

THE SANITARY REVIEW

PUBLIC TREATMENT OF MANUFACTURING WASTES.

A question of great importance to municipalities is likely to arise in the near future with reference to the treatment or purification of manufacturing wastes if admitted to connection with public sewers, and so into the sewage disposal system.

In Great Britain a sharp distinction has always been made between domestic sewage and the polluted waste waters, which are the result of any manufacturing process. It has been held that municipalities are not called upon to lay down a sewerage system or install sewage works which may be for the benefit of any particular trade or trades.

A communal sewerage system is primarily a joint health utility, providing that certain unavoidable products of communal existence be removed and satisfactorily dealt with for the common good. Domestic sewage is a necessary product, and it is a necessity to the health of the community that it be dealt with.

Trades wastes, however, are more or less accidental, occasioned not by the necessity to live as a community, but occasioned by the wish of certain individuals or corporations to carry on profit-making concerns. Hence a trade waste is part and parcel of the necessary manufacturing equipment, and as such, any cost entailed in dealing with it should be looked upon as part of the manufacturing process, and be a charge set off against the profits.

For instance, no manufacturer could ask that the community be at the expense of removing, dealing with, and purifying the smoke from a furnace, no matter how great a nuisance the smoke may be to the community. Further, no manufacturer could ask that the removal of waste or scrap material, rendered useless in the process of manufacture, be a charge upon the public assessment. Now, the water which is used in the process of manufacture is just so much water mixed with waste or scrap material, forming a necessary by-product of something which creates money for the producer. The money created by the finished product should be liable for the cost of dealing with the by-products, so that it may not become a nuisance to others who have no direct interest in the production.

In spite, however, of this logical conclusion, the point arises, and will arise acutely in Canada when the installation of sewage disposal works become more general, viz.: a manufacturing concern pays rates; it may, in fact, be the mainstay of the community. Then why should it be denied the use of, and entrance to, a sewerage system maintained principally by the rates which it contributes? The answer is simply as stated above: a sewerage system is provided for sewage, and not for trade by-products. The factory has the right to use it to the full extent for its legitimate purposes, but not otherwise.

Modern methods of treating sewage make it impossible to treat certain trade wastes along with the sewage. If the right were granted by law to every manufacturer or prospective manufacturer to connect with a public sewer, then we might have the following condition arise: A community possesses a sewerage system and disposal works, with bacterial filter beds, which provide efficient results in purifying domestic sewage. A factory commences operations, pays taxes and demands the use of the sewerage system for its waste water. The particular

trade waste may contain strong acid as a by-product, which will render the work of the bacteria filters absolutely ineffectual; and so, in order that a private individual or corporation may gain profit, a valuable public asset may become scrap. Or, in other words, the public may be called upon to spend a large sum to alter or increase their sewage works in order to provide a finishing touch to a manufacturing process.

On the other hand, there are many manufacturing wastes which have no deleterious effect either upon the sewerage system or the method of sewage purification, but which, if not dealt with, would cause a public nuisance. In the event of there being no sewerage system, the manufacturer could not ask the public to pay the cost of dealing with the trade waste. He would have to do so himself, and debit the cost as operating expenses. In the event of there being a sewerage system, then, if the manufacturer is allowed to enjoy the use of it for his trade liquid by-products, he should pay to the municipality some sum equivalent to the burden relieved from the operating expenses.

In permitting a manufacturer to use a public sewerage system for the discharge of liquid by-products, it appears necessary that two principles should be recognized, viz. :—

(a) That any manufacturer shall only be allowed to discharge trade wastes into a public sewerage system after such have received preliminary treatment (where necessary) in order to remove or neutralize any contents which may deleteriously affect either the sewerage system or the method of sewage purification.

(b) That any manufacturer discharging trade wastes into a public sewerage system, and receiving the benefit of any method of purification treatment, shall pay to the municipality an annual sum at the rate of..... per 1,000 gallons treated.

The above principles have been only recently incorporated in a special sewerage Act for the village of New Toronto, in the Township of Etobicoke, and they form the principal features of a by-law adopted this week by the Township Council.

The preliminary treatment insisted upon at the factories will probably take the form of a demand that the trade effluents will not exceed ordinary domestic sewage in organic strength or content of suspended matter, and that they contain no acids or other chemicals which would have a germicidal action upon the bacterial method of sewage purification now adopted at New Toronto.

We understand that this is the first case in Canada where special legislation has been obtained for dealing with this important problem. New Toronto is unique, inasmuch as it is principally a manufacturing centre, and where the trade effluents exceed the domestic sewage in volume.

The Etobicoke Council in framing their by-law have accepted precedents from the older manufacturing districts in Great Britain, as exemplified in the Yorkshire and Mersey and Irwell Rivers' Boards Acts.

THE SEPARATE OR THE COMBINED SYSTEM OF SEWERAGE.

The recognition of the necessity in Canada for methods of sewage purification has a direct bearing upon the question of the adoption of the separate or the combined system of sewerage.