City engineer explains sewer study, how check valves work.

Frustrated homeowners who battled sewage in their basements during torrential rains in June returned to city council chambers.

During open forum at the July 7 meeting of the Gothenburg City Council, four property owners peppered the council and city consulting engineer with questions and comments.

Reed Miller, president of Miller & Associates Consulting Engineers of Kearney, explained that his company is completing a study of the city's sewage system and wastewater treatment plant.

The $35,000 study, mostly paid for through a Nebraska Environmental Partners Grant, was commissioned two years ago after sewage seeped into basements during heavy rain.

Miller said he thinks the city's sewage system handles routine flows.

But when nearly 10 inches of rain in several days drenched the city, he said sewage backed up in 14 basements while groundwater flooded basements all over town.

CHECK VALVES RECOMMENDED

Both Reed Miller and city officials have recommended the use of check valves to stop sewage from flowing into basements.

A check valve includes a flapper that shuts when the water level in the public sewer is high enough to flow back into a house.

Miller, president of Miller & Associates Consulting Engineers, estimated cost at about $350 for a six-inch valve plus an installation fee of at least $500.

Asked if the city would install check valves on residents' service lines at its expense, city attorney Mike Bacon said the city would not.

Bacon said the city has spent thousands of dollars already.

"The council has been responsive," he said. "And you'd be back if it didn't work."

Miller said he didn't know of a city that installed check valves on personal sewer lines, noting that it's the homeowner's responsibility.

Council president Jeff Kennedy pointed out that homeowners with sprinkler systems are required to install the devices. Some cities also require them on new homes, he said.

As a homeowner, Miller said he'd install one for protection against sewage.

When a couple of homeowners with backup problems said they couldn't afford the device and installation, one city official suggested payments be added to monthly sewer bills.

Council members said they would discuss the idea at their next council meeting.

"People want it fixed immediately but you have to understand that wastewater flows by gravity," he said. "And if a couple of Pampers get in, it can back up."

"It (sewage backup) can happen anytime, anywhere."

Based on what the study has revealed so far, Miller said the city could try and get another grant to eliminate infiltration of groundwater into sewer pipes.

The first step would be to use a camera to televise the inside of pipes to see where infiltration is greatest.

Miller said it's not economically feasible to replace sewer pipe throughout the city.

Pam Buddenberg, whose home at 802 11th St., has flooded with sewer water for four years, said it usually happens to the same people each time.

City officials have pinpointed the problem to an area east of Avenue G, below 12th Street and north of Highway 30.

Sewage backup issues two years ago prompted council members to approve the installation of a new sewer line in the area and commission a sewer study.

Council member Jim Aden, who has wells near town, said groundwater levels have risen in the last three years.

Lowering groundwater levels is expensive, Miller noted, and would involve pumping everyday.

When asked about the study, Miller said monitors were set up and checked daily on major lines to measure wastewater flows.

Because the sewer is so flat, they discovered an accumulation of sand and silt.

City services director Shane Gruber pointed out that the city's sewer lines range in age from 70 to 100 years old.

Nonetheless, Miller said he thinks the council has been proactive in installing new lines.

If the city sealed every inch of sewer and was hit with a "gusher," city attorney Mike Bacon asked if there would be infiltration.

"You're going to get some," Miller said.

Although some in the audience suggested pumping water from manholes when they fill up, Gruber said the practice is illegal and that cities that did during June's heavy rain will probably be fined by the Nebraska Department of Environmental Quality.

Pam Buddenberg said it might cost the city $25,000 but "what about what we've spent?"

“It’s frustrating to hear that other cities did it,” she said. “We’ve lost $20,000 in the value of our home.”

Council president Jeff Kennedy said the council is trying to be proactive, noting that “we’re looking for solutions, not excuses.”

Tiffany Tiedemann, whose 702 Washington St. home was flooded with sewage, told the council her safety and that of her children was at risk. She said her children became sick from sewage in the basement.

“It’s your job to serve and protect,” she said.

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