

what they are doing

The combined system is designed to carry off a certain maximum rainfall which is generally fixed at a figure well within the limits of the heaviest rainfalls, which occur only at long intervals. The sewers are not designed for the heaviest falls, for the reason that it is better to put up with occasional inconvenience than to adopt a system of which the capital cost would be excessive.

In new or growing cities full allowance should be made in computing the sewer sizes, for an extended paved area, bearing in mind that it is much better to have the sewers turn out too large than too small. It is recommended that in all cases except of the smallest towns, that the combined system be used. A town that can afford a system of any kind, can well afford the extra cost of the combined system.

Sewage Purification

Some measure of sewage purification is universally admitted to be desirable. Unfortunately very few surface supplies of water are in their natural state fit for domestic use. Only after thorough filtration can they be considered safe. This being the case, and it being further a fact that surface streams have many sources of contamination apart from the sewage of towns, it becomes a question in view of the fact that all public water supplies from such streams must in any case be filtered, how far it is necessary to go in purifying sewage which is to be discharged into an already polluted stream.

Expert opinion appears to be focusing itself on the following solution of this problem.

First, that all water supplies from surface streams should be filtered, except those from a few mountain streams, before use for drinking purposes.

Second, that all sewage should be purified to the extent that (a) practically all solid matter be removed from it before it is discharged into a stream or lake, (b) in most cases the effluent should be filtered or chemically treated if such treatment is necessary to prevent putrefaction or to destroy pathogenic germs.

Water Supply

The following are among the most common uses of water in a community: 1, Drinking, cooking and washing; 2, sprinkling roads, grass, etc.; 3, flushing sewers and sanitation; 4, fire protection; 5, manufacturing, boiler use, etc.; 6, laundry work.

The first requisite for drinking water is purity. A considerable degree of hardness is not a fault; a hard water is more palatable than a soft water. While a hard water suitable for drinking is also suitable for the second, third and fourth uses above specified, it is not suitable for the fifth and sixth. On the other hand, a soft water, though it may not be absolutely pure, is suitable for all purposes except the first.

It would seem that in some cases a dual system of pipes would be the practical solution of the difficulty in obtaining good and sufficient supply for all purposes—one system for house supply and another for the remaining uses of the community. By a further differentiation of the systems one might be made high and the other low or moderate pressure, the low pressure serving dwellings, lawns, etc., the high pressure being used for fire extinctions, manufacturing, commercial uses in high buildings, etc.

Duplicate distributing systems are becoming quite common, the high pressure systems being constructed for fire protection purposes. There has been considerable objection on the part of those operating the fire service systems to allowing those systems to be used for any other purpose.

There is, however, no objection to using the high pressure system for any purpose for which it may be suited, provided that such use does not interfere with the requirements of fire protection.

In Winnipeg a considerable revenue is made by the sale of water from the high pressure plant without in the least affecting its usefulness for fire service. The sale of water might be very much extended by adding to the pumping plant and distribution system.

One of the most attractive features of any city is the ornamental or aesthetic use of water by ample supplies to fountains of artistic design. In most cities quantities of water are used for flushing sewers. Without any additional expense this water may, before being run into the flush tanks, be used to supply fountains.

While ample water for all purposes, including ornamental uses, should be provided to the citizens, waste should be carefully checked, as what is wasted by one consumer must be paid

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