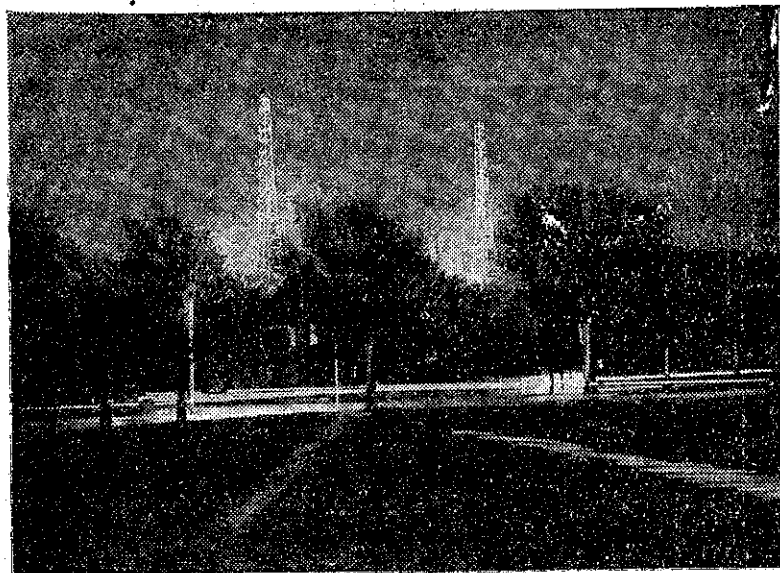




A landmark that will shortly disappear. The antenna masts of 3YA, which will probably be removed to a site on Banks Peninsula.

THE importance of the location of a transmitter cannot be over-emphasised for naturally, before the signals can be received at any great distance, they must get a clear start from the transmitter. Steel buildings, power wires, mineral deposits and hills tend to absorb a large proportion of the signal strength, and it has been shown by the scientific selection of station sites that the reception from a transmitter has been improved, in some cases, a hundred per cent. A case in point was a Chicago transmitter which recently was shifted from its old position to one which had been chosen scientifically. The result was that twice the field strength was made available and the efficiency of the station thereby greatly improved.

IN setting out to determine which sites will be used for the new transmitters the Board is seeking to secure uniformity of strength over definite areas, and to push out the fading rings so that a larger percentage of listeners may have dependable service. The Board's first task was to have a thorough survey of the localities which are most promising. This survey must take into account the first essentials, such as available power, access, climatic conditions, etc. The ideal situation from the propagation point of view sometimes has to be dropped through these reasons. Further, there must be room for extension, particularly as the Coverage Commission recommended that the Board watch carefully the development in short wave, and short-wave stations, with their complicated antenna systems, need space.

Inspection of the environs of Christchurch, where the first new station is to be erected, showed that there were several very promising sites from which test transmissions will be carried out with a portable transmitter.

The transmission can be compared with that from the existing site for, apart from all theoretical considerations, the results obtained from the new sites must definitely be better than those from the existing ones to justify the cost of a rural location. The class of transmitters used for these test transmissions will depend upon

whether power is available at those localities from which transmission is to take place. If it is, a suitable transmitter can be connected with the mains. If mains are not in the immediate vicinity, the type must be self-contained with power derived from an oil engine. Low power will be used, and measurements made of field strength round the transmitting station. Reliable listeners will also be asked to listen in and to observe the phenomenon of fading. Comparisons will be made between the fading rings of the new sites and the old one.

The antennae will be supported by telescopic masts, and transmissions will be made during daylight and dark; in the daylight to determine the field strength distribution, and in dark to ascertain the extent of the fading ring. Uniformly good transmission round each test station will be required. Such things as hills and mineral deposits often detrimentally affect the transmissions in a certain direction, but if the field is uniformly good round the transmitter itself, signals are more likely to be received well over a large area.

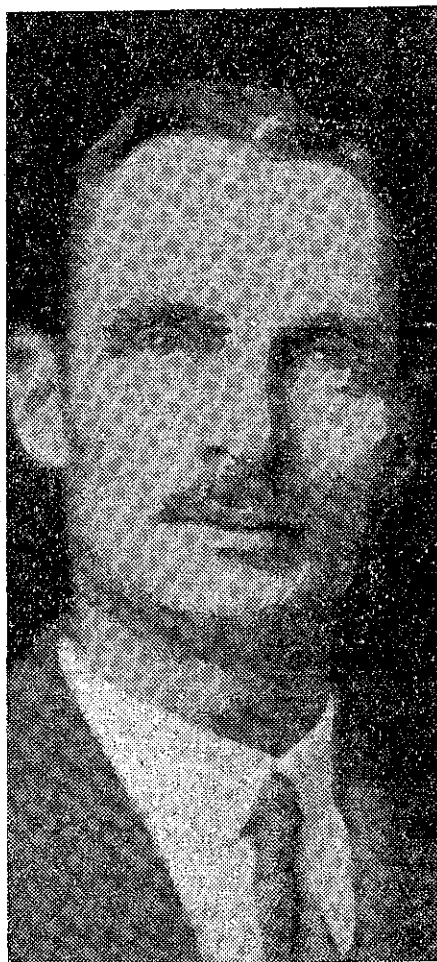
IN order to determine accurately the field strength of the transmissions at various points, the Board will use an up-to-date field strength measuring apparatus.

Summing up the work of the Board, it will be:—

1. To obtain uniform transmission over the area in the immediate vicinity of the portable transmitter.
2. To push out the fading ring as far as possible.
3. To follow out the selection principles laid down by the Coverage Commission.
4. And this is most important: To obtain better all-round results than are now being secured.

Not the spectacular effect of the transmitting station, but its ability to do its work in the most satisfactory manner is the criterion as to the best locality.

The Board is not wasting any time in going ahead with the selection and testing out of sites, and much has already been done in these directions. It can be expected that within a short time the testing transmitter will be heard, and listeners will no doubt appreciate that these tests will necessarily occupy a considerable time.



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New Stations for Old

Mr. A. GIBBS,

Consultant Engineer to the Radio Broadcasting Board relates how testing for the new sites will be carried out