

## GRADE-EASEMENTS, PALMERSTON NORTH—MARTON.

Cost, £30,000. Daily north-bound traffic, 2,170 tons. Equivalent ruling grade, 1 in 44 ; proposed grade, 1 in 70. Distance between subterminals, twenty-nine miles. Load for 1-in-44 grade, 250 tons ; load for 1-in-70 grade, 400 tons.

Annual cost of working on 1-in-44 grade will be

$$\frac{2170}{250} \times \frac{3\frac{1}{2}}{20} \times \frac{313}{1} \times \frac{29}{1} = £13,790,$$

and annual cost of working on 1-in-70 grade will be

$$\frac{2170}{400} \times \frac{3\frac{1}{2}}{20} \times \frac{313}{1} \times \frac{29}{1} = £8,620 ;$$

therefore saving = £13,790 — £8,620 = £5,170 = 17 per cent. on capital cost.

## NGARUAWAHIA—FRANKTON JUNCTION DOUBLING.

The capacity of the single line between Ngaruawahia and Frankton Junction has been reached, and in order to avoid the delays which are now of very frequent occurrence, and enable the movement of traffic to be carried on efficiently and satisfactorily, the duplication of line between the stations named is necessary. The expenditure would be spread over two years.

## WANGANUI STATION.

There has been considerable controversy as to where the future Wanganui Station will eventually be placed. Until this is settled it is impossible to formulate proposals with estimates. Assuming we remain on the present site until the expansion of business necessitates a drastic change, it will be necessary to improve the conditions to tide us over this period. An amount of £10,000 has been included for this purpose.

## HUTT VALLEY RAILWAY.

It is anticipated that duplication of the line between Lower Hutt and Upper Hutt will be necessary within ten years. If the present line is duplicated it will not serve the great bulk of the valley ; settlement will therefore be slow. The potentialities of the Hutt Valley for a large population are great, but it will be necessary to build up the traffic. With good access the population of the valley, apart from Petone, may be expected to increase from six thousand to twenty thousand in a limited number of years. The proposal included in the schedule is to construct the line as far as Te Naenae, the northern boundary of the Hutt Borough ; the connection to Silverstream and the duplication to be undertaken at a later date.

## GRADE-EASEMENTS, FRANKTON—TE KUITI.

Cost, Frankton—Te Kuiti, £68,200 ; Te Awamutu yard, £19,000 ; total, £87,200. Daily traffic in both directions, 4,000 tons. Equivalent ruling grade, 1 in 50 ; proposed grade, 1 in 100. Distance between subterminals, forty-one miles. Load for 1-in-50 grade, 270 tons ; load for 1-in-70 grade, 400 tons ; load for 1-in-100 grade, 550 tons.

The annual cost of working on 1-in-50 grade will be £33,270 ; annual cost of working on 1-in-70 grade, £22,450 ; annual cost of working on 1-in-100 grade, £16,330. Taking an average between 1-in-50 and 1-in-70 grades = £26,835 ; the saving by improving to a 1-in-100 grade will be £27,860 — £16,330 = £11,530 = 13 per cent. on capital cost.

## TAUPIRI STATION.

This station requires rearrangement. The cost may be put at £10,000. The necessity not being so pressing as some of the others, it can wait until other works are finished.

## TAUMARUNUI REARRANGEMENT.

At Taumarunui it is proposed to shift the engine-depot from its present site to a site south of present yard, on land already acquired for the purpose. This will enable extension to be made to the general yard as required to meet the growth of business. Cost is placed at £25,000. Work not to be commenced immediately.

## HASTINGS STATION.

In 1914 the rearrangement of Hastings Station was looked upon as urgent ; the growth since then has not kept pace with anticipations, and the work is not now urgent. An amount of £50,000 has been included in the schedule, but the work can well wait in the meantime.

## STRATFORD REARRANGEMENT.

The land available on the present site of Stratford Station is too limited to enable the yard to be extended to give the accommodation necessary with the increasing traffic from the branch line. A design for shifting the station to the south side of the Patea River has been prepared ; the estimated cost of this is £64,000. When the connection is made with the Okahukura end of the branch there will be a large traffic to be dealt with at Stratford for distribution north and south. The proposal is to take the land now (value, say, £17,000), and carry out the rearrangement later as required. It is necessary to take the land now, as it is being rapidly built upon.