

oil, scale and pickling acids. At full plant capacity discharge is based upon a water consumption of 14 M.G.D. Discharge is to the river through three lines with a present estimated flow of 15 c.f.s.

MISCELLANEOUS

Existing Sewerage

The existing sanitary sewerage of Massillon is predominantly of small sized pipe on flat grades. Eight inch pipe on a grade of 0.3 percent is a common street sewer installation. Six inch pipe is also used considerably and 4 inch to some extent. Manholes for inspection and cleaning are relatively infrequent.

Despite these conditions there is little sewer stoppage. Cleaning by comprehensive flushing is part of the yearly program, but even this does not cost more than \$600 or \$700 in the average year.

It is possible that as the load on the older lines increases, the burden of maintenance may become heavier. For this reason a scheme of gradual and inexpensive betterment is suggested, viz.:

1. All plans for sewerage extensions at the instance of private parties should be reviewed by the City Engineer to ensure coordination with a comprehensive plan for the whole city. Construction of such improvements should be inspected by the city though charges therefor may be borne by the parties immediately concerned.

2. Abandon the use of 6 inch pipe for street sewers. The difference in cost between 6-inch and 8-inch is but the cost of the pipe itself or less than five percent of the cost of the improvement. Experience universally justifies this increase. Parenthetically, the city code (Sec. 275 R.O. 1906) specifies 6-inch pipe as a minimum of house connections.

3. For sewers 24-inches in diameter or smaller, provide manholes at all major alignment and grade changes. Changes at other points should be limited to those which can be readily negotiated with jointed sewer rods. Place manholes at rodding intervals- 300 to 400 feet.

4. Establish a standard of minimum grades for future work. The following are designed to give velocities of two feet per second (M-O.015) flowing full, and are suggested as the finestest, or- directly permissible for sanitary sewer laterals.

5. Allowance of 1 M.G.D. from marginal drainage has been made at Oberlin Road- the northerly end of the Steel Works.