



This is the camera that passes through the sewer and spots leaking joints and broken areas.



The camera drops into a manhole and starts its journey.

TV and Chemical Grout

... stop sewer problems quickly and inexpensively

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Isolating the leaks in sewer systems by closed-circuit television and internally repairing them with a fast-operating chemical grout has opened new vistas in time and labor savings in an area where sewer maintenance can be troublesome.

For a variety of reasons we have experienced an increasing problem with sewer maintenance in Wichita, Kan. About 60% of our nearly 800 miles of sanitary-sewer mains and submains represents new construction subsequent to World War II. This leaves 40% older lines, many of them dating back much earlier in the century. A high percentage of the new sanitary-sewer lines joined the system in the drought years 1951-56 and became definite maintenance problems during and following the heavy rains of 1957 when the water table rose. And with the swiftly growing city-limits area served by the municipal forces (up nearly 300% in the past 17 years), many newly annexed lines have become a problem.

We have 38 men specifically assigned to sewer maintenance under

the direct supervision of Glen Rousseau, sewer-maintenance supervisor. Of course, the idea of sewer maintenance is not new here. Our 38 people in sewer maintenance include two three-man emergency crews that repair stoppages and provide inspections from 8 a.m. to 9 p.m. six days a week.

Between their repair work, they cruise the lines and make inspections, the goal being to catch trouble areas before the problem is acute enough to affect the service. Our past method has been—and still is, in great part—to spot the trouble, then dig down and replace the pipe.

The only real problem with the routine methods of sewer maintenance is that they are both slow and expensive. They cost a good deal of money and they also frequently result, because of time loss, in disgruntled feelings on the part of the affected citizens.

New Repair Procedure

This is why we were both interested and pleased when a new company, Guthrie Internal Pipe Repair, Inc., was formed at nearby Newton, Kan. to offer closed-circuit television inspection of sewer lines, and internal repairing with a chemical grout. Their service, of course, does not eliminate replacement of

completely ruined pipe. It does, however, speed the detection of such pipe. This new service is, for us, more in the area of detection and repair of leaks resulting from ground or even surface water.

In the past, we have had to depend on inexact methods of spotting leaks. We could isolate them only to the extent that we knew a break or breaks had occurred between two manholes.

When the rains hit, we will have Guthrie drag its TV camera through the sewers to spot the precise points of leakage. Then we will have them inject their chemical grout into the leaking area with the use of their internal hydraulic packer. Their Hydrochem method makes use of AM-9 chemical grout (a product of American Cyanamid) which will penetrate practically any soil or rock formation through which water will flow. After the addition of a catalyst, the solution is injected into the soil and then in a predetermined period of time, closely controlled from a few seconds to several hours, the chemical grout solution solidifies to a stiff gel. In this manner, any voids or channels in the soil are sealed off, leaving a stabilized and waterproof mass of soil completely surrounding the sewer pipe.

The cost of inspection only, in-

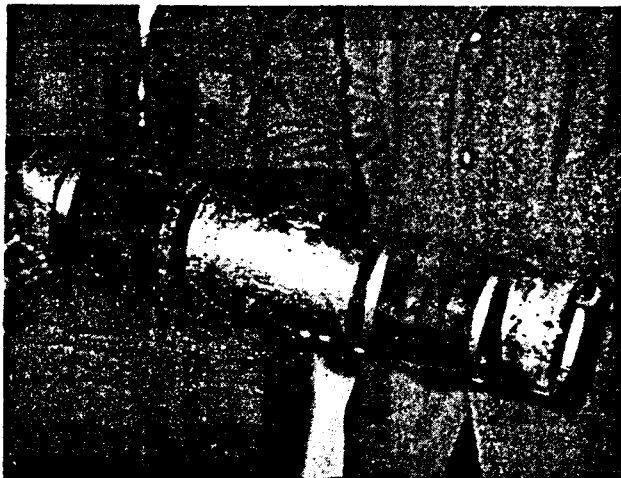


An inspector logs any leaks or breaks as the camera makes its inspection trip.

volving closed-circuit TV operation, runs about 35 cents per foot. This varies with the size of the job, its accessibility and other related factors. Grouting repairs vary from \$12.50 to \$100 per break, depending on the size, number and similar details. We also pay the company for travel time from job to job within the city.

We do not suggest that our new approach to the problem of sewer maintenance will replace preventive maintenance or even that it will completely eliminate the need for the routine-repair crews. But we do suggest that this approach had limitless possibilities in the saving of time, money and disgruntled feelings on the part of impatient citizens. ◀◀

The camera spots a break and gives the precise location.



This internal packer injects the chemical grout from inside the damaged pipe.



The chemically stabilized soil becomes a permanently waterproof mass.