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Pipe leak sending sewage into creek

City tests locate source of some contamination in Honey Creek

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A Milwaukee public works crew Monday uncovered a hidden leak of untreated sewage into a storm sewer that empties to Honey Creek, the second storm water pipe confirmed this year to be dumping human waste into the region's recreational waters.

Last month's discovery of a misconnected sanitary sewer at Miller Park explained why earlier testing had found the genetic marker for human fecal bacteria in storm water discharged to the Menomonee River east of the stadium.

Testing for a bacteria found only in human waste is successfully identifying neighborhoods where there are possible problems with sewage improperly flowing into storm sewers, city officials said Monday. Communities generally check storm water discharge pipes once or twice a year for ammonia from human waste as required by state permits, but the occasional visits have not found the problems unmasked by the genetic marker test.

More misconnections or leaking sewers could be confirmed this year throughout Milwaukee County, from the Lake Michigan shoreline to State Fair Park, as municipalities and the state respond to testing done last year by the University of Wisconsin-Milwaukee's Great Lakes WATER Institute.

"We've established a new partnership with the WATER Institute," Milwaukee City Engineer Jeff Polenske said in discussing the role of the genetic marker test in finding problems.

Institute scientists found the human bacteria marker in water discharged from 27 storm sewer pipes to local rivers and the lake. Testing of additional pipes will be done through 2009 under a contract with the Milwaukee Metropolitan Sewerage District. The Miller Park misconnection was repaired the same week that it was found last month.

On Monday, a camera placed in a storm sewer beneath N. 78th St. in Milwaukee filmed colored-water from a nearby sanitary pipe gushing into the line that should be carrying storm water only to the creek. Dye had been poured into the sanitary sewer only several minutes before it was observed flowing into

the storm pipe.

The water was entering the storm sewer through a leak in the joint connecting two pipe sections, said Nader Jaber, city storm water manager, after watching the film.

The brief time interval between pouring the dye and detecting the leak surprised city officials because sanitary sewers generally are placed below storm lines to eliminate such a problem, Polenske said.

"We'll continue to narrow down the location of the problem," Polenske said. "Hopefully, we can get this resolved in a very timely manner."

The two pipes lie less than a foot apart on this block of N. 78th St., north of W. Stevenson St., compared with the three-foot or four-foot spacing more commonly found under city streets, according to Jaber.

One explanation for the leak found Monday is that waste from a cracked sanitary pipe is rising through several inches of soil or gravel and quickly entering the storm sewer, Jaber said.

One crack will be simple to fix, Polenske said.

If multiple cracks are found in the N. 78th St. sanitary line, the city likely will reline the inside of the pipe to stop leaks.

Smoking out problems

Earlier in the day, white smoke forced into the sanitary sewer on the same block of N. 78th St., north of W. Stevenson St., identified four residences with possible problems that might be allowing sanitary waste to reach the storm sewer, Jaber said.

Smoke poured out of the rooftop plumbing vents at each home properly connected to the sanitary pipe, he said as the work was done. If no smoke was emitted from a rooftop vent, the crew made a note of the address and will ask the homeowner for permission to enter the residence to continue the investigation, Jaber said.

At each of the homes, dye would be flushed down a toilet to check whether the waste ends up in a storm sewer instead of a sanitary pipe.

Generally, Milwaukee sewer maintenance crews bring out smoke and dye only if they find high ammonia levels in water coming out of a storm water pipe, Jaber said.

The city's storm water permit, administered by the state Department of Natural Resources, requires Milwaukee to test most storm sewer discharge pipes once or twice a year.

This week's investigation was prompted by the findings of the WATER Institute's testing last year, however. The genetic marker for a human fecal bacteria was found in 19 of 20, or 95%, of the water samples collected in July and August last year from the storm sewer discharge pipe at N. 79th St. and W. Mount Vernon Ave. in Milwaukee. The pipe is located about one-half block south of W. Blue Mound Road.

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