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Rural canals plus urban pavement: A recipe for disaster?

Stormwater runoff piped into ditches could breach the banks and flood homes and businesses



Katherine Jones/Idaho Statesman

The New York Canal, nearly empty as winter approaches, flows past a neighborhood on Vista Avenue. Irrigation canals run full all spring and summer. They are not designed - nor do they have the capacity - to accommodate stormwater runoff, yet runoff from urban developments and roads adds more and more water to them. If the New York Canal were to overflow here, residents would be flooded.

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When the Mora Canal south of Kuna was breached in June 2006, water flooded one home and the crawl spaces in six others. And even that was more damage than flooded irrigation canals have normally caused over the years.

But this January, the failure of the Truckee-Carson Canal in Nevada damaged the homes of more than 500 families - and sounded a warning to federal, state and local officials that urban encroachment on an aging irrigation system could create a new threat to public safety.

A breached canal no longer swamps a few fields. It can devastate a community. And the stormwater runoff from the same streets and parking lots now threatened by an "over-topped" canal make it far more likely the canal will flood.

Canals just weren't meant to run through cities, and that has the federal government worried that both homes and the environment could be in danger and has sparked a contentious lawsuit among four public agencies in the Valley.

MORE HOMES MEANS MORE RUNOFF, FLOODING

Paved roads and parking lots today surround many canals that once ran through the desert. That means more runoff now flows into the ditches than was ever contemplated by the pioneers who built them.

And irrigation ditches aren't like rivers, which gather more water as they flow downstream and carry it to a lake or the ocean.

"Canals are larger at the beginning and get smaller toward the end," said Settlers Irrigation District Manager Nathan Draper.

That's perfect for delivering certain amounts of water to certain places, but dangerous for catching stormwater runoff. Canal systems, Draper said, "were never intended as storm drainage systems."

Local irrigation canals, many built more than 100 years ago, were designed to hold a certain amount of water. During the spring and summer, they operate at full capacity.

"Adding any extra amount of water just doesn't work well. It can cause flooding," said Pioneer Irrigation District President Alan Newbill at a summit earlier this month on rural/urban irrigation canal issues.

Settlers Irrigation has sued the Ada County Highway District over the runoff issue. The district wants no increases in the amount of runoff that is diverted into canals. The lawsuit has lasted almost three years and cost taxpayers and irrigation customers about \$2.5 million

Irrigation districts are concerned about financial and civil liability they could face if stormwater runoff in canals floods nearby urban areas. A federal report on the Nevada flood showed stormwater runoff raised water levels high enough in canals that it filled rodent burrows, destroying the stability of the ditch banks.

It is just a matter of time, irrigation officials say, before a major storm causes a Treasure Valley canal to flood homes or businesses.

"We face a lot of liability if we flood," said Paul Deveau, Boise Project Board of Control manager.

ACHD officials won't say much about their side of the fight because the case is still in court, but the agency has countered in the past that runoff has flowed into the canals for decades, and that new developments trap runoff in retention ponds instead of diverting it to canals.

Kris Polly with the U.S. Department of Interior, said stormwater runoff is a problem across the West.

Both the quantity and the quality of urban runoff into natural waterways poses a national public safety threat, according to a 624-page National Academy of Sciences report commissioned by the Environmental Protection Agency and released last week.

Urban areas cover only 3 percent of the United States, yet estimates show their runoff is the primary source of pollution in 13 percent of rivers, 18 percent of lakes and 32 percent of estuaries.

Water once filtered through soil and rocks now flows freely along rooftops, streets and sidewalks to canals and rivers.

Along the way, it becomes a toxic brew of garbage, asphalt sealants, motor fuels and other chemicals.

The runoff has "degraded water quality and habitats in virtually every urban stream system," the report said.

CRAPO CALLS FOR COLLABORATION

More than 80 stormwater pipes, some as large as 48 inches, dump into Settlers Canal on the Boise Bench. The canal, which is about 20 miles long with 95 miles of laterals, was built in the late 1800s to carry water from the Boise River to Bench and West Ada County farms. The district wants to keep ACHD from enlarging storm drains or building new ones.

"Urbanization made it a problem," said attorney Scott Campbell, who represents Settlers. He also is representing Pioneer Irrigation District in its case against Caldwell's ordinance requiring developers to steer stormwater into existing canals.

As part of its case against ACHD, Settlers has tested runoff water for E. coli, heavy metals and other pollutants, Campbell said. He could not divulge those test results because they are part of his case against ACHD. The case is scheduled to go to trial in July.

Sen. Mike Crapo and Idaho water leaders brought the parties together for a summit this month. He told the agencies they needed to work together and find resolution.

"I have been a part of dozens of collaborative efforts," he told them. "I can tell you that in every one where the groups who were involved ultimately came together and laid down their litigation swords and laid down their legislative threats ... that was better for everybody," he said.

Settlers, at least, hopes the arguments can be settled this way.

"We have had some discussion with ACHD," Draper said. They are very early talks. We are hoping to continue that."