

- (3) *Northcote Borough*.—The system, which was installed between 1923 and 1926 and serves only 250 acres out of a total area of 1,190 acres, is based on septic tanks. A storage tank to enable discharge to be made on the ebb tide only was also constructed, but this is not now in use, and there is therefore a continuous discharge from one outfall of the effluent from the septic tanks.
- (4) *Birkenhead Borough*.—A system was installed in 1936-37. It consists of a septic tank which has two chambers and a final settling-tank. The effluent is discharged to the main channel at the mouth of Chelsea Bay. The sludge is taken out to sea by barges.

EXISTING SEWERAGE SYSTEMS ARE UNSATISFACTORY

55. (1) It will be observed from the above description of the methods of sewage disposal that in each case either crude sewage or septic-tank effluent is discharged into the waters of the Waitemata Harbour and that, in effect, no method, or no adequate method, of sewage treatment is employed. Owing to the existence of several other sources of pollution of the Waitemata Harbour waters and particularly the Orakei outfall it is not possible to determine the extent to which the sewage from the North Shore area is responsible for the pollution of the waters of the Waitemata Harbour or of the bathing beaches in the North Shore area or elsewhere which the evidence of Dr. A. W. S. Thompson, the Medical Officer of Health at Auckland, shows to exist. It is sufficient, we think, to state that the evidence shows that the discharge of the sewage must contribute to this pollution to a material degree, and that in addition to the interference caused to the public in their enjoyment of the bathing beaches in the locality there is a potential menace to public health which must become progressively worse.

(2) It is recognized by the local authorities in the North Shore area, as well as by the Auckland Harbour Board, the Health Department, and the Marine Department, that the existing conditions should not be allowed to continue indefinitely, although in view of the more important problem that exists on the southern side of the harbour it is not suggested that the adoption of remedial measures demands the urgent consideration that the metropolitan area requires.

(3) In addition to the existing systems being unsatisfactory as presently contributing to the pollution of the Waitemata Harbour, it is plain, we think, that the existence of four separate independent systems is unsuitable, and that a comprehensive system for the whole North Shore area is required, together with joint control. Further reference will be made later to this aspect.

ACTION TAKEN BY BOROUGHES

56. (1) As has been mentioned, the Takapuna Borough Council in 1948 adopted proposals for the improvement of the method of disposing of sewage from the borough, including a proposal for full treatment by the activated-sludge process. The Council's Consulting Engineer, Mr. R. P. Worley, gave evidence before us, and furnished particulars of these proposals together with some estimates of cost. It is clear that if these proposals are carried into effect a material improvement will result. Indeed, provided the method of treatment proposed is carried out to a sufficient degree, it would be possible to ensure that the effluent discharged into the harbour waters would be quite safe. It has already been mentioned that the minimum staff required to operate the treatment plant could operate a plant four or five times the size of that proposed to be used, and the Takapuna Borough Council has therefore invited the other North Shore boroughs to join in a scheme for their joint use of the treatment-works and outfall.