.

*Puahue Soldiers Settlement Road (Waipa County).*—159 ch. of metalling were completed during the year.

*Greenhithe to Cut Hill (Waitemata County).*—150 ch. of metalling completed.

*Silverdale to Wainui Road (Waitemata County).*—48½ ch. of metalling completed.

*Orakei Waterfront Road (Waitemata County).*—Formation: With the exception of the approaches of one or two bridges, the earthworks have been completed throughout the road. After a period had been allowed for settlement trimming was completed for 2 m. The spoil was practically all obtained from Campbell's Point, where four steam-shovels shifted some 162,000 cub. yd. in future park and road formation.

Protection works: This has been completed on the harbour side with pitched and grouted wall and dumped apron up to 2 m. 65 ch., with the exception of the bridge-ends. On the inner side, across Hobson Bay, a dumped rubble wall only was placed. Some 55,000 cub. yd. of stone was used during the year, a large amount of this being used to form the apron or toe protection.

Surfacing: The road is being formed as a waterbound macadam founded on a hand-packed spall foundation, and finally a 2 in. wearing-coat of bitumen is being applied.

Kerbs and channels: These have been laid on both sides for a considerable distance.

Storm-water drains and cesspits: Sets consisting of two pre-cast cesspits connected by 9 in. concrete pipes and draining out through the sea-wall have been laid at 4 ch. intervals from 1 m. to 1 m. 72 ch. and from 2 m. 22 ch. to 2 m. 52 ch.

Bridges: At Point Resolution an overhead bridge of two 60 ft. bowstring spans was erected and is complete except for the stairway leading up to the Point. All the piles have been made for No. 1 bridge, and those in abutment No. 1 A and B have been driven. At bridge No. 2 some twenty piles have been made, and the construction of the remainder is being proceeded with.

*Whakatakataka Bay Road (Waitemata County).*—The formation is now complete. A dumped wall of large spalls is used to retain the toe of the formation and this is now being battered back and hand-pitched to a 1-1 slope. The road is being surfaced to the same standard as the Waterfront Road.

*Purewa Stream Bridge (Waitemata County).*—Formation: The approach cutting on the south side has been put through, and both approaches have been formed as far as possible without fouling the foundations of the abutments. All the 18 in. square concrete piles were completed, and in the north abutment holes were chopped and abutment piles placed.

*Mission Bay Extension Road (Waitemata County).*—Good progress was made during year, some 62,500 cub. yd. of spoil being moved, and the formation is being proceeded with satisfactorily. The necessary protective work is being proceeded with, and owing to the exposed situation a stronger section of wall is being built than was erected on the previous section.

*Opotiki - East Cape Road (Motu River - Te Kaha Section), (Opotiki County).*—This work was carried out as a relief work, a number of unemployed from Auckland being engaged. A start was made at the Te Wai-o-Poahu Stream, and the road was formed up to the Motu Bridge along the west bank of the river. This was all steep sidling country, and since the work was completed numerous slips have come down. On the eastern side the road was deviated to above flood-level, and work is in progress as far as Te Kaha. During the year 8 m. 31 ch. of road 16 ft. wide have been completed, 7 ch. of metalling done, and eighty-one culverts placed, total length being 2,305 ft. Most of the culverts are reinforced-concrete-pipe culverts. The following bridge plans have been prepared: Te Wai-o-Poahu Bridge, 121 ft. long; bridge at 3 m. 45 ch., 53 ft.; bridge at 3 m. 52 ch., 64 ft.; Whitianga Bridge, 93 ft.; and Waioriri Stream Bridge, 100 ft. Contracts have been let for the erection of Te Wai-o-Poahu and Whitianga Bridges.

*Motu River Bridge (Opotiki County).*—Good progress was made with the erection of this bridge, which consists of four 110 ft. and one 81 ft. hardwood truss spans on concrete abutments and concrete-cylinder piers. Great trouble was experienced in finding a suitable bottom for the eight cylinders, and in some cases the cylinders had to be sunk 66 ft. below the bed of the stream. In all, 450 ft. of cylinders were sunk. The bridge is nearing completion.

*Orete - County Boundary (Opotiki County).*—52 ch. of road were formed 14 ft. wide and a number of concrete-pipe culverts were placed.

*Te Kaha - Orete Road (Opotiki County).*—This work is also being carried out as relief work. 3 m. 49 ch. of road have been formed as a dray-road 16 ft. wide and culverted with concrete pipes. A traffic-bridge in hardwood was erected; length, 26 ft.

*Motu-Whitikau via Marumoku (Opotiki County).*—A traffic-bridge 50 ft. long and 10 ft. 4 in. between wheel-guards was erected in hardwood.