

New approaches for drainage

It's important to get water away from your roads, and it's important to plan for where it goes too. As it runs off pavements, lawns and fields, stormwater picks up lots of phosphorous, nitrogen, soil, and sediment. These hitch-hikers drop off in local waterways where they can do plenty of harm. The extreme rains of May and June in some parts of the state have made the problem especially bad this year.

City of Waupaca has a better idea. It has built several basins to hold the runoff and filter the water. One of them was part of a recent road reconstruction project. The added cost was minimal—just about \$5000.

The drainage field along Tower Road is actually three connected basins covering about two acres. The land became part of the right of way in a project to re-align and widen the road. Each one has an out-fall several feet higher than the basin bottom. This holds back the water so it ponds and sediment drops out. The sandy soils slurp up the water, filtering out the nutrients. Since 1997, there has been no discharge from the third basin, even with this year's extraordinarily heavy rains.

"We just graded it as part of the project," says Waupaca DPW Director John Edlebeck. Edlebeck expects that aquatic plants will naturally grow in the basins as the sediment layer holds more moisture near the surface. The basin area is usually dry between storms.

Waupaca has built other basins as well. A pair of two-acre basins trap sediment and runoff from 70 acres in a local industrial park. They were each constructed for less than \$3000. "It was basically just an earthwork," says Edlebeck. "It's a major improvement to get that area off of direct drainage to the creek."

Another project, at Churchill Street, is now a one-acre wetland which volunteers planted in spring 1999 with over 4000 aquatic plants.

"We had an opportunity to intercept a 30 inch storm sewer draining a roadway system. We're now filtering the stormwater before it gets to the Crystal River which is a high quality trout stream," says Edlebeck. That was a bigger project, costing about \$30,000.

Retention basins have other benefits too. They slow storm water to help prevent downstream flooding. Instead of rushing away, the stormwater stays to replenish the groundwater system which is the source of drinking, stock and

irrigation water for rural property owners. Many municipalities, such as Waupaca, also rely on groundwater.

For more information on sediment and filtration basins, contact John Edlebeck, 715/258-4420, or e-mail at jedlebec@cityofwaupaca.gov.



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