

Update on Storm Water Planning

The City Council and Citizens Storm Water Task Force were updated last week on local planning to meet Federal and State storm water mandates.

Our consultants from McMahon Associates reported on modeling of the City's existing storm water systems, and on options for meeting the mandates that currently face Two Rivers and other communities of over 10,000 population (as well as smaller communities, located in metropolitan areas.)

Lots of Suspended Solids in Our Urban Storm Water

DNR's Source Loading and Management Model (**SLAMM**) is used to project quantities of pollutants in storm water that runs off city streets, parking lots, roofs, etc. Our consultants have loaded that computer model with data specific to Two Rivers, including soil mapping, development patterns, and information on street, storm sewer facilities and storm sewer discharge points ("outfalls").

The SLAMM model projects that the 2420 acres comprising our city generate a total of 590,312 pounds of suspended solids that are carried by storm water runoff into the storm sewer system, then discharged into Lake Michigan and the East and West Twin Rivers each year.

That's over 45 pounds of storm water-borne pollutants per TR resident per year. It includes soil from construction sites and lawn edging; fertilizers and other chemicals from our yards; leaves and grass clippings; sand and salt from winter street maintenance; and all the gas, oil, grease and other chemicals that drip from our vehicles onto city streets, parking lots and our driveways.

USEPA and DNR regulations require that the City take actions to eliminate 20 percent of those suspended solids from our storm water discharges by October 2008, and another 20 percent (40 percent total) by March 2013.

Measures already in effect, including a street sweeping program, the existence of several storm water ponds (where sediments can settle out of storm water before it is discharged to a waterway), and the existence of grassy swales and ditches rather than curb and gutter along some streets, are estimated by the SLAMM model to remove about 12 percent of total suspended solids (TSS).

(TR also benefits from sandy subsoils in many areas of the city—those soils absorb and filter storm water, reducing runoff.)

Removing the Other 28 Percent of TSS

So, our task between now and October 2013 is remove another 28 percent of the total suspended solids from its storm water. This reduction does not have to be uniformly achieved, all over town—the regulations allow focusing on areas that give the most “bang for the buck” in reducing TSS.

The primary means of achieving this reduction will be construction of additional storm water detention ponds and upgrading the City’s street sweeping program.

Storm water ponds present significant “up front” costs. They must be located in proximity to major storm water discharge points, which may mean purchasing land from private owners. Then there is the construction cost—excavating the ponds, installing discharge pipes, restoring the areas around the ponds, including safety fencing where necessary. On the plus side, maintenance costs for such ponds are modest, consisting mostly of periodic sediment removal.

The **sweeping program** can be upgraded by purchasing and using a vacuum-type sweeper, in place of the existing, mechanical-type sweeper. Vacuum sweepers do a better job of removing fine particles from street, including from cracks and holes in the street surface.

The frequency of sweeping can also be increased, from every other week to weekly. Finally, a sweeping program can be made more effective by implementing parking restrictions to help assure that every foot of street gutter gets swept.

Sweeping programs carry high operating costs—a vacuum sweeper travels at only about one-half the speed of a mechanical sweeper, so personnel costs are doubled. Switch from biweekly to weekly sweeping, and the operating costs double again.

Our consultants at McMahon have now presented several options for meeting the 40 percent goal, and each includes a combination of more storm water ponds and various degrees of improved sweeping programs.

The Good News: Maybe Not as Expensive as We Thought

When we first tackled the storm water issue, we were told by DNR and our consultants that the “rule of thumb” was that communities would need to invest between \$200 and \$350 per capita by 2013 to meet the storm water mandates. For a city TR’s size, that’s \$2.5 to \$4 million.

Now that more community-specific data is available, there is cause for some relief. There are strategies that carry a capital cost as low as \$1,045,000. And projected operating costs over the next 20 years range anywhere from \$1.8 million to \$2.7 million.

Based on a very preliminary review, the overall lowest cost option appears to carry capital costs of \$1,480,000 over the next five years. That's within the \$1.7 million anticipated in the City's five-year capital plan. And our local cost will be reduced further if the City can secure DNR capital grants to fund some of that capital investment.

That "lowest cost option" carries operations and maintenance costs projected at \$1.85 million (in 2008 dollars) over the next 20 years. That cost needs some further study, but should not be too much of a jolt, since it amounts to less than \$100,000 per year, and includes some costs already being incurred by the City, for its existing street sweeping program.

These cost projections will be refined in the coming weeks, and the City Council should adopt a preferred strategy for meeting this mandate by the end of February. Later this year, the Council will confront how this program is to be funded for the long-term: with higher property taxes or a new storm water utility.

No Storm Water Shell Games

Despite the predictions of some local political observers, one thing is certain: the City **will not** use the storm water mandate as an excuse to shift longstanding program costs to storm water-related bonding or user fees. Annual maintenance of the storm sewer collection system will continue to be funded as it has in the past, as will the current level of street sweeping (now funded from the City's Solid Waste Fund, through the monthly environmental fee and garbage sticker fees).

The local business community is actively engaged in this process, through participation in the Storm Water Task Force, and through regular monthly reports from my office to the Two Rivers Business Association.

The process has been, and will continue to be, as transparent as the water we expect to see coming out of those storm water ponds.

Stay tuned for more on this subject in the weeks and months ahead.

For more information on the City's response to the storm water mandates, go to www.two-rivers.org, and click on the Storm Water icon under "Announcements."

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