sew´·ẽr sō·ci·ōl´o·gy, *the science of society, social institutions, and social relationships viewed through the eyes of a sewer; specifically the systematic study of the development, structure, interaction, and collective sewer use of organized groups of human beings.*

Sewers in the Snow

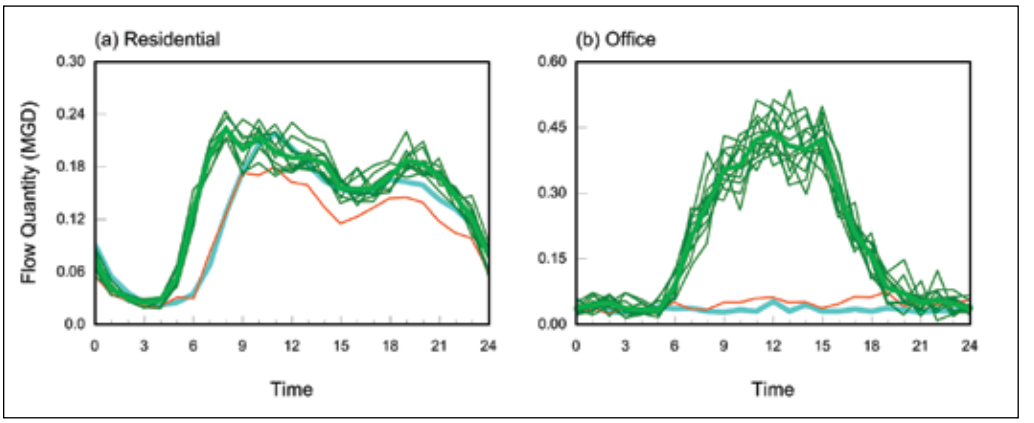
Kevin L. Enfinger and Patrick L. Stevens

Most sewer flows are characterized by repeatable diurnal patterns that vary across weekdays, weekends, and holidays. Differences in land use are also apparent, and distractions and disruptions of daily life often can be observed.

Previous Sewer Sociology articles have discussed the effects of natural disasters on sewer use patterns, including hurricane and wildfire evacuations. This month, we add a new example to the list and take a look at a blizzard through the eyes of a sewer.

This past February, a wild winter storm brought the Baltimore–Washington, D.C., metropolitan area to a standstill with several feet of snow. Schools and businesses

Baltimore–Washington, D.C., Area Blizzard



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were closed for several days, and residents were asked to remain at home.

The authors were curious to see what effect this might have on local sewer use and put Sewer Sociology to the test once again. The composite hydrographs shown in the figure on p. 63 provide some answers. Figure (a) shows flows from a residential area, and figure (b) shows flows from a business park. Typical weekdays are shown in green, and weekends are shown in light blue. The red line on each graph maps out the sewer flows of a weekday during the storm. From a sewer's point-of-view, Mother Nature managed to turn a weekday into a weekend.

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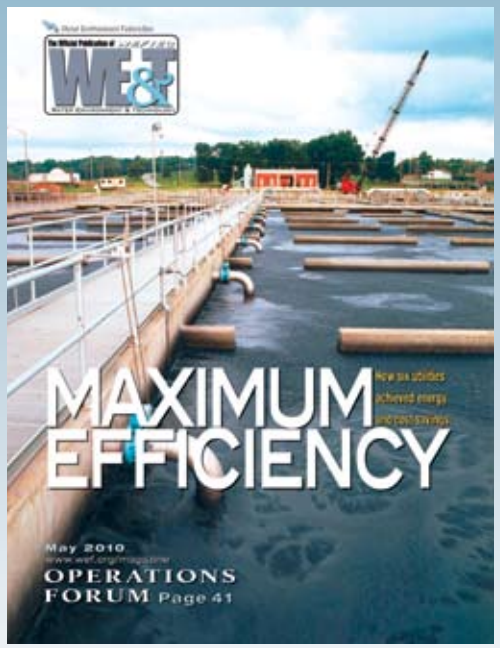
Looking Ahead

Coming up in the May issue …

Resource Conservation

Everyone wants to get more for less. In the May issue, you'll find numerous ways to use the fewest resources for the greatest benefit — in new equipment purchases, biosolids drying facilities, membrane bioreactor operations, and various optimization projects. Featured success stories include:

- A Florida utility that switched to a new type of blower that provides more efficiency over a larger operating range. Since aeration processes can account for 60% or more of a facility's overall power consumption, making them more energy-efficient can greatly reduce energy consumption and costs.
- A California biosolids processing facility where landfill gas was tapped to fuel thermal dryers to produce a Class A product. The landfill gas provides all of the energy for the drying facility as well as extra to sell back to the grid, and the biosolids are used as daily cover material for the landfill.
- A Virginia treatment plant that adopted and integrated a fixed-film activated sludge system to increase its capacity and meet strict new nitrogen requirements without building any additional tanks.
- A Wisconsin utility that managed to find enough capacity in its existing facility to avoid building a new plant, improve effluent quality, and reduce energy costs.



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