



Richard D. Hurt

## Taming the Flood

Preparing for the future while managing the present

Along with much of the nation, northern Illinois faced intense flooding in 2008. Flooding along the Des Plaines River was the highest recorded in several decades. *Storm Water Solutions* Associate Editor Rebecca Wilhelm spoke with Richard D. Hurt, civil engineer with the U.S. Army Corps of Engineers' Chicago office, about the Corps' flood management strategies and assets for flood relief and prevention.

**Rebecca Wilhelm:** *In your experience, what is the best formula for flood prevention?*

**Richard D. Hurt:** Flood prevention is a combination of flow, storage and land use. Flow channels and flow restrictions need to be maintained. When the flow channel is blocked, water finds new routes and flooding occurs.

Storage needed to hold water when there is more than the flow channels can handle can be planned, such as retention areas in new developments, or unplanned, such as overflow along the riverbed. Where natural storage occurs, it can be included in the land use planning.

Land use planning can significantly reduce the damage associated with flooding. By observing where flooding occurs and studying the probable effects of modifying the floodplain, decisions on how to use flood areas can be made to minimize the adverse effects of flooding.

Assessing how structures are built along rivers may also minimize the required post-flood repairs. The best formula is to expect flooding along rivers. Allow sufficient storage of floodwater to be held away from high-use, high-cost areas.

**Wilhelm:** *What Corps assets are available for flood prevention, management and recovery?*

**Hurt:** The Corps responds to requests for assistance to augment local capabilities. This assistance can take the form of immediate flood fight assistance with pre-placed sandbags, technical

advice or contractual capabilities for contract flood fighting. Assistance may also take long-range views, with flood studies resulting in engineered protections—flood walls and levees, storm water retention or structural modification of threatened structures.

Immediate and internal assets are emergency flood teams assigned to each river basin, which can advise local governments as to flood-fight techniques and Corps assets. The Corps maintains stockpiles of sandbags, available on a replacement basis.

Local governments may request Corps assistance to address flood problems beyond the local government's capabilities. Assistance beyond an initial appraisal of the problem is generally cost shared between the local and federal governments.

**Wilhelm:** *What lessons can be learned from the flooding in 2008?*

**Hurt:** The past year's flooding continues to reinforce the concept that the forces of nature are not to be underestimated. We need to continually evaluate the rare occurrences in our land use planning. Flood protection structures built 50 years ago may no longer provide the protection they once did—not because they are old, but because of the changes to the river basin.

Increasing urbanization continues to reduce open ground available for seepage. More asphalt, concrete and rooftops increase the speed of flow

into streams and rivers. Therefore, the amount of water from a storm today reaches the streams and rivers faster than from the same storm years ago.

Our planners need to continually re-evaluate what is being developed, not only along waterways but throughout the basins. Although the processes and concepts of flood protection are still valid, the variables affecting the system are constantly changing. **[SWS]**

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