

WELLINGTON TO NEW PLYMOUTH.

During the running of the third wire between Wellington and Wanganui this line received a thorough overhaul, all poles showing the least sign of weakness or decay being removed and replaced by poles sawn from the heart of totara. The remaining portion of the section is in good working order, and has maintained its state of efficiency during the year, with the exception of one or two minor interruptions in the bush behind Mount Egmont.

Owing to a severe thunderstorm at the end of the year, the line between Turakina and Wanganui met with considerable damage. In the same storm the leading-in wires of the Wanganui office were fused by lightning, and considerable damage done to the instruments and internal fittings. Hasty arrangements were at once made for renewing communication, and instruments were immediately despatched from Wellington. Necessary repairs were effected and communication restored within thirty-six hours from the time of the accident.

WELLINGTON TO NAPIER.

Between Wellington and Masterton this line has during the past year received a thorough overhaul, and a working party is now engaged overhauling that portion between Masterton and Wainui. Between Waipukurau and Napier the line has been carefully examined by a working party on foot, and all defective arms, poles, insulators, &c., replaced by good ones. A fifth wire is now being erected from Wellington to Masterton, and a fourth wire will shortly be erected from Masterton to Tenui. The section throughout is now in good repair.

NAPIER TO GRAHAMSTOWN.

Between Tauranga and Katikati, for a distance of 14 miles, the line has been removed from difficult and swampy ground and erected adjacent to the main road. When the line was first constructed in 1871-72, the road had not been surveyed or laid off, and it was then deemed most desirable to carry the wires by such a course as would cross the numerous rivers at the fords then in use, in order to provide for inspection and repairs. The road now having been formed, and the majority of rivers having been bridged, the maintenance of this section will be greatly facilitated by the deviation. Between Katikati and Grahamstown several culverts have been renewed, and the track used by linemen for inspection, where it passes over swamp and through bush, has received proper attention. All the lines comprising this section are now in good and efficient repair.

AUCKLAND LINES.

Between Mercer and Pukorokoro some sixty decayed poles were removed, and replaced by new ones. Near Drury three miles of the line were altered to bring it into the new office. The alteration thus made also had the effect of strengthening the line by cutting out some severe angles. At the crossing of the Waiwera River, it was found necessary to clear some bush, and to slightly alter the line to make it more convenient for the shipping. On the Riverhead line several alterations have been made, necessitated by landslips, &c. Between Warkworth and Waiwera some minor alterations have been made. The towers at the Piako and Thames Rivers have received all necessary repairs. At Grahamstown and Parawai slight alterations have been made to meet with road deviations, and for the same reason the line passing through Parnell has been altered. Between Auckland and Riverhead a few decayed poles have been replaced. On the Manukau Heads line a dangerous swamp has received repairs. Between Helensville and Warkworth a creek has been bridged and a track cut for the linemen when on inspection.

AUCKLAND TO KAWAKAWA AND MONGONUI.

This section calls for no special remark. Between Auckland and Kawakawa some small but necessary repairs have been effected. South of Whangarei about three and a half miles of the line have been removed to alongside of the main road lately formed; and at the Wairua River about half a mile of line has been removed owing to erection of bridge. Fern and scrub have been cleared from round the poles, culverts and swamp tracks repaired, and everything which was deemed necessary to render the line lasting was done. Between Kawakawa and Mongonui the line is in good condition, being almost new.

COOK STRAIT CABLE.

No. 1 Cable.—This cable has, since the date of the last report, continued to work in an uninterrupted and satisfactory manner. It will be seen, on reference to the record of tests given in Table F, that Nos. 1 and 3 wires continue in their usual good electrical condition, while No. 2 maintains its usual low standard. No difficulty, however, is experienced in working this wire, and only from actual tests for insulation and resistance can it be judged faulty.

No. 2 Cable.—This cable continues to work in a satisfactory manner, and, from the monthly tests shown in detail in Table G, it will be seen that it is in as good electrical condition now as when first laid. It is, as well as No. 3 wire in the No. 1 Cable, worked upon the duplex system, and the results have been so far satisfactory. The No. 2 Cable is used exclusively for the southern work to or from Government Buildings.

SCHEDULE OF TABLES.

TABLE A.—Cash Revenue and Expenditure, Signals Department.	TABLE G.—Insulation Tests, No. 2 Cook Strait Cable.
" B.—Number of Telegrams sent for every 100 Letters.	" H.—Total Cost of Lines.
" C.—Comparative Quarterly Return, years ending June, 1877-78.	" I.—Number of Telegraph Money Orders issued.
" D.—Annual Comparative Progress of the Department.	" K.—Value of Government Telegrams.
" E.—Cost of Maintenance of Lines.	" L.—Debtor and Creditor Statement.
" F.—Insulation Tests, No. 1 Cook Strait Cable.	