

A STORM WATER PARADIGM SHIFT: FROM ONE P.E.'S PERSPECTIVE

Humans have long tried to control nature. Probably one of the biggest areas has been storm water. We have built dams to control flooding, built storm sewers to direct water away from urbanized areas, and in more recent decades built detention ponds to decrease peak flows from major storms.

Interestingly, even with detention, the one-inch and smaller storms that make up over 90 percent % of the storms in the upper Midwest pass through detention systems because outlets are typically sized for a 5-year storm. I'll admit that I've taken the view that this is no big deal, since we are managing the larger storms and actually decreasing runoff.

But I was recently challenged to change my thinking. Oh, I've heard of porous pavements that allow rainwater to soak in the ground, green roofs that grow from rainwater, and of course the lowly underground detention system that allows storm water to infiltrate into the ground. They are all interesting ideas, but I've been skeptical that any of these could effectively be applied to our projects.



gardens and bioswales, are needed to restore our ecosystems. Yes, I just used an "E" word, but no I'm not going to stand in front of every dozer this side of the Mississippi.

What caught my attention was that the majority of erosion occurs with the smaller storms (i.e. the ones not being managed through detention). In addition, many of the creeks and streams that used to once flowed regularly are now intermittent because the near surface groundwater is not being recharged. Instead, we are running storm water across paved surfaces, into storm sewers, and to the streams without

"The why with the what".

But the presenter at this particular conference had me caught with a trick that I sometimes try to use, "tell them the why with the what".. In other words, give an explanation of why these and other systems, such as why rain

any infiltration. Consequently, to many of the waters in urban areas are impaired waters because of the resulting he erosion and the intermittent flow is part of the. reason

"many of these waters in urban areas are impaired waters.

Taking my medicine".

It is always tough to swallow something that doesn't taste good, and I was beginning to realize that the way I'd been taught to design storm water systems may not be beneficial. So I found myself asking, "W what can I do to manage storm water and benefit the environment?environment?"



Here are's some simple tips that you might consider on your next project:

I hope will help you:

Create decentralized systems (i.e. no or limited storm sewer).

Infiltrate storm water from smaller storms into the ground in the uplands to recharge groundwater. Infiltrating one inch of rain into even clayey soils can be done relatively easily.

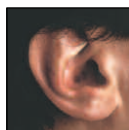
Storm water can be cleaned as it flows through the ground. Anyone heard of NPDES?

Preserve lowlands so near surface groundwater from the uplands can be discharged into wetlands and/or maintain base flows in creeks and streams.

Iowa Statewide Urban Design Standards (SUDAS) are working on specifications for design of these systems. Meanwhile, they have references to multiple sources of information at their website.

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LISTENING ▶ UNDERSTANDING ▶ SOLVING ▶ IMPLEMENTING



Regulatory Update

IOWA SOLID WASTE COMPREHENSIVE PLAN: NEW RULE REQUIREMENTS

IAC Chapter 567-101 proposed changes were developed as a result of the year-long Comprehensive Planning Revision Process efforts performed by IDNR (Iowa Department of Natural Resources) staff and many solid waste professionals.

Public hearings concerning the proposed rule changes are scheduled for April 6, 2005 at six sites across the state. These public hearing sites have been confirmed and are posted on the IDNR's website (<http://www.iowadnr.com/waste/sw/files/101sites.pdf>). IDNR staff stated the proposed rule changes are not anticipated to be approved by the Environmental Protection Commission until June 2005.

Barker Lemar is currently working with the first three planning areas that will submit comprehensive plan updates (Plan Update) under these new rules. In the past year, Barker Lemar has assisted seven planning areas receive Plan Update approval from the IDNR and can assist your planning area in developing your Plan Update. We offer a proven track record of success and can assist you in receiving IDNR Comprehensive Plan Update approval.

Barker Lemar staff have developed specialized tools to assist planning areas maximize planning participation, data collection, program promotion and evaluation, and program/service prioritization. Unique vision casting methods, meeting coordination, database development/management, survey practices, response review and analysis, and project organization tools have assisted Barker Lemar's clients achieve Plan Update approval, while developing useful and dynamic Plans.

Below are comments received from IDNR staff for previous plan updates performed by Barker Lemar:

"...We're very pleased in the obvious amount of time that not just you, but also the planning area has devoted to the plan preparation."

"...There were some very good meetings for its preparation and evaluation of the planning area's programs and services."

"Overall, I think its clear this plan update was saved by the obvious amount of time and energy you and 'the Agency' put into cataloging and digesting what programs are available and how well they serve the area."

"The attention to detail in describing public meetings and evaluation of existing and alternative programs is

great to see."

For more information on how Barker Lemar can assist your planning area with Comprehensive Plan Update approval, please contact Jeff Phillips at 800.707.4248 or jphillips@barkerleamar.com

CHRISTY JAWORSKI WINS 2004 GRAND PRIZE!

Congratulations to Christy Jaworski for successfully participating in and winning the 2004 Barker Bonus Bucks Grand Prize: A 7-day all-inclusive Caribbean cruise for two complete with a free week's vacation and \$500.00 spending money. Way to go, Christy!

Each year Barker Lemar employees participate in our Barker Bonus Buck program by completing a variety of activities including publishing an article, presenting a white paper, going over and above the call a duty for a client along with many other quality driven tasks accomplishments to qualify for bonus buck points.

At the end of each year, every employee that has earned the minimum points to qualify for the grand prize is entered in to the contest and the grand prize along with many runner-up prizes are awarded at the annual holiday dinner party. The 2005 grand prize will be a 7-day all-inclusive stay for two in Riviera Maya, Mexico, a week's free vacation and \$500.00 spending money!



BARKER LEMAR QUARTERLY GOES ELECTRONIC!

To receive the e-newsletter version of the Barker Lemar Quarterly go to www.barkerleamar.com, click on "newsletter", provide us your name and email address and presto you are registered

MISSOURI'S RISK-BASED GROUNDWATER REMEDIATION RULE:

The Risk-Based Groundwater Remediation Rule (Rule number 10 CSR 020-07.040) has moved out of the initial development stage.

The purpose of this rule is to codify the site eligibility, procedures and standards to be used in risk-based corrective action projects. This rule will address all environmental media, including surface, groundwater and soil.

Before finalizing the rule, the Risk-Based Remediation Rule Workgroup decided to develop a policy approach and technical guidance. The Workgroup has developed two separate technical guides applicable to the following:

1. Petroleum storage tanks only (Missouri Risk-Based Corrective Action Process for Petroleum Storage Tanks) which was first published in February 2004.
2. Applies to all other risk-based cleanups (Departmental Missouri Risk-Based Corrective Action (MRBCA) Technical Guidance), including voluntary clean up and Brownfield's sites (see below).

On February 19, 2005, the Missouri Department of Natural Resources (MDNR) presented the draft "Departmental MRBCA Technical Guidance" for the Risk-Based Remediation Rule Workgroup to review and provide comments. A copy of the draft guidance is located on the MDNR webpage at the following address: <http://www.dnr.mo.gov/alpd/hwp/mrbca/workgroup.htm>

The deadline for review and comments by the workgroup is March 28, 2005. A copy of the final draft is scheduled to be out to the public on May 13, 2005, with public comment until May 31, 2005. The proposed date for the finalized version of the guidance for use in the proposed rule is August 22, 2005.

For more information, please contact Anita Maher-Lewis at amaher@barkerleamar.com or Christy Jaworski at cjaworski@barkerleamar.com or 800.707.4248

ALTERNATIVE IDEAS FOR MANAGING ORGANIC WASTES

In Iowa, burning organic waste is often the preferred disposal method for municipally collected yard waste or after land clearing activities. Additionally, burning is used as a tool to manage organics after a storm

event. The Iowa Department of Natural Resources (IDNR) awarded a Solid Waste Alternatives Program (SWAP) grant for the development of a campaign to promote alternative management practices to burning or burying of organic waste. The goal of this project was to promote realistic alternatives to burning; including chipping, grinding, and composting.

As a result of the project's activities, Barker Lemar created an online tool kit (website location listed below) for debris managers, city public works officials, and other decision makers that manage organic materials. The tool kit provides examples of organic waste management methods that promote alternatives to burning; including burning ban ordinances, burn permit applications, debris management plans, and organic management service agreements.

www.barkerleamar.com/organicmanagement/ The website was designed to provide users a dynamic tool kit to expand and /or improve their organic management practices. If you have materials or ideas that you wish to share on this site, please e-mail Jeff Phillips at jphillips@barkerleamar.com or call 800.707.4248.

EMPLOYEE SPOTLIGHT:

Name: Tony Song

Title: Programming Services
Manager

Technical Expertise:

Software development (Windows and Web) of management systems (data, risk, location, facility, compliance); Database design and administration; Network design and administration

Professional Goals: Expand my professional skills and contribute to the growth and success of Barker Lemar.

Education: Iowa State University, Bachelor of Science in Computer Engineering

Hobbies: Hunting, Snowboarding, Billiards, Golf, Exercising, Traveling, Boating, Kneeboarding

Family: Single



OPEN HOUSE MAY 12TH TO CELEBRATE 10 YEARS & NEW CORPORATE OFFICES

Barker Lemar is proud to celebrate 10 years in business and the relocation of our corporate offices to new facilities in West Des Moines, Iowa.

On May 12th, Baker Lemar will team with the Greater Des Moines Partnership to host a Business After Hours event beginning at 5:00 p.m. complete with food, beverages and live music.

The Business After Hours event is not just a celebration of our good fortunes, but is also serves as a fund raising event for the Partnership's economic development efforts and we consider this an excellent opportunity to say thank you to the Greater Des Moines area for 10 good years.

Please mark your calendars and plan to be our guest at this very special celebration at 1801 Industrial Circle, West Des Moines, Iowa. For complete directions to our location go to www.barkerlemar.com



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Adjust Codes and ordinances need adjusted to focus on gross area versus lot size. By using these practices in a subdivision, lot sizes are reduced while green space is increased.

As you probably guess, I came away with a new perspective. In fact, "paradigm" kept on coming to my mind.

Speaking of that, Barker Lemar hopes to make an announcement in our next newsletter about a project that will showcase many of these technologies and provide confirmation that these systems are cost competitive with our traditional systems.

By Brian L. Rath, P.E. with guidance from Tracy Lemar, P.E.

Tracy Lemar is Vice President of Barker Lemar and sits on the board of the Growing Green Communities. Brian Rath has nearly 15 years of construction experience and 10 years of design experience with many civil engineering projects.

For more information, please contact Brian at brath@barkerlemar.com or 800.707.4248