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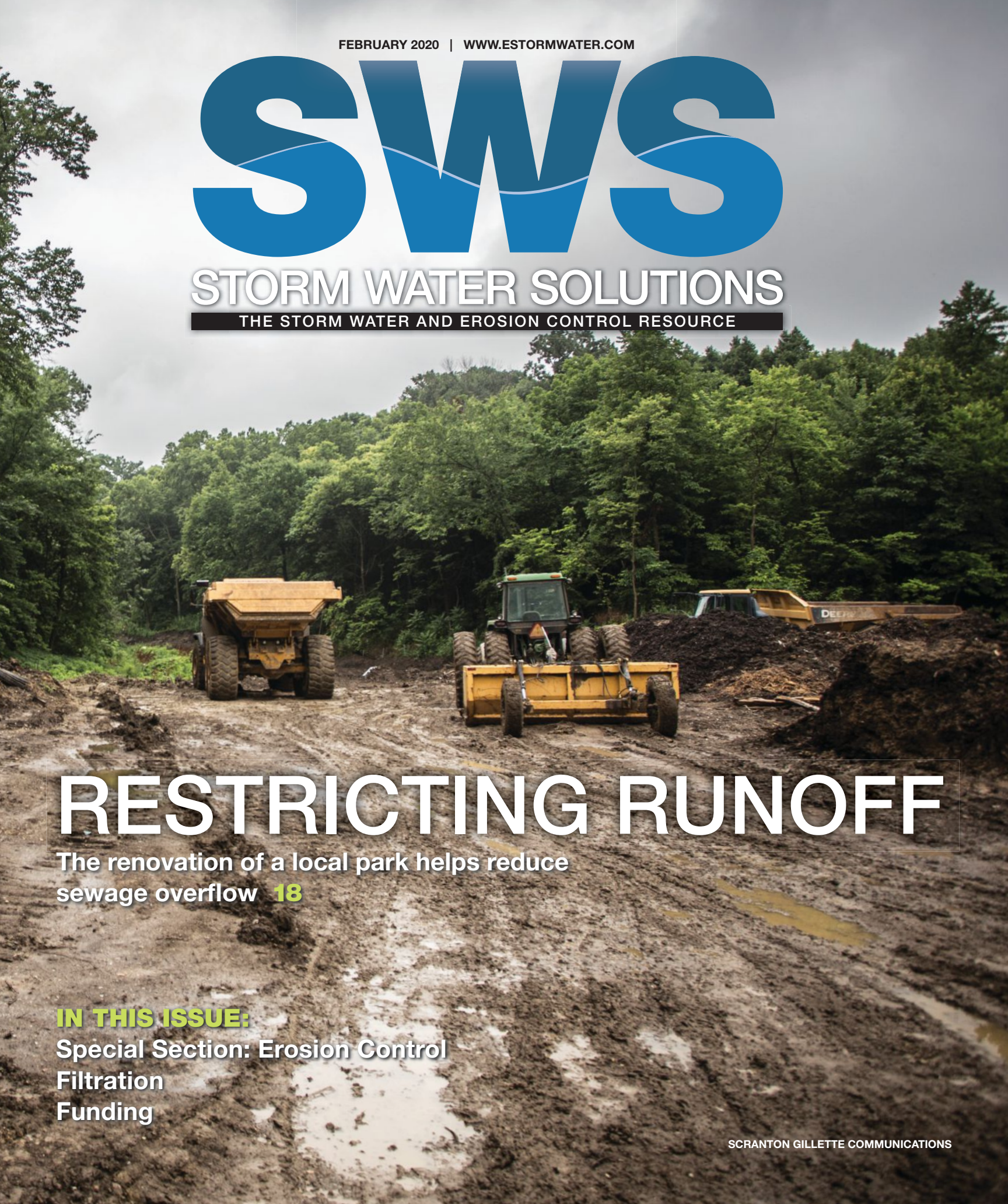

RESTRICTING RUNOFF

The renovation of a local park helps reduce sewage overflow 18

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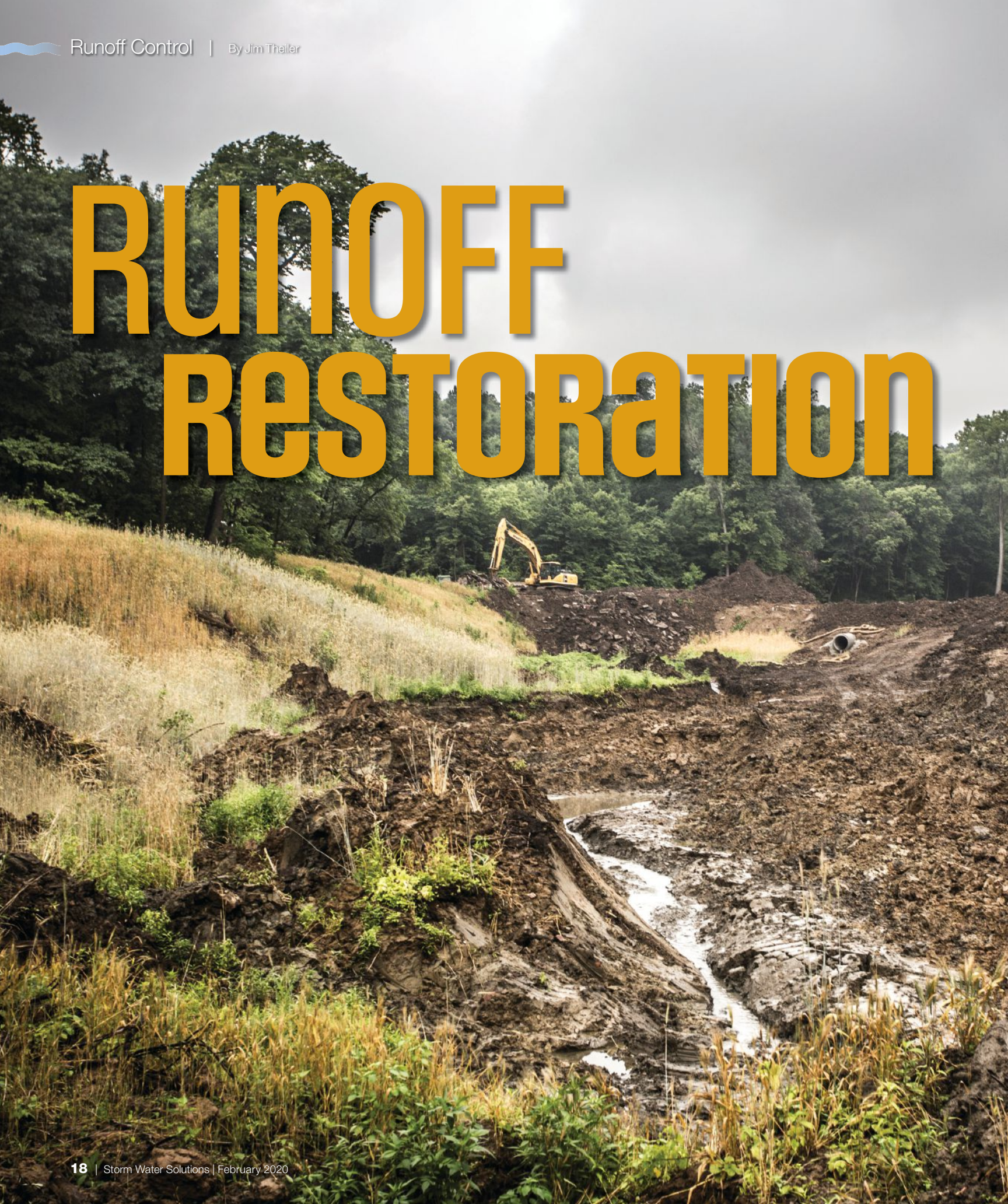
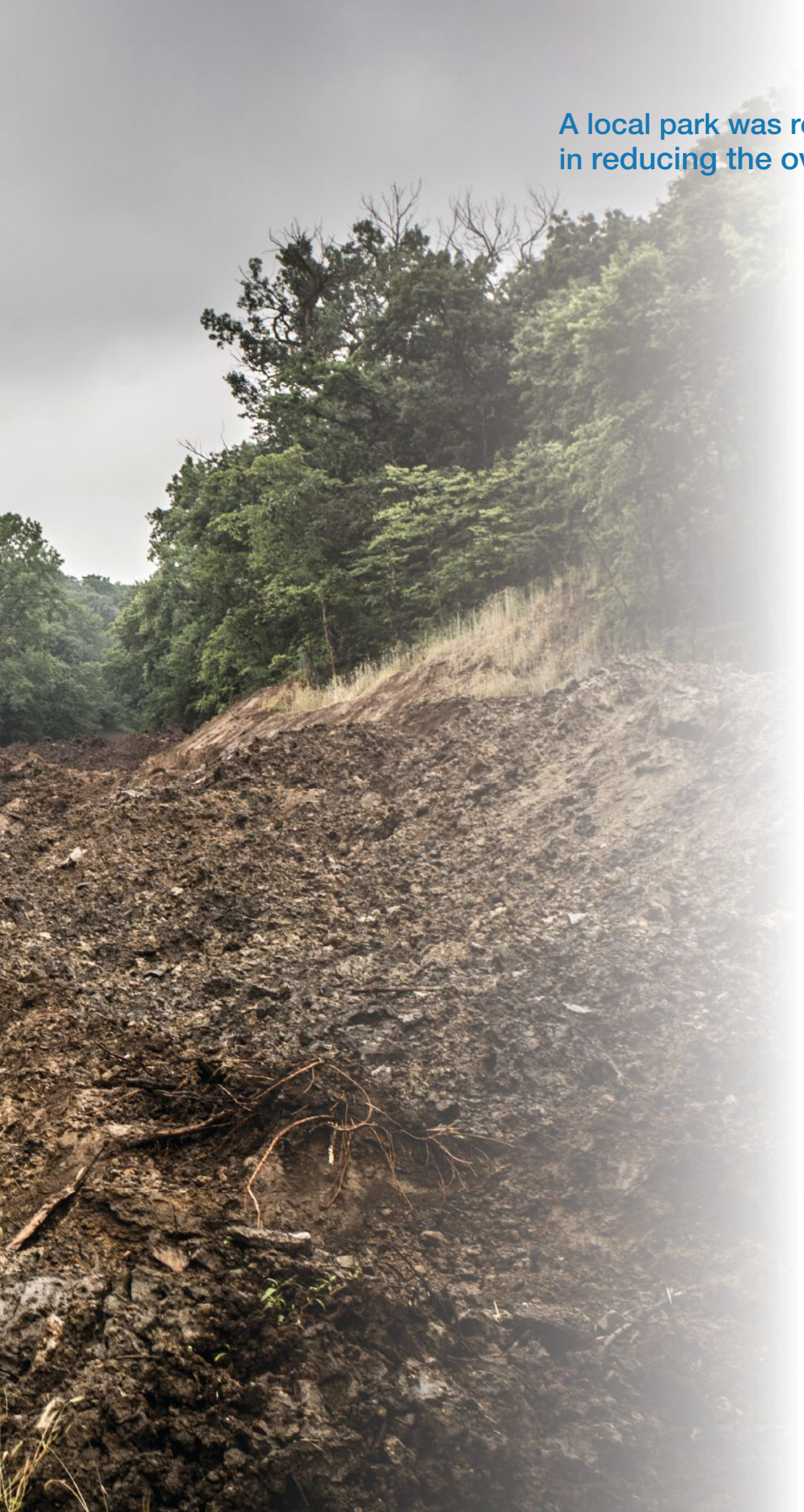




A local park was restored in Nebraska to aid in reducing the overflow of raw sewage

In Omaha, Nebraska, and in many cities across the country, storm water runoff is a major cause of water pollution. The storm water runoff carries trash, bacteria, sediment, heavy metals and other pollutants. Higher flows, resulting from heavy rains, can also cause erosion and flooding, damaging habitat and property. Raw sewage ending up in local bodies of water is also a concern.

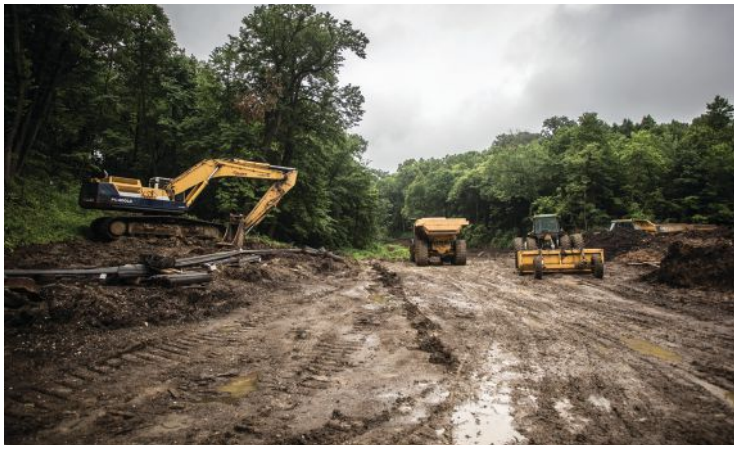
The U.S. EPA, in accordance with the Combined Sewer Overflow Policy of the Clean Water Act, requires more than 700 cities across the U.S., –who like Omaha have combined sewer systems –to develop plans to reduce the impacts of the discharges from these systems into nearby rivers and streams. More than 40 square miles of the eastern part of Omaha is served by an underground storm and sanitary sewer system that includes combined sewers, which during periods of heavy rain, leads to waste ending up in local bodies of water. In fact, in a typical year with average precipitation, raw sewage mixed with storm water from the combined sewer system flows into the Missouri River and Papillion Creek more than 50 times.

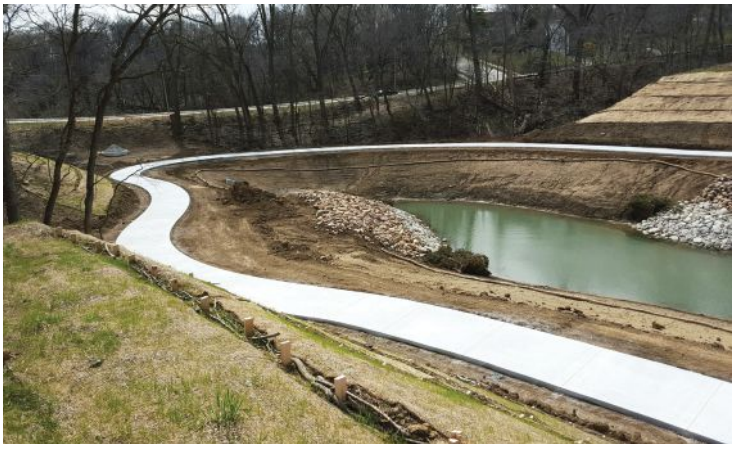
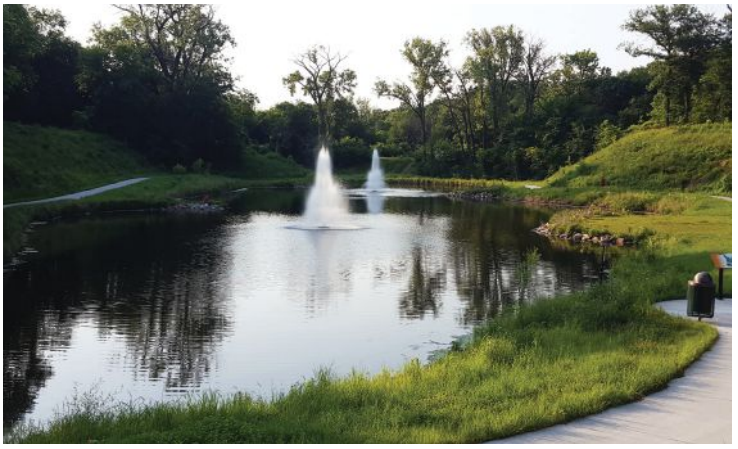
In 2006, the city of Omaha launched a comprehensive program, called Clean Solutions for Omaha (CSO). The program's goal is to capture and/or treat a minimum of 85% of the combined sewage volume generated from the combined sewer system. At this time the program includes about 84 construction projects, all required to be completed by 2037.

Similar to other communities, the city has included various forms of green infrastructure to help reduce the peaks and volume of storm water into the combined sewer system. This water management approach mimics some instances of the natural system by encouraging infiltration of the storm water.

Green infrastructure, when implemented as a part of a larger program, can be effective, economical and provide enhancements that improve quality of life. It is important to manage storm water at its source to make sure everything possible is done to maintain the natural flow of storm water the way nature intended.

As planning began for sewer separation in the southern part of the city, it also collaborated with other agencies to revitalize a historic Omaha park. Established in the 1870s, Spring Lake Park was a thriving, beautiful park in South Omaha for many years. The park originally contained three small ponds, but in the 1930s, the ponds were drained. In 1939, a plan was developed to renovate the park, but the work was not fully implemented due to World War II.



Prior to its renovation, the park was a dumping ground for trash and yard waste. The pond now holds storm water runoff from areas where sewer separation has already been completed and has specially designed filters at inflow points.

In the 1990s, another grassroots community effort was made to renovate the park. The project included restoring the ponds, developing trails through the park and creating a nature learning center. Unfortunately, the plan was never carried forward due to the lack of funding.

Over time, the park became a dumping ground for appliances, trash and yard waste. It was unsightly and not a safe place for the community and neighbors to enjoy what was once a beautiful park.

In 2007, the city of Omaha was looking for ways to reduce the overflow of raw sewage to area rivers and streams with minimal disruption to homes and businesses in the area surrounding Spring Lake Park. Neighbors were also passionate about revitalizing the park. For years, Janet Bonet has been a strong neighborhood and park advocate and also president of the Spring Lake Park team community group.

"We wanted to put the lake back in the Spring Lake Park as part of the CSO planning for the project," Bonet said.

CSO project stakeholders carefully planned, prioritized and modified a construction plan that honored Spring Lake Park's history. Several meetings were held, a hotline was established, a website was launched and many conversations were conducted.

CSO Program Compliance Coordinator Emily Holtzclaw worked on the project from the conceptual planning stage through the design and construction stage, which included a number of public outreach events.

"We took input from the neighbors and area experts to come up with a design that supported both the hydraulic functions of the project and made the park a place people could enjoy," Holtzclaw said. "Continued coordination was required with stakeholders from the public, regulators, various departments in the city, engineers and contractors."

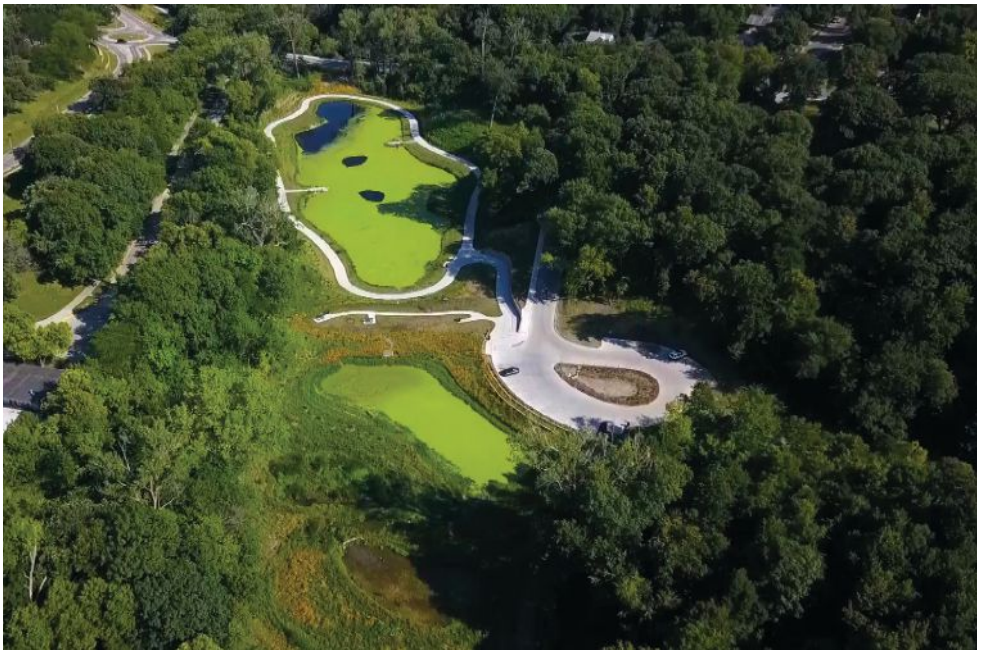
The lake portion of the Spring Lake Park project was completed in the spring of 2017. Ensuring that the water quality of the lake could support fish was an important aspect of the project, as the pond is now stocked with bluegill, bass and catfish. The wildlife habitat is diverse and plentiful, pollinator zones bloom, and residents have reclaimed the park.

"The water draws mallards and wood ducks, turtles and frogs, and the dragonflies and butterflies make my heart sing," Bonet said. "The park also includes two beautiful fountains donated by a neighbor of the park. Now families, dog walkers, joggers and moms like me will be able to enjoy the park for years to come."

The city is currently working to separate the combined sewers in the nearby neighborhoods downstream of the pond. The new pond holds the storm water runoff from areas where sewer separation has already been completed and has specially designed filters at inflow points, which allow pollutants and sediment to be removed before entering the lake. This project is an important element of the city's plan to reduce the impact of waste ending up in the Missouri River.

"Thanks to this project, overall water quality in the area has improved," Nelson said.

The uniqueness of the project saved the city money. The green infrastructure reduced the need for the construction of a new, larger diameter pipe system downstream, which saved the city approximately $5 million.



Green infrastructure elements reduced the need for construction of a new pipe system downstream, which saved the city money.

The Spring Lake Park project, which included the construction of the lake and amenities, cost $10 million, with a large portion coming from bonds through sewer user fees charged to all residents in the Omaha metro area. The Nebraska Environmental Trust also provided $1.3 million in grant money.

Representatives from the Nebraska Environmental Trust; the city of Omaha; Omaha Parks, Recreation and Public Property Department; Papio-Missouri River Natural Resources District; Keep Omaha Beautiful; Spring Lake Park Neighborhood Association; Spring Lake Park team community group, and the CSO Program management team all played an integral part in restoring the park.

"I was born and raised across the street from this park. Every time I think of the transformation of this park, I get teary-eyed," Bonet said. "The collaborative and innovative way this project was brought to fruition is a model for other communities addressing similar water issues. We have our park back, and we are being good stewards of the environment. It is a win-win situation for all."

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