

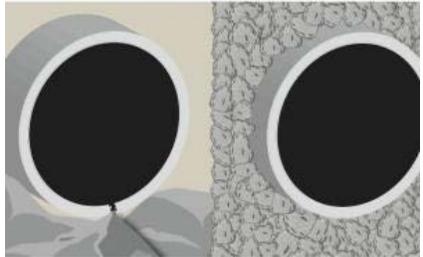
# Bad pipes could cost millions

Register investigation: Defective water lines, improper installation could force county to rebuild rural water district and tap customers with huge expenses

ANDY OURIEL GROTON TWP. JUN 1, 2015

## Pipe problems

Erie County's water line installation specifications indicate we must install pipes with protective stone bedding in 3' around pipes (below right). Many pipes in Erie County, however, were improperly installed on sharp, jagged rocks (below left), causing cracks and fractures, which lead to leaks.



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The reason for a rushed vote in April to raise water rates in Erie County — before any public input or review ever occurred — remains a mystery only commissioners Bill Monaghan and Tom Ferrell can crack open.

But the duo refuses to answer any questions about the countywide water rate hike they approved, 10.5 percent over a two-year period starting this summer.

They also won't provide any cost or damage assessments for what appears to be a botched installation of apparently defective pipes in the rural water district, constructed in 2002.

Plastic PVC piping Erie County officials used for the rural water district mirrors piping deemed defective in about 50 communities across the U.S. Those communities recently won a class-action lawsuit to recover losses and pay for expenses to dig up and replace the bad pipes.

But Erie County can't recoup any money from the manufacturer because it appears crews improperly installed the pipes.

Erie County environmental services director Jack Meyers approved contracts that allowed construction crews to bury the pipes, prone to extensive cracking lengthwise, without first inserting stone bedding around them. Stone bedding, required by the manufacturer's guidelines, protects pipes from splintering or cracking. The decision to skip that part of the installation could void the pipeline manufacturer's warranty.

### **Big mistake**

Back in 2002, eliminating the stone bedding significantly reduced the cost to build the rural water district, according to documents obtained by the Register.

The newspaper made a public records request and reviewed available county records after Ferrell's and Monaghan's surprise vote to raise the water rates and combine the county's two water districts.

In one county contract, the stone bedding was bid at 2 cents a cubic yard when the actual cost at that time ranged between \$15 to \$20 a cubic yard.

"Nobody understands that," said Erie County commissioner Pat Shenigo, who voted against raising water rates and combining the two water districts. "If you could buy upwards of a \$600,000 worth of stone for \$640, why didn't we buy it and use it?"

It's unclear, now, how much it will cost taxpayers to replace the piping. The 10 miles of defective pipe in question is a larger delivery section of water lines, feeding smaller water lines along the system.

The 10 miles of defective piping contributed to the rural water district's creation costing \$21 million. In total, the rural water district has about 190 miles of pipe.

It's also unclear how much water is being pumped directly into the ground and lost along the water lines because of seepage from extensive cracks. This defective pipeline is prone to cracking, even when properly installed.

Monaghan and Ferrell have refused to offer any explanation for their decisions.

But the hidden expenses and the unknown damages could be one reason they voted to combine water districts, shifting the undetermined costs for urban water customers to cover financial shortcomings in the rural district.

It doesn't appear either Monaghan or Ferrell has:

- Requested any sort of assessment to determine the potential damage or degradation to rural water lines.
- Asked for estimates of what water customers will be forced to pay in repairs.

Shenigo, who was ambushed by Monaghan and Ferrell [during the April 23 meeting](#), urged them to provide more information and a rationale before they voted.

His pleas, however, were ignored.

Monaghan and Ferrell finished up the session with a 2-1 vote in less than 15 minutes, providing neither an explanation nor the rationale Shenigo requested beforehand.

For Monaghan, the vote was an about-face with no explanation. He was vehemently opposed to combining the water districts during his first two terms as a commissioner, arguing it was unfair to shift expenses for the rural district onto urban water customers.

Monaghan declined to reveal what swayed his vote or changed his mind.

But the two common denominators — Ferrell and Meyers — both served in the same roles then as they do today. They likely know, or should know, why decisions were made to cut vital elements of the installation process from contracts.

But Meyers, like Ferrell, isn't providing any answers. He also declined to return messages and did not respond to written inquiries.

### **Missing boat**

About 50 communities across the nation filed and recently won a class-action lawsuit against the company manufacturing similar defective PVC piping.

It has "already failed across our state and will have to be replaced sooner than expected, a budget nightmare for our cash-strapped state, cities and local agencies," former [Nevada Attorney General Catherine Cortez Masto](#) said in a statement. "Manufacturers cannot get away with fraud that puts lives at risk."

Despite the apparent defectiveness of 16-inch pipes sold to Erie County, local officials can't get any relief from the manufacturer. The manufacturer's guidelines — and the county's own standards for water line installations — were ignored when the rural water district was constructed, according to county documents.

Water customers will pay for the mistakes: Beginning this summer, rates will increase 10.5 percent over two years for all 11,000 or so customers receiving an Erie County water bill.

The decision by Monaghan and Ferrell to raise rates and combine the rural and urban water districts also resulted in transferring almost \$1 million in cash deficit from the rural district to the urban district.

All Erie County water customers in one consolidated district must now pay for past mistakes through higher bills.

### **Installation on the cheap**

Like other U.S. municipalities, Erie County's water line installation specifications require construction crews to completely surround pipes with crushed limestone.

The stone protects plastic PVC piping from damage, caused by sharp rocks frequently found in rural areas across Erie County.

But for some reason, the 16-inch main lines throughout Erie County's rural water district — which includes areas such as the townships of Groton and Margaretta — are missing the fortifying layers of stone and instead sit atop sharp, jagged rocks.

In at least three separate documented instances, the 16-inch lines have split lengthwise, causing millions of gallons of water to spill out onto farmland and roadways.

The breaks are similar to the contentions in the class-action suit filed by communities contending the pipes were defective.

It's difficult to pinpoint how much money has been lost in water. But the repair cost for the three 16-inch lines in addition to five other breaks on rural water pipes totals about \$20,000.

Meyers supervised the water line installation and approved contracts to create the rural water district.

Original drawings show stone surrounding the pipes.

It's not known why Meyers removed the stone from water line installations, but he "should have known better," one person with direct knowledge of the process said.

"It turned out to be a bad decision. Down the road, these pipes will break again with increased frequency."

### **Contractor's strange discount**

The Register sent several questions to all three commissioners, Meyers and county administrator Pete Daniel in an attempt to gain a better understanding why the protective stone bedding wasn't installed in and around the pipes.

Shenigo replied, but the others either failed to provide responses or dodged directly answering the questions.

Daniel did offer a brief explanation as to why main lines are missing stone, which defies Erie County's water line installation specifications.

"The pipe in question was put in by open-cut method and was to be embedded in (dirt), and not stone, to save costs," Daniel said. "This was recommended after discussions with Jack Meyers, our county engineering firm and the plastic piping association. They were installed the right way."

But a review of county contracts, in some instances, show the installation bid severely underpriced the stone bedding.

In one contract, officials required 32,000 cubic yards of stone to properly protect the pipes.

The successful contractor submitted a bid of 2 cents per cubic yard, or \$640 for 32,000 cubic yards of stone.

It's an extreme discount, considering the market price for the stone then was between \$15 to \$20 per cubic yard, or \$480,000 to \$640,000 for 32,000 cubic yards.

For \$640, the question many have is the same as Shenigo's: Why not just install the stone at that bargain price?

No one could provide an answer.

### **Going against recommendations**

Daniel's response also seems contradictory to Erie County's own water line installation specifications, which require crews place stone bedding around pipes.

In the late 1990s, when county officials — Daniel, Meyers and Ferrell all served back then — pursued the creation of a rural water district, they hired TolTest, a Toledo-area soil testing company.

TolTest engineers performed soil tests to determine how these water lines should be installed.

The Register independently obtained a copy of the contract and specifications for a water main installation on Hayes Avenue (Ohio 4) in 2002.

TolTest engineers advised "sufficient pipe bedding and haunching consisting (by state standards) of crushed limestone should be maintained above and below the proposed water line in accordance to the Erie County water line construction standards."

Burgess & Niple, a Painesville-based engineering firm hired by county officials to design the rural water district, also specified crews place stone around water pipes in "open-trench installations."

Despite the recommendations, county officials appear to have ignored their own experts and eliminated the protective stone bedding.

### **Monaghan barks**

Several officials, namely Ferrell, stand by decisions made when creating the rural water district, which for the first time provided non-well water to residents living in such areas.

The new district failed to attract the number of customers predicted, and the remaining debt is \$12.4 million. About \$300,000 of that has accrued in the last two-plus years. In the same period, the urban water district created a surplus of close to \$700,000.

About 1,300 rural water customers tapped into the water lines, at least 200 fewer than predicted when it was built.

The county borrowed \$21 million to build the rural district. About \$3 million of that was for just engineering — a staggering amount by industry standards for a water line project.

For years, Monaghan and Shenigo were both opposed to combining the two districts. But Ferrell and Meyers remained confident the projections for usage and growth would balance out any deficit.

Monaghan called the financial practices "chameleon accounting," a term he coined to describe how Ferrell and Meyers justified some of the decisions. They spearheaded planning for the district and worked with engineering firms securing these lucrative contracts.

Monaghan and Shenigo were not commissioners at the time.

The rural district debt ballooned more when officials offered massive discounts to attract more customers.

"We had a fire sale on tap-ins just to get some customers," Monaghan said in 2010. "There were decisions made in the past that were governmental decisions and not business decisions. I don't think all the decisions were based on dollars that could have been saved."

When asked during a recent commissioners meeting why he switched his stance, [Monaghan became angry](#) and attempted to clear the room.

"This is our meeting, not your meeting," Monaghan barked to a reporter. "I told you I am not answering the questions. You don't write up stories, you make them up."

Monaghan claims information in Register news coverage has not been accurate, but he's been unable to substantiate those contentions, provide any additional detail or specificity for his concerns.

Shenigo appeared to be blindsided by Monaghan during the meeting.

### **Experts say: Do it the right way**

The Register asked local officials, developers and engineers involved in public sector engineering about best practices for water line installations. Here are some of the responses:

- **Erie County engineer Jack Farschman:** "For all of our stormwater piping, we typically put 6-inch bedding under the pipe and up to half of the pipe's diameter so it's reinforced. If you put stone in, it's going to circumvent the protrusions, such as jagged pieces of rock or shale. Because of the rather shallow elevations of rock, it's good practice to do this. We wouldn't put our piping directly on top of rock. We need a structural cushion under pipes to prevent it from cracking and breaking."

*Note: Neither Farschman nor anyone from the Erie County engineer's office oversees manufacturing or installation of water lines. That is the responsibility of the environmental services director.*

- **Mike Bramhall, president of Bramhall Engineering & Surveying in Avon:** "If you want to maintain any warranty on that pipe, you have to build it through the specifications, which is usually some premium stone backfill. Without it, the two problems you will get is either a burst or the pipe gets crushed, where the pipe bends and becomes an oval. I wouldn't recommend putting pipes on sharp rocks. I wouldn't think that would be on any manufacturer's specifications."

*Note: Bramhall and his company provide professional consulting services to municipalities, such as Sheffield Lake, Avon and Amherst.*

- **Shenigo:** "It sure seems the deeper we dig into this, the more peculiarities we are finding in this installation. My concern is if Erie County would be able to obtain additional water customers, such as the city of Bellevue, this increased pressure would cause pipes sitting on jagged rocks to break with even greater frequency. My objection to combining the districts was that financially now almost 10,000 people in the urban water district will end up paying the freight for this fix through increased water bills. We've worked so hard to try and pay off debt and reduce costs, but this could be a huge financial problem down the road."

*Note: Shenigo is a professional builder and developer.*

### **Bad pipes, big costs**

Water rates for Erie County customers will rise 10.5 percent in the next two years, and cracks, fractures and breaks in newer Erie County rural water district water mains and pipes possibly could be charged back to all water customers.

Here's a breakdown:

*Rural water district (serving areas such as Groton Township):*

- **\$21 million:** Total cost, when factoring in debt, to create the rural water district in 2002.
- **\$3 million:** From the \$21 million cost, \$3 million went to engineering and oversight costs, an unusually high amount by industry standards for this type of project.
- **\$12.4 million:** Debt still remaining for the rural water district. This is in addition to \$1 million in cash deficit transferred from the rural water district that all customers, including those in the urban district, possibly could pay for.
- **1,300:** Number of customers tapped into the rural water district, at least 200 fewer than predicted.
- **\$9,500:** Per-customer debt cost in the rural water district.
- **\$300,000:** Amount the rural water district has lost since 2012.

*Urban water district (serving areas such as Perkins Township):*

- **\$10.7 million:** Total cost on existing debt for the urban water district.
- **9,500:** Number of customers tapped into the urban water district.
- **\$1,100:** Per-customer debt cost in the urban water district.

*Note: After combining the districts, and to cover the debt, urban water customers — outnumbering rural water customers by a 10-to-1 margin but have one-tenth the debt on a per-customer basis — could now be responsible to offset the red ink. Early calculations show the total equaling about \$1 million, which could escalate.*

- **10.5:** Percentage rate of how much water rates will increase for all county customers over a two-year period. The rate hike kicks in this summer.

*Source: Register research*