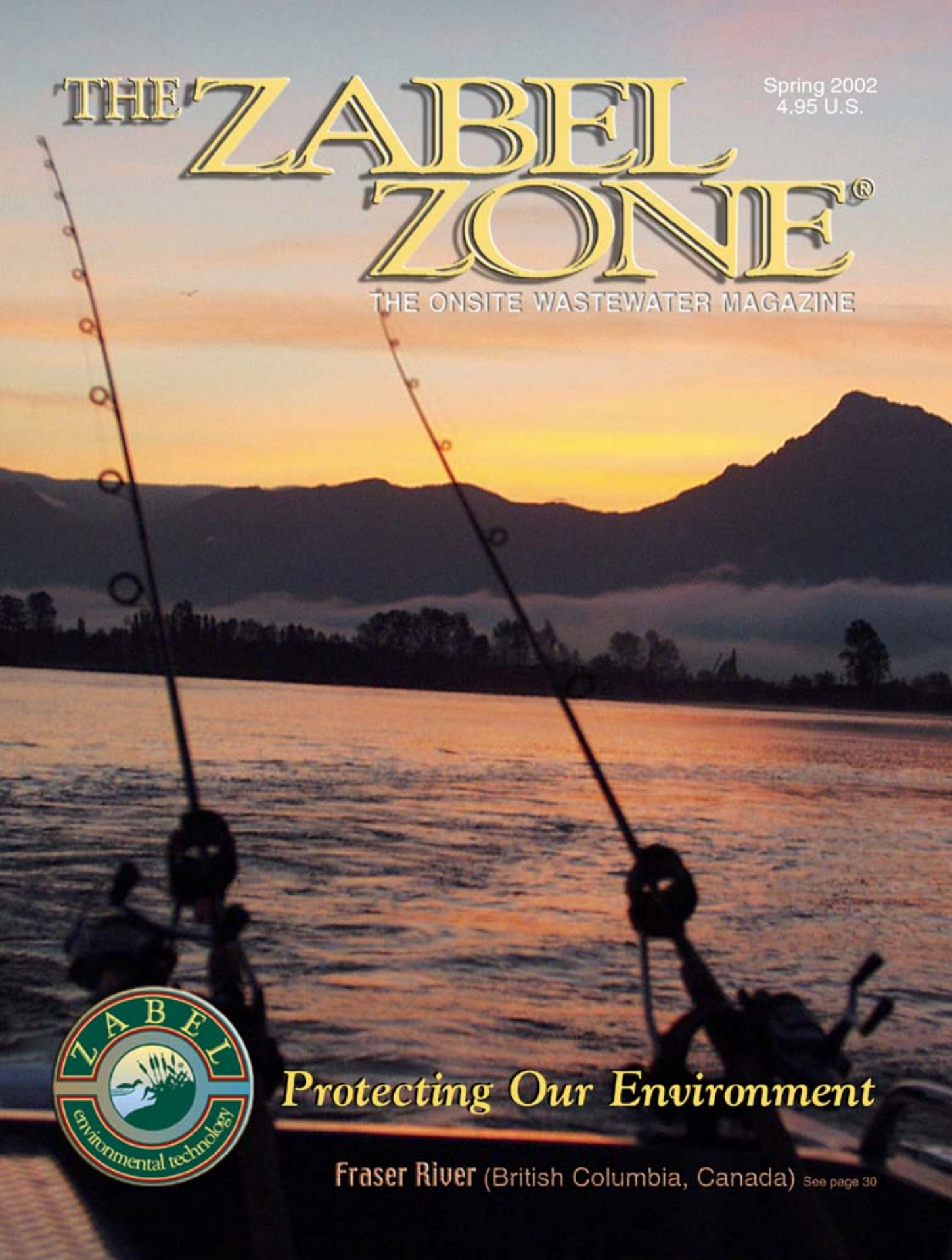

THE ZABEL ZONE®

THE ONSITE WASTEWATER MAGAZINE

Spring 2002
4.95 U.S.

ZABEL environmental technology

Protecting Our Environment

Fraser River (British Columbia, Canada) See page 30

RAISING EFFLUENT TO A NEW LEVEL

up Hill

down Hill

across Hill

around Hill

ZS-100
STEP System Package

ZS-400
STEP System Package

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Editorial Policies

The Zabel Zone® is published in three editions each year and contains articles of interest to the Onsite Wastewater Community as well as information on Zabel products.

The Onsite Wastewater Community does not exist in a vacuum, but is part of the larger culture. Articles may also appear of a general interest that do not directly involve onsite wastewater issues. Articles by guest authors reflect only their opinions and do not necessarily reflect the opinion of the editor.

Letters to the Editor will be published as space allows with the editor reserving the right to edit the letters for brevity and clarity. If you would like to contribute an article, please contact the editor at : Voice 1-800-221-5742 - Fax 502-992-8201, or - Email Jnurse@zabelzone.com

By Harry L. Nurse Jr.

Rebel's Corner

America is an oasis of security, freedom, prosperity and peace in a fractured and hurting world. News reports say everything changed September 11. They say life will never be the same again and Americans are now confronted with a new and dangerous world that causes fear for the safety of family and friends at home and service personnel abroad.

Perhaps everything changed 9-11, but maybe nothing actually changed at all. The world was just as dangerous before the terrorists' strikes, but we did not see it. Famines and wars rage all the time throughout the world.

Planet earth is never at peace. Why isn't the rest of the world more like us? Perhaps the better question is why aren't we more like them? They suffer so much and we suffer so little.

We are not a people or a world without hope.

Our hope is in Christ. Will He continue to bless America? That is the real question. In Him is our peace. Our safety and prosperity are dependent not on our ingenuity and strength, but in Him. In Him is our security in this world and in the next.

America, it's time to turn back to God!

Editor's Corner

Jan M. Nurse, DMD

I am writing this 'corner' in December of 2001 so forgive me if it sounds dated, but it is my first opportunity to wish you a Happy New Year. At Zabel, we are expecting a banner year with some truly innovative new products. Check out page 15 for those you can currently buy and know that we are working on more that are gonna knock your socks off!

We at Zabel wish that all of you, our readers, would also have a happy and peaceful 2002. To quote Dickens' Christmas Carol, "God bless us, every one!"

~~Bird dog~~ Upland Game Finder Training Report: Out of 6 field trials entered, Zabel's Tom Jenkins and his English Pointer (Reecee) have taken three firsts and one fourth place. If the handler had not have missed a bird, the fourth would have been a third.

The Revolution is beginning...

By Brian Borders, R.S.

ZABEL's® NEW SCAT™ BioFilter is a pre-engineered synthetic trickle filter housed in a single fiberglass container with the smallest footprint of any treatment system in the onsite industry. It is simple to install, simple to operate, and backed by ZABEL's Exclusive Ten-Year Limited Warranty. This innovation in wastewater treatment is a revolution in the design, performance, installation, and maintenance of advanced treatment systems worldwide.

Revolutionary design begins with an idea and the will to succeed...

Every curve, shape, component, and design element of the SCAT Biofilter has been painstakingly reviewed, modified and improved from input provided by ZABEL, Advanced Treatment System Installers, Designers, Engineers, and experts from the Fiberglass Industry. The culmination of these ideas has resulted in an advanced treatment system with features such as:

- Single piece fiberglass construction with built-in anti-floatation ring
- Small 26" diameter access opening with flat fiberglass lid
- Built in regulator and pressure gauge for easy setup
- Three sizes for various flows
- Pre-plumbed inlet and outlet piping for quick installations

Revolutionary performance begins with experience and proven technology...

The SCAT BioFilter's open cell foam media has a thirteen-year track record for use in residential, commercial, and landfill treatment systems for flows from 400 to 350,000 GPD providing secondary and tertiary water treatment. The SCAT Biofilter has been designed to treat residential wastewater to secondary or tertiary quality starting at 400 GPD.

The SCAT Biofilter's performance is attainable through the use of our absorbent synthetic open cell foam media, engineered to optimize the microbial treatment process at application rates up to ten times higher than old-fashioned sand and peat filters. High porosity, large surface area, ease of microbial attachment, and superior air flow characteristics combine to provide optimal performance in a small package.

Revolutionary installation begins with education and attention to detail...

The ZABEL Certified Advanced Treatment System Installer assures the homeowner and regulatory personnel that every SCAT BioFilter is properly installed. A trained ZABEL Environmental Specialist will provide hands-on instruction until the installation personnel are comfortable with the installation procedures. However, because the SCAT BioFilter is pre-engineered and pre-plumbed, installation is quick and simple. The plug and play technology allows for greater installation speed and decreases the chances for installation mistakes from "in-the-field" modifications

Revolutionary maintenance begins with a commitment to quality and excellence...

ZABEL believes all Advanced Treatment Systems should be serviced and maintained on a regular basis. The SCAT BioFilter should be serviced every six months. This simple 15-minute service visit twice a year will assure the homeowner and the health department the system is functioning correctly and performing as expected.

In addition to regular maintenance, every SCAT BioFilter is required to be preceded by our own NSF Certified A300 Effluent filter. This filter will not only reduce waste strength entering the SCAT unit but also further encourage regular system maintenance. Our quality fiberglass tamper resistant lid reduces the possibility of unauthorized entry and provides a safe, worry free reminder to current and future homeowners of their system location.

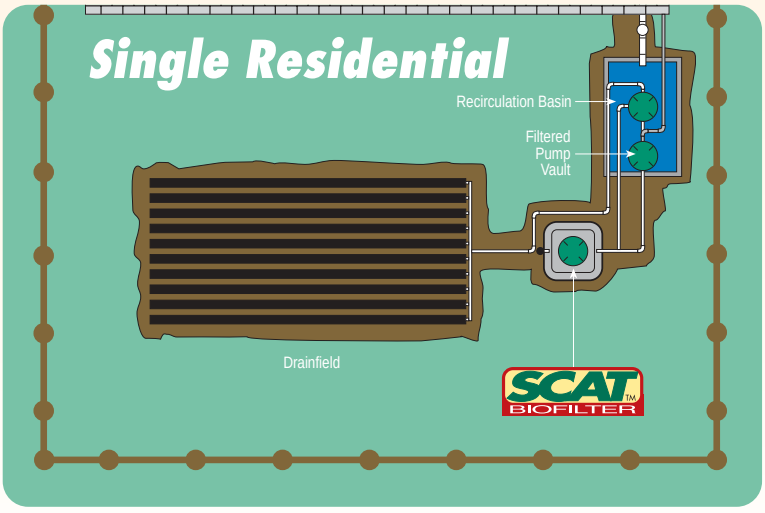
A Ten-Year Warranty on all SCAT BioFilter materials including the treatment module, filter media, and spray nozzles is a true testament to our belief in the quality and workmanship of the SCAT BioFilter.

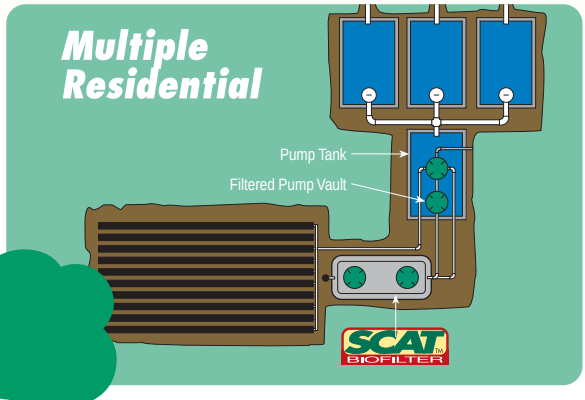
Revolutionary Advanced Treatment Systems begin with ZABEL...

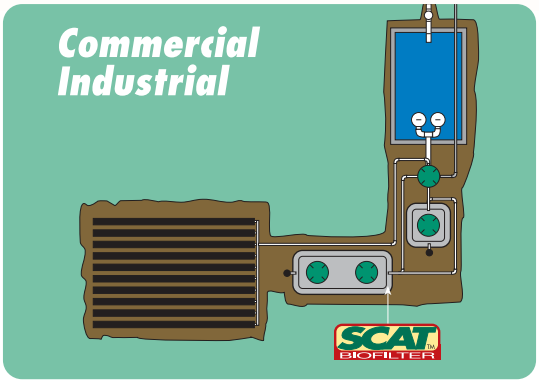
Join the Revolution...

SCAT™ BIOFILTER

Call today for more information
1-800-221-5742







Dealers Wanted

Zabel is currently in search of onsite professionals to promote our line of advanced treatment systems.

Advanced Modular Treatment System AeroCell™

AeroDiffuser™ Advanced Treatment System

SCAT™ BIOFILTER

Fixed Film & Suspended Growth

ZABEL® environmental technology

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The Revolution has begun!

SCAT™ BIOFILTER

Zabel's® SCAT Biofilter™ is ushering in the next revolution of onsite wastewater treatment. By combining a small fiberglass module with the proven performance of open cell foam media, ZABEL has created the next generation of modular advanced treatment.

The SCAT Biofilter combines simple design, and optimal performance with ease of installation into one pre-engineered system.

Revolutionary Design begins with a great idea and the will to succeed.

Small Footprint

The SCAT Biofilter treatment module has the smallest single module footprint in the industry. The small flat 26" access lid is the only visible portion of the system above grade.

Distribution

Effluent is distributed through the use of a specially selected spray nozzle providing even distribution of effluent over the entire surface of the open cell foam media. Built-in control valve and pressure gauge allow for easy setup to maintain 8 psi at nozzle discharge.

Foam

The open cell foam media with its high porosity, large surface area, and ease of microbial attachment allows for loading rates up to ten times that of sand and peat. Application rates are maintained between 12 - 13 gpd/ft³ to assure optimal performance and effluent quality.

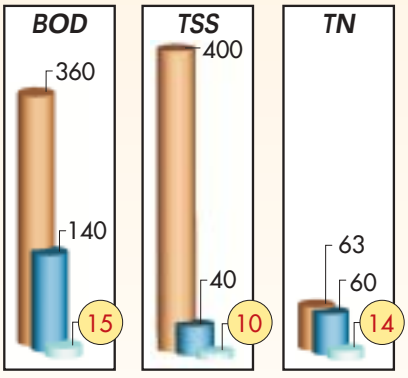
Three sizes for various flows

SCAT BioFilter™	GPD	Media Volume	Application Rate
ATS-SCAT-400	400	33 ft³	12.1 gpd/ft³
ATS-SCAT-650	650	54 ft³	12.0 gpd/ft³
ATS-SCAT-1050	1050	89 ft³	11.8 gpd/ft³

Treatment Capacity

Single container design does not mean single application, the SCAT Biofilter is available in a range of sizes from 400 gpd up to 1050 gpd. Each size of the SCAT is a single fiberglass container ready for installation. You may also group modules together to achieve limitless flow rates.

See Article on page 6



Milligrams per Liter

- Typical Household Raw Waste[1]
- Typical Septic Tank Effluent
- Typical Open Cell Foam Effluent[2]

[1] *EPA Wastewater Treatment/Disposal for Small Communities Manual*

[2] *Test data for open cell foam treatment is an average of data collected from a cross section of ZABEL AeroCell™ Systems installed across the United States.*

Performance Summary

Open Cell Foam has a thirteen year track record of treating wastewater to secondary and tertiary qualities. Zabel's® AeroCell™ system has shown better than secondary quality treatment may be achieved with application rates from 14-16 gpd/ft². The application rates for the SCAT BioFilter have been carefully selected at 12-13 gpd/ft² to provide optimal treatment and performance equal to or greater than the original AeroCell System.

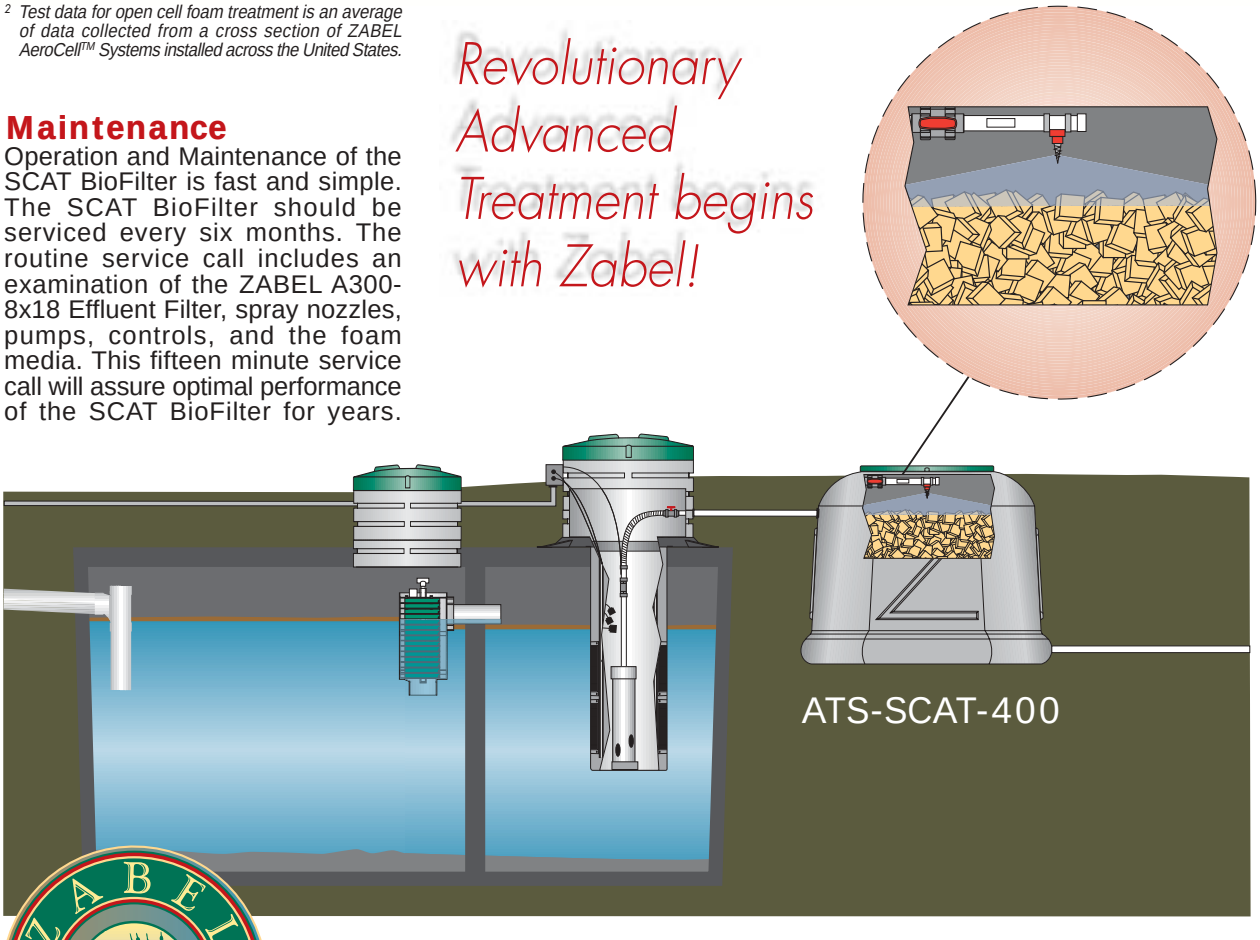
Installation

Single unit design makes installation quick and simple. The pre-engineered pre-plumbed module is ready to set and connect. Preceded by a ZEUS Pump Package and your choice of final disposal options allows greater design flexibility for a variety of onsite applications and sites.

Maintenance

Operation and Maintenance of the SCAT BioFilter is fast and simple. The SCAT BioFilter should be serviced every six months. The routine service call includes an examination of the ZABEL A300-8x18 Effluent Filter, spray nozzles, pumps, controls, and the foam media. This fifteen minute service call will assure optimal performance of the SCAT BioFilter for years.

Revolutionary Advanced Treatment begins with Zabel!



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10 *Ten Year Limited Warranty*

Decentralized Wastewater Management Project - Hall County Georgia

The Hall County decentralized wastewater management project is one of the several projects funded through the National On-Site Demonstration Program (NODP), phase V of the National Environmental Services Center (NESC). This study was performed to meet the project goals and objectives of the NODP V, which was to focus on the issues and needs of the Appalachian region. Specific goals of this project were to develop a Decentralized Wastewater Management Master Plan and installation of representative septic systems that responded to the identified needs of Hall County.

Hall County is a rapidly growing region approximately 90 miles northeast of Atlanta. The County experienced a 56 percent population increase during the 1990's, and rapid growth is projected to continue in the future, with the population increasing another 42% to nearly 200,000 by 2020. The county has significant frontage on Lake Sidney Lanier, a major water supply for the greater Atlanta area as well as for Hall County. Lake Lanier is also a major regional recreational resource. The incorporated areas are the City of Gainesville (county seat), Flowery Branch, Oakwood, Lula City, and Buford.

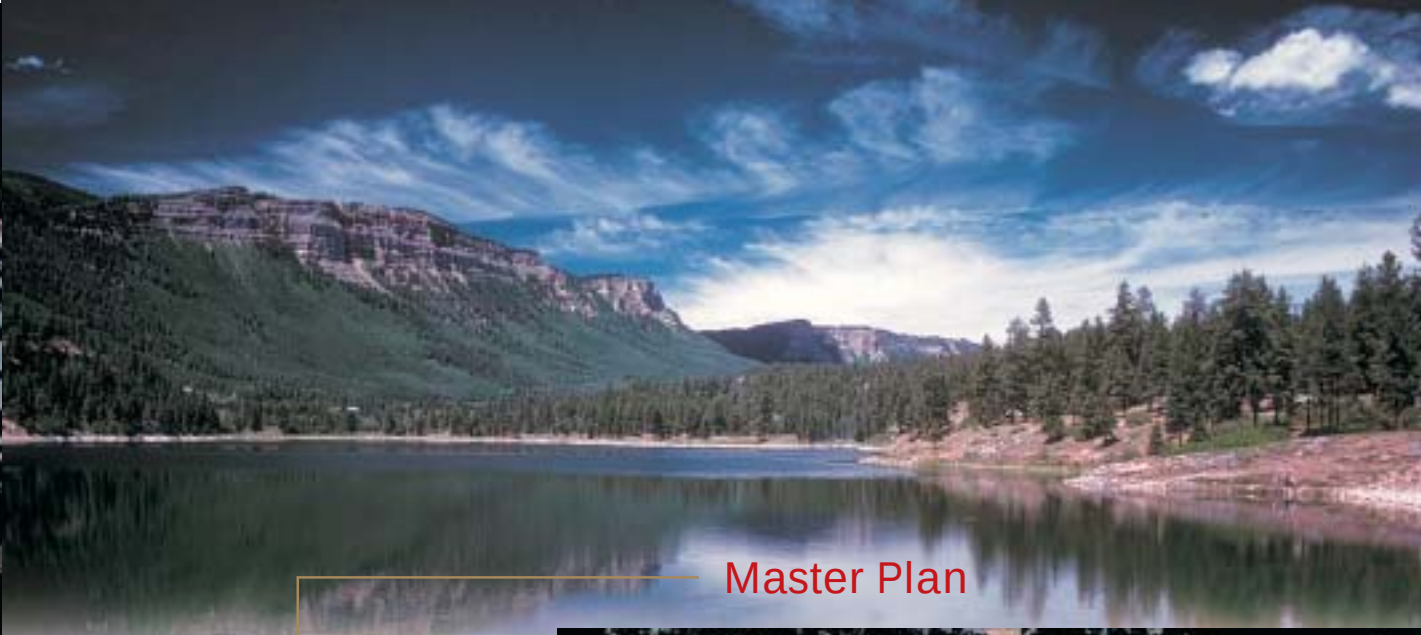
Hall County is at a significant juncture in defining its future wastewater management strategy. With its substantial projected growth, the county has been debating the merits of alternative (sewering vs. septic/cluster systems) wastewater management approaches. Also, Lake Lanier's water quality is at risk, with phosphorous recognized as the controlling nutrient for water quality conditions. The impact of septic systems on lake water quality is not well understood.

The NODP V study found that 75% of the existing residential development currently relies upon decentralized infrastructure. About 20% of these parcels are served by individual water supply wells. 25% of the county's existing residential unsewered lots are smaller than 0.5 acres in area. An additional 25% of the lots are between 0.5 and 1.0 acres.

Currently, centralized wastewater flows in the county (including the city of Gainesville) total 8.38 MGD, and decentralized wastewater flows are estimated to total approximately 10.3 MGD. By 2020, based on currently planned facility expansions and general population growth, centralized wastewater flows are projected to be 18.8 MGD, with decentralized wastewater flows estimated to total 11.0 MGD. Consequently, decentralized wastewater systems are and will be an important component of Hall County's wastewater infrastructure. Cluster systems could be a significant part of the decentralized wastewater management approach for residential growth as well as addressing existing problem systems.

Total estimated countywide residential build-out potential is 97,000 parcels utilizing existing zoning. Buildout expected in the next 20 years is approximately 26,000 parcels, based on current household size and growth projections.

Professor Larry West of the University of Georgia Soils Department reviewed the county soils and determined that in most areas they are amenable to septic systems in accordance with Georgia regulations. However, he determined that the lower soils (which are typically used for wastewater dispersal) have a lower capacity (primarily due to low aluminum and iron) to remove phosphorous, and that the upper horizons have a greater capacity for phosphorous removal.



Master Plan

The **Master Plan** determined that proactive identification and reservation of the limited optimal sites for cluster systems in challenging areas will help optimize growth and considerably reduce future wastewater problems and capital expenditures.

The Master Plan also recommended that a lot-by-lot analysis of the county's wastewater needs should be performed. This analysis should designate areas within the county that can be served on a sustainable basis by:

1) On-Site Systems
2) Cluster Systems
3) Centralized Systems

The second part of the study consists of the design and installation of innovative septic systems on three residential properties in the county. The volunteer properties were identified through a public outreach program. Each of the three properties exhibit site and soils challenges typical to the county, and the demonstration program promises to be effective at illustrating the role on-site systems (discharging to the upper soil horizon and with an iron-phosphorous removal system) can have. The University of Georgia will monitor for two years.

The assistance of Professor Larry West is gratefully acknowledged. For further information about this project, please contact Clement Solomon, National Onsite Demonstration Program at 800-624-8301.

A collaboration by:

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National Onsite Demonstration Program


5. 10. 2001


5. 11. 2001

Zabel® SpotLight

The ZABEL SPOTLIGHT shines on a professional installer/contractor who we believe goes above and beyond. This issue we are SPOTLIGHTING Mark Scott from Scott's Wood Products Excavating & Construction in Roscommon, Michigan.

Dear Jan,

Thanks for allowing me to share my experience with the **Zabel Effluent Filters** with other on-site sewage disposal industry folks. My business (Scott's Excavating) is located in a rural/resort community in northern Lower Michigan. (I like to use the back of my left hand to illustrate Michigan's shape. Roscommon is located pretty close to the middle finger knuckle!) I have been in the septic system installation/repair business for over 20 years and in the septic tank cleaning business for 15 years. My firm has a reputation for high quality workmanship. We enjoy much of our work via word of mouth. We are open-minded to new, but mindful of proven technologies in our industry. In my opinion effluent filters are proven technology. These filters perform a critical function in the prevention of failed septic systems. With the introduction of higher capacity (submersible) water pumps and larger volume water appliances in rural homes today (several toilets, washing machines, dishwashers, jet tubs etc.) the need to contain the disturbed suspended particles in the septic tank before there is flow into the seepage bed has become more important.

My firm installs primarily the **Zabel A-1800 Effluent Filter** in the septic tanks on many of our new and repair residential on-site sewage disposal systems. We have installed a few of the Zabel A-300 Series Filters on commercial projects. Two (in series) help protect a large re-circulating sand filter we installed a few years ago in an environmentally sensitive area close to a river. Others have been placed after commercial kitchen grease traps and are usually specified by engineering firms I have worked with. I offer them as an extra on my gravity systems and just figure them part of the package on my mound systems. I'm confident their installation in pump (mound) systems circumvents likely service calls involving pump obstructions. Neither health district that we work in currently requires effluent filters, but look favorably on their "Value Added" installation. The other beauty of the effluent filter is that it produces extra revenue on my projects. I always provide them as an "Extra" on my proposals and insert literature (provided by Zabel) in my proposal package. I carry a PVC Septic Tank Baffle-Tee in my pick-up truck on sales calls with a "Zabel Filter" in it. About 50% of the time I sell (what I refer to as) the "Septic System Oil Filter" to my clients. I walk away from my completed projects pleased that my client's system is better protected; I made a few more dollars and my local regulator thinks I'm great!

Again, thanks for the opportunity to share my viewpoint regarding a quality product - The Zabel Effluent Filter.

Sincerely,
Mark N. Scott (President)

Smaller Footprint...
Better Treatment

Advanced Modular Treatment System

AeroCell™

Zabel's New Open Cell Foam Aerobic Treatment Unit

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ZABEL environmental technology

What's New By Theo Terry, R.S.

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An easier question might be "What isn't new?" With all the new and improved products that we have introduced the past couple of years, it would be quicker to list the original Zabel® products. But at Zabel, we do not spend precious time looking back. Instead, we look to the future of onsite and the leadership role we will play in that future. With that said, here's what's new for the spring of 2002:

Pressure Distribution Assembly Packages
package consists of one of our popular 2-, 3-, or 4-zone valves plumbed inside of a 26" x 12" Basin & Lid. To make it even easier to work with, the valve is plumbed with quick disconnects, clear pipe for viewing flow, and a true union ball valve for flow control and ease of removal.

50 GPM Turbine Pump
This pump is designed to handle larger flow rates at lower total dynamic heads than the other turbine pumps in our line, giving the designer more flexibility with your system designs.

Dosing Siphons
These siphons are used to provide an effluent dose without the need for electricity. Discharge rates of 48 to 140 GPM are available, allowing you to get the benefits that only a dose can provide to the drainfield, without the additional cost of having to run a power source out to the tank.

Grommets
We now have a full line of grommets for use in our Zabel packages, as well as for purchase individually. The high quality grommets are made of flexible PVC, and are available in eight sizes. Seven of the sizes are for use with 1/2", 1", 1-1/4", 1-1/2", 2", 3" & 4" SCH 40 pipe, and one that is for use with 4" SDR 35 or 3034 pipe. Each grommet has the proper hole saw size conveniently marked on its back to ensure you've chosen the correct one for a watertight seal.

For the latest in what's new at Zabel. Log on to our website at www.zabelzone.com and click on the **What's New** link.

A600 Series Filters
Introducing the ONLY gravity flow effluent filter with 1/64" filtration. This specialty filter is ideal for those applications where a finer level of filtration is required. All A600 Filters are sold exclusively with the ZABEL SmartFilter Alarm to ensure notification of maintenance. With flow rates up to 6000 gallons per day and the SmartFilter Alarm feature the A600 Series Filters are the most unique effluent filter in the onsite industry.
Warning: With such fine filtration a scheduled maintenance program must be followed. Consult a Zabel Technical Advisor for proper uses.

Auto Dialers
With Auto Dialers, Zabel provides another tool for you to keep ahead of the ever-changing onsite market, and your competition. Auto Dialers make it possible for the system itself to notify maintenance personnel of system problems. Any alarm condition lasting for more than one minute will trigger the system to dial the appropriate pager number and leave a coded message as to the system location and problem. Now that's putting technology to good use!

Now for products coming out later this summer... Oh, yeah, I'm not supposed to let the cat out of the bag just yet. Sorry, you'll just have to wait and see what's in store later this year. I can promise you this: you won't be disappointed!

UC-Chico TRAINING CENTER

By Tibor Banathy

California State University, Chico established the California Wastewater Training and Research Center in July of 1998. The impetus was the realization that California needed a mechanism to address the issues and concerns of wastewater management practices. The goal for the Center is to promote best management practices by providing training, a wastewater technology demonstration site, and a research and resource facility that serves the entire wastewater management community.

Mission Statement
The California Wastewater Training & Research Center will assist in improving the quality of water in the State of California by seeking, developing, and promoting effective multidisciplinary solutions to wastewater treatment and management.

Center Vision
To establish a training and research center that is an extensive cooperative and collaborative effort with other universities, federal, state and local agencies, other training centers, and private industry. The University Research Foundation, the College of Agriculture, the College of Engineering, Computer Science, and Technology, and the College of Natural Sciences are partners in this undertaking. The primary functions of the Center are:

1. Establish a demonstration and display site that effectively demonstrates existing and new technology. The site serves the dual purpose of demonstration and more importantly provides a hands-on tool to augment workshop presentations.

2. Provide workshops, training, education and certification. Workshops target the entire wastewater community including designers, regulators, installers, operators and maintenance personnel, monitoring personnel, and the general public.

3. Provide the opportunity for research and development of technology for faculty, students and other interested parties.

4. Provide information and a resource for decision and policy makers that includes promotion of best management practices, development of uniform standards, and promotion of a model ordinance that can be used to develop state and local legislation and regulations.

The Center advisory board helps to ensure stakeholder involvement. The membership includes representatives from the private sector including manufacturers and design engineers, representatives from the California Association of Realtors, the California Building Industries Association, the California Conference of Directors of Environmental Health, the California Environmental Health Association, the California On-site Wastewater Association, a local on-site wastewater management district, the State Water Resources Control Board, the United States Environmental Protection Agency, and faculty from the California State University at Chico.

This advisory board provides a good cross section of the wastewater management community. A listing of the current advisory board is available at the Center web site at csuchico.edu/cwtrc. In addition; our intent is to establish ongoing dialogue and partnerships with the key regulatory agencies and organizations.

Center Activities:

Workshops:
The Center has conducted 30 workshops with more than 1,000 participants attending. Workshop topics include: Basics of Onsite Sewage Treatment, Understanding

Soils for Onsite Sewage Treatment, Pressure Distribution, Construction, Operation and Maintenance Control Points for Onsite Treatment Systems, Packed-bed Filter Design, Mound System Design, and Septage Management.

Other Activities:
Status Report: Onsite Wastewater Systems in California - Final Draft (June 2000) The Center and USEPA Region 9 Ground Water Office jointly present this report. The content is general in nature and is not intended to be a technical document. Current practices and regulatory policies are presented. The intent is to offer information that can be used to promote an ongoing dialogue, to balance the best available technologies with our environmental concerns and the need to protect the consumer.

National Decentralized Water Resources Capacity Development Project (NDWRCDP) Grant
The Center received a NDWRCDP grant to develop a 'California Model Ordinance for Onsite Sewage Treatment & Management'. This project will develop a model ordinance for onsite wastewater treatment and management that can be used by jurisdictions throughout California. The model ordinance will be policy oriented and promote consistency throughout the state.

Agricultural Research Initiative (ARI) Grant
The Center is participating in ARI grant for the project 'Agricultural Lands Preservation Utilizing A Performance-based Onsite Sewage Treatment Ordinance'. This project will develop and present additional planning tools that can be used by planners, regulators and others involved in the land use planning process.

Federal Assistance Grant - USEPA Region 9
The Center has been awarded a grant for providing workshop support for government regulatory employees. The grant provides funding to help defray registration fees charged for workshops for staff working for jurisdictions with onsite responsibilities

State Water Resources Control Board Technical Assistance Contract
The Center has been awarded a contract to conduct two surveys for the SWRCB: 1) System Failure/Malfunction and, 2) Septage Facility and Practices. The technical issues requested for address include the correction of failing systems and a survey of septage management.

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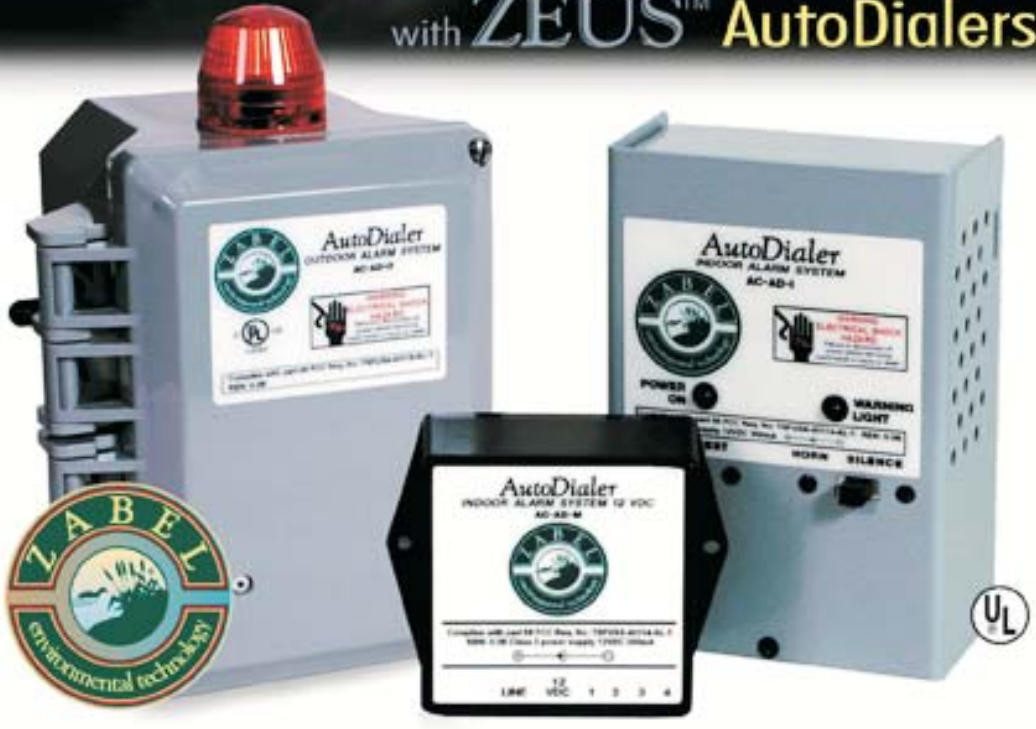

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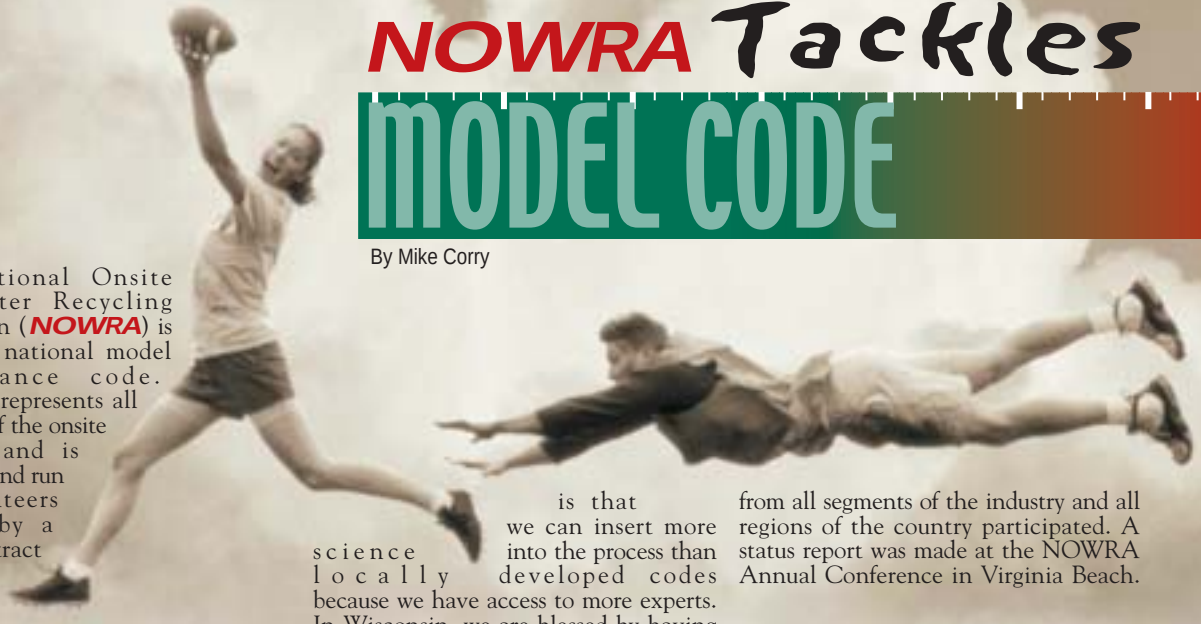
NOWRA Tackles MODEL CODE

By Mike Corry



The National Onsite Wastewater Recycling Association (**NOWRA**) is writing a national model performance code. NOWRA represents all segments of the onsite industry and is organized and run by volunteers assisted by a small contract staff. As with all volunteer organizations, members that suggest new projects are inevitably asked to serve as Chair of the implementation committee. In June 2000, I suggested to the NOWRA Board that it develop a model code to serve as a template for state and local regulators. As a result, I am writing this article as Chair of the NOWRA Model Performance Code committee.

The idea for a model code grew out of a meeting in my office with Dick Otis. Dick is Chair of the NOWRA Technical Practices Committee. He was expressing frustration over the slow pace of progress in advancing modern technology and management practices in the industry. I agreed that things move slowly. It had taken Wisconsin ten years of struggle to get the 2000 code change that legalized use of the sandfilter. I noted that I had recently read the 1974 ASAE proceedings "Home Sewage Disposal" and the same problems and solutions were discussed then that are being discussed now, without much progress in between.

In Wisconsin, onsite systems are regulated by the building code agency. I related to Dick the experience of the building industry where, in the 1920s, regulators and designers formed organizations to develop model building codes. The three model code groups have combined efforts into a single model code that is now used by all state level regulatory agencies as the basis of their building regulations. Introduction of new materials and technology is organized through evaluation and listing services and is accepted by regulators without a fuss.

An advantage of a national model code is that science we can insert more into the process than locally developed codes because we have access to more experts. In Wisconsin, we are blessed by having national experts such as Dick Otis, Jim Converse and Jerry Tyler within walking distance from our offices. Most other states and counties writing their own codes do not have that resource. A second advantage of a national code is that, when we need to pick a number for a numeric standard, we can at least all pick the same number.

The NOWRA code is being written as a performance code. A performance code specifies what needs to be achieved and not how to achieve it, which is common in prescriptive codes. For example, a performance code would specify nitrate output of less than 20 mg/l and permit multiple solutions. A prescriptive code would specify an XYZ recirculating sand filter as the nitrate reduction solution.

The key concept in developing the code is the performance standards matrix where various treatment designs will be classified by their output qualities and their associated quality assurance (QA) features. Each axis of the matrix will be composed of a series of successively more stringent performance standards appropriate to the technology and the various human and natural environments. The EPA voluntary guidelines will be incorporated into the QA features. Treatment system designs and components will then be able to be evaluated against the matrix. A guidance document will be developed to assist local and state governments in selecting the appropriate standards for their area.

The code development committee has met in Madison, Wisconsin and Athens, Georgia. Thirty-five leaders and experts from all segments of the industry and all regions of the country participated. A status report was made at the NOWRA Annual Conference in Virginia Beach.

The cost of developing the code is conservatively estimated at $500,000 over three years. Estimated travel and meeting expenses for a single two-day committee meeting are in the $20-25 thousand dollar range. The only source of funds is donations and grants to cover expenses and some part-time staff. Committee members' time is donated. Early meeting and travel expense funding came from donations from five manufacturers and from committee member employers. EPA recently awarded an $85,000 grant to help fund development of the Matrix.

Success in this effort is contingent on the continued enthusiasm of NOWRA code committee members and the enlightened self-interest of organizations that will fund the committee expenses. If the enthusiasm wanes or expense funding is not realized, it is likely that the project will not be completed. Then two different people will be sitting in an office in 2025 commenting that the onsite industry is still talking about the same problems and solutions discussed in the 1974 ASAE Proceedings. Thousands of county and state regulators will still be setting unique numeric standards and manufacturers will still be earning their product approvals the hard way, one county at a time.

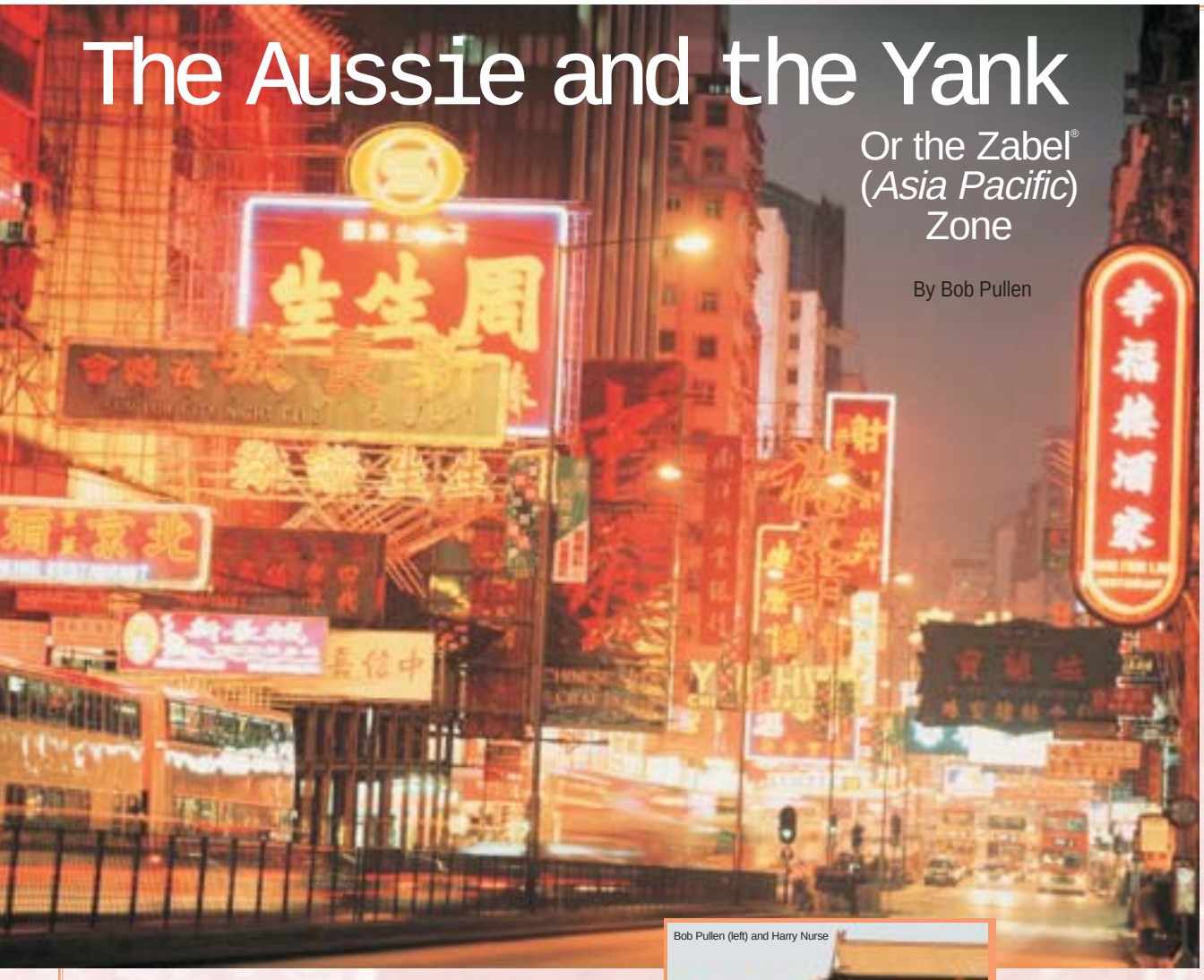
For details of the code committee progress, see the NOWRA web page at www.nowra.com.

Mike Corry is the Administrator of the Wisconsin Safety and Buildings Division and Chair of the NOWRA Model Performance Code Committee.

The Aussie and the Yank

Or the Zabel® (*Asia Pacific*) Zone

By Bob Pullen



Bob Pullen (left) and Harry Nurse

Harry and I sat in the restaurant in Northern China and talked of many things. It was Harry's first visit to China, so we needed to first address the major differences in business culture between Asia and the United States. This was my tenth trip, which did not make me an expert, but just enough of one to be of some help in Zabel's plans.

We used table napkins to sketch out designs for future Zabel products, and considered how to enter this vast new market of 1.3 billion people. With his no-nonsense approach, I could see that Harry Nurse was a man I could work with.

Harry and I first met at the Zabel plant in Kentucky only a few short weeks earlier. Yet now, here we were in the industrial city of Shenyang, ready to find our place in this new market, so you could say that things were moving in a hurry. This is "Nurse philosophy": Get the job done, and do it right the first time. We were now showing Zabel Filters and grease arrestors to the Chinese at the Shenyang Environmental Exhibition.

Harry has a tough side that he shows in business. I couldn't believe his approach to the ancient art of bargaining. He decided that a pair of carved tigers would look really good at his home in Kentucky. So he was going to have them. "It's a game," I explained. "They ask a high price, you offer a low price, and then you meet in the middle. Harry wasn't about to let 2,000 years of Chinese bargaining culture get in his way. Stand by for another dose of Nurse Philosophy. "What's the price?" he asked. The answer was typically high, so Harry offered 40% - and walked away. "That's too abrupt," I told him. "Why waste time?" said Harry. "Get the job done, and do it right the first time." There it was again.

What followed was interesting to watch. The shopkeeper sent an assistant to chase Harry to keep the bargaining alive. Except there was no bargaining about to happen. 40% was the first and last offer. Those tigers are now in Kentucky.

So much for teaching him about cultural differences.

The other Harry Nurse is a different man. I observed his generosity to the Christian

Church in China, and also to those folk who were less fortunate than he. Harry left behind in China much more money than he saved on the tigers.

The Chinese description for such a man as Harry Nurse is "Gou Lao".

My company, ABS Environmental, has for some years been a Zabel customer for our home market in Australia. We have installed many A300 filters in our own locally made polyethylene basins, and have enjoyed good success. Our government has field tested Zabel and given the A300 full approval. Many restaurants and food outlets now rely on Zabel to clean up their waste, and satisfy our EPA demands. McDonald's Family Restaurants are a Zabel user. In fact, the results of tests carried out in an Australian McDonald's restaurant have assisted Zabel in their technical manual research studies.

In recent months, we have released the A1800 Zabel filter for domestic septic application, as we are seeing a real growth in this market due to the ever-increasing demands of the Environment Protection Authority towards domestic septic tanks. We combine the Zabel filter products with our own version of the filtered pump vault. We also have a special submersible grinder pump, that can send raw sewage through small diameter pipelines up to 5 miles away for offsite disposal.

Zabel and ABS Environmental stand together to provide our customers with a solution to all of their wastewater problems.

Recently, I had the pleasure of introducing Zabel filters to the tiny Pacific Island country of Vanuatu. A particular resort had been in business there for over twenty years. In fact, I remember taking a vacation with my family not long after it opened all those years ago. What a beautiful place it was then. Clear water and clean beaches. A great place to stay.

After all those years of unchecked kitchen fats discharging into the lagoon, the fish and the coral are now dead. The sewage from each of the beach huts discharged into what could loosely be described as undersized septic tanks, and then straight into the coral. No wonder it died after twenty years of neglect.

Recently, a new owner (who happens to be an American baseball player) took over. It is his dream to restore the lagoon to its former pristine condition. This is where Zabel and ABS Environmental will play an important part to achieve this goal.

Zabel A300 filters will soon be installed to intercept the kitchen grease, and to improve the septic overflow before discharge to the coral. ABS Environmental wastewater submersible pumps will direct the effluent to a new treatment plant. Maybe in a few years, we will see an improvement in this lovely island lagoon resort. I'll go back.

Zabel's R&D plays a big part in its acceptance in Australia and Asia. Case studies of installations in the United States help convince a new customer that Zabel really does know its business, and can help them as well.

Zabel holds a good inventory, so dispatch times are short and reliable. Shipping documents are accurate, saving time.

ABS Environmental has an office in the City of Suzhou (near Shanghai) as well as our main works in Sydney, Australia. We manufacture our own range of polyethylene pump stations in Australia fitted with submersible grinder sewage pumps.

Our joint venture representatives in China are Clear Environmental who have installed a similar polyethylene rotomoulding plant recently in Suzhou. The basins made in Suzhou will house the A300 filter as a compact grease arrestor. The Chinese Government is presently studying the A300 filter, and is expected to soon authorize it to be fitted in every restaurant. That should see a large number of containers filled with Zabel filters travelling from Kentucky to China in a steady stream.

The coming years will see a real demand for Zabel in markets throughout Asia. Huge populations and unchecked past pollution ensure a growing need for Zabel products. I am happy to be part of the Zabel (Asia Pacific) Zone.

By the way, the Chinese meaning of Gou Lao is 'tough exterior, but really good on the inside'; however, the literal translation is not so flattering- the nearest thing to it is actually a fried dumpling.

After all those years of unchecked kitchen fats discharging into the lagoon, the fish and the coral are now dead.

It would be easy to believe that a septic contractor's individual needs could become lost in a company the size of First Supply Group. However, it is exactly the opposite at First Supply where over 600 employees constantly strive to exceed their customer's expectations. A dedicated and highly trained on-site wastewater specialist at each location insures that each customer has the products and individualized training they need to succeed in their local industry. As Elliot Collier, VP of Marketing states: "First Supply provides dedicated support personnel in all locations who are continually being trained on the newest products and procedures within this specialized market. We have established internal marketing support teams who are responsible for providing the products and services of a specialty house while offering the buying selection and pricing of a full line wholesaler."

First Supply Group's roots date back to 1897 when Henry Poehling, along with two other men, formed the La Crosse Plumbing Supply Company in La Crosse, Wisconsin. The company aggressively distributed plumbing supplies, windmills, pumps, and gasoline engines throughout the states of Wisconsin, Minnesota, South Dakota, and Iowa. The young company utilized railroads to visit customers and used its own fleet of horse drawn wagons to complete product deliveries. Two early subsidiaries coupled with the tremendous demand for steel allowed the company to successfully navigate through World War I, the Great Depression, and World War II. The first company expansion occurred in 1950 when the Eau Claire branch was opened. Since then, expansion efforts have been accomplished by either opening new facilities in key market centers or purchasing existing businesses that offered the same advantages. First Supply Group now boasts 14 full service locations in Wisconsin, Minnesota, Iowa, and Illinois.

First Supply Group believes strongly that education and training are key ingredients needed to insure that their customers succeed in business. To accomplish this, all branches offer regular educational seminars involving on-site wastewater products. These seminars, many times presented by the manufacturers themselves, provide First Supply customers the opportunity they need to view new and existing products first hand. Numerous First Supply employees attend these seminars to insure that all product offerings and services are well understood. As Mr. Collier says, "Our people must have the expertise necessary to support the customer's needs and to allow them to meet the demands of this rigorous market segment." The annual First Supply Pump Shows, held each winter in numerous locations, offer such opportunities. Attended by dozens of manufacturers and representatives, First Supply customers can browse

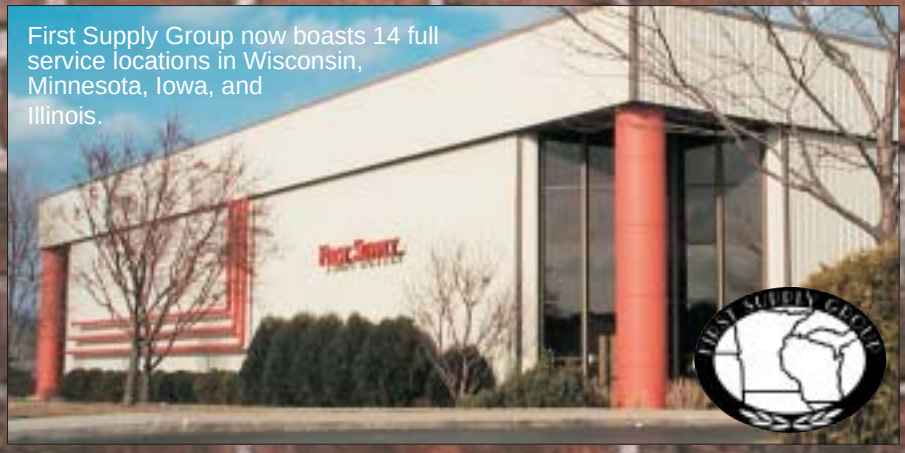
Although much has changed throughout the years, the driving philosophy at First Supply Group has remained the same as those days when deliveries were made by horse drawn wagons...

From 1898 to 1960, 122 South Front Street was the home of First Supply/La Crosse Plumbing Supply Company. Situated on the mighty Mississippi this building included a stable for the horses.

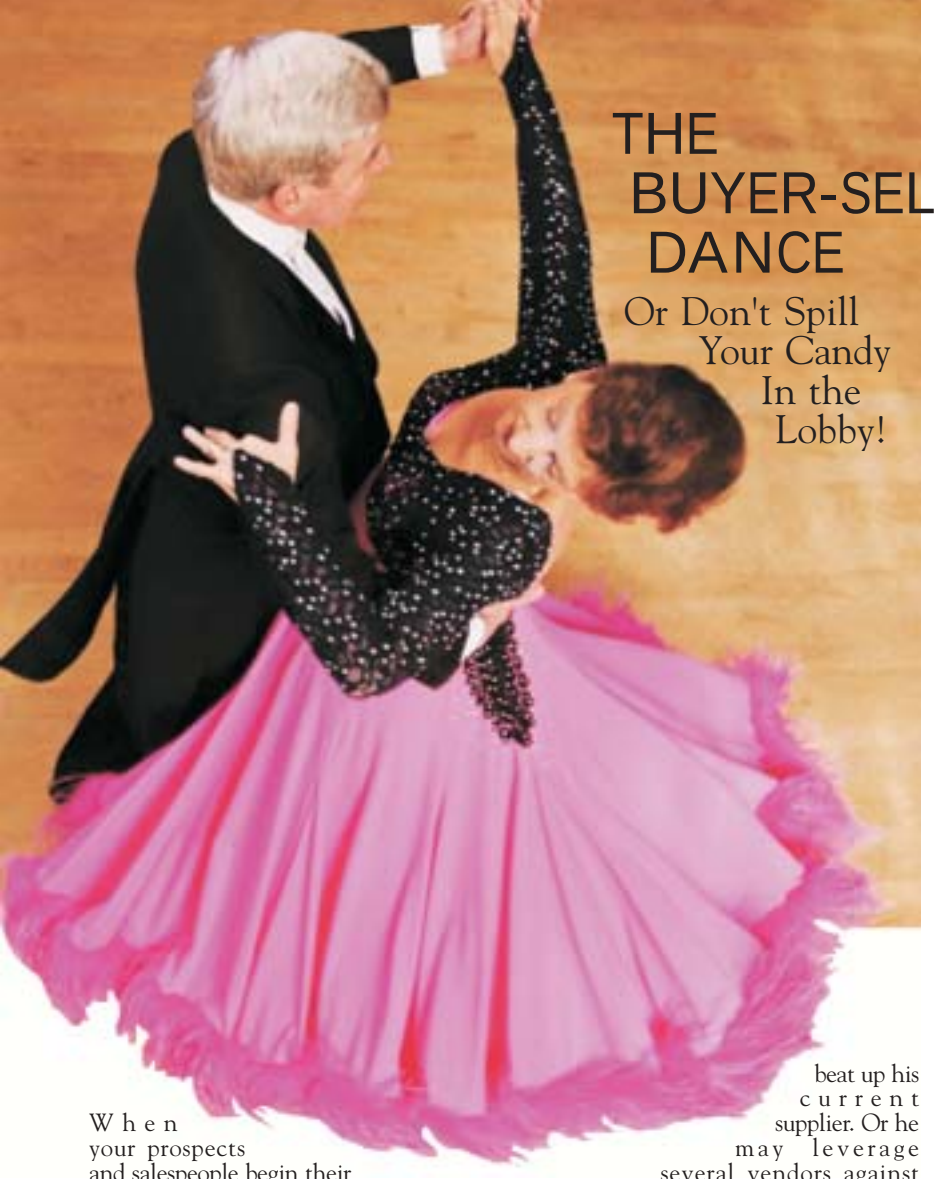
First Supply/La Crosse Plumbing Delivery service covering Wisconsin, Minnesota, Iowa, and South Dakota.

through hundreds of products currently being offered. Additionally, educational sessions that meet local continuing education requirements are held throughout the day on various on-site wastewater products.

Although much has changed throughout the years, the driving philosophy at First Supply Group has remained the same as those days when deliveries were made by horse drawn wagons...The Customer Comes First. Joseph Poehling, a direct descendant of the company's founder and now President of First Supply Group, is poised to elevate First Supply and their partnering contractors even more over the next one hundred years. With an unmatched record in branch locations, customer service, quality products, on-hand inventory, and delivery time, First Supply's success is no coincidence.



First Supply Group now boasts 14 full service locations in Wisconsin, Minnesota, Iowa, and Illinois.



THE BUYER-SELLER DANCE

Or Don't Spill Your Candy In the Lobby!

By Michael Strickland

When your prospects and salespeople begin their selling 'dance', there are always two systems at work: the prospect's system and the salesperson's system. It has been my experience that most salespeople let the prospect take control of the dance rather quickly. Until you are sure of the motivation of your potential buyer... seller beware!

In the prospect's system, the agenda is generally one of trying to gather as much information as possible while giving little. Your prospect starts negotiating for the best possible price and terms. While playing their cards very close to their chest, they also give encouragement, should they need to pick your brain in the future. Most of us easily fall victim because the prospect is very friendly when the initial dance begins.

Your prospect wants to know what you know. The problem is he doesn't want to pay you for it. He wants to extract all you know about your product or service, along with your best price, in order to beat up his current supplier. Or he may leverage several vendors against each other at the same time to lower the price. In other words, it is easy to be used during the dance if you are not careful. Think of all the proposals you have put together that the customer only used to either lower prices or to improve service from current vendors.

There is a term for this phenomenon-- it is called unpaid consulting. One of the first rules a professional salesperson should learn is to never give your information, prices or proposals without some understanding and clear contract of what the customer plans on doing with your information. Once you have given a proposal without clear agreements and commitments you have just spilled your candy in the lobby!

You must have a system that gets you on an even keel with your prospect's system. I have been training and coaching salespeople for over 20 years and I have never found a stronger selling system to help avoid free consulting. Here, in its simplest form, is the seven-step Sandler Selling System™:

- You must establish and maintain strong rapport with your prospect. Get your customer comfortable telling you the truth.
- You must establish an up-front contract with your prospect. Get a clear agreement of what is going to happen next between you and your customer.
- You must uncover your prospect's 'pain'. No PAIN, No Sale! Businesses usually change vendors or buy products to solve problems.
- You must get all the money issues out on the table early on.
- You must find out what decision-making process your prospect goes through- in detail- before giving a proposal or price.

Once you have a comfortable honest dialogue and clear agreements then you can move to:

- Presenting a solution that will get rid of your prospect's pain. Forget the features and benefits and show how you have customized a fix for your client's problems.

You must post-sell your customer to eliminate back outs and buyer's remorse.

Whether you need one call or one year to 'close' a new client, these seven steps work (if executed properly - and proper execution takes time to master). The next time you start the dance, see if you take the lead by following these systematic steps and remember: Don't Spill Your Candy in the Lobby.

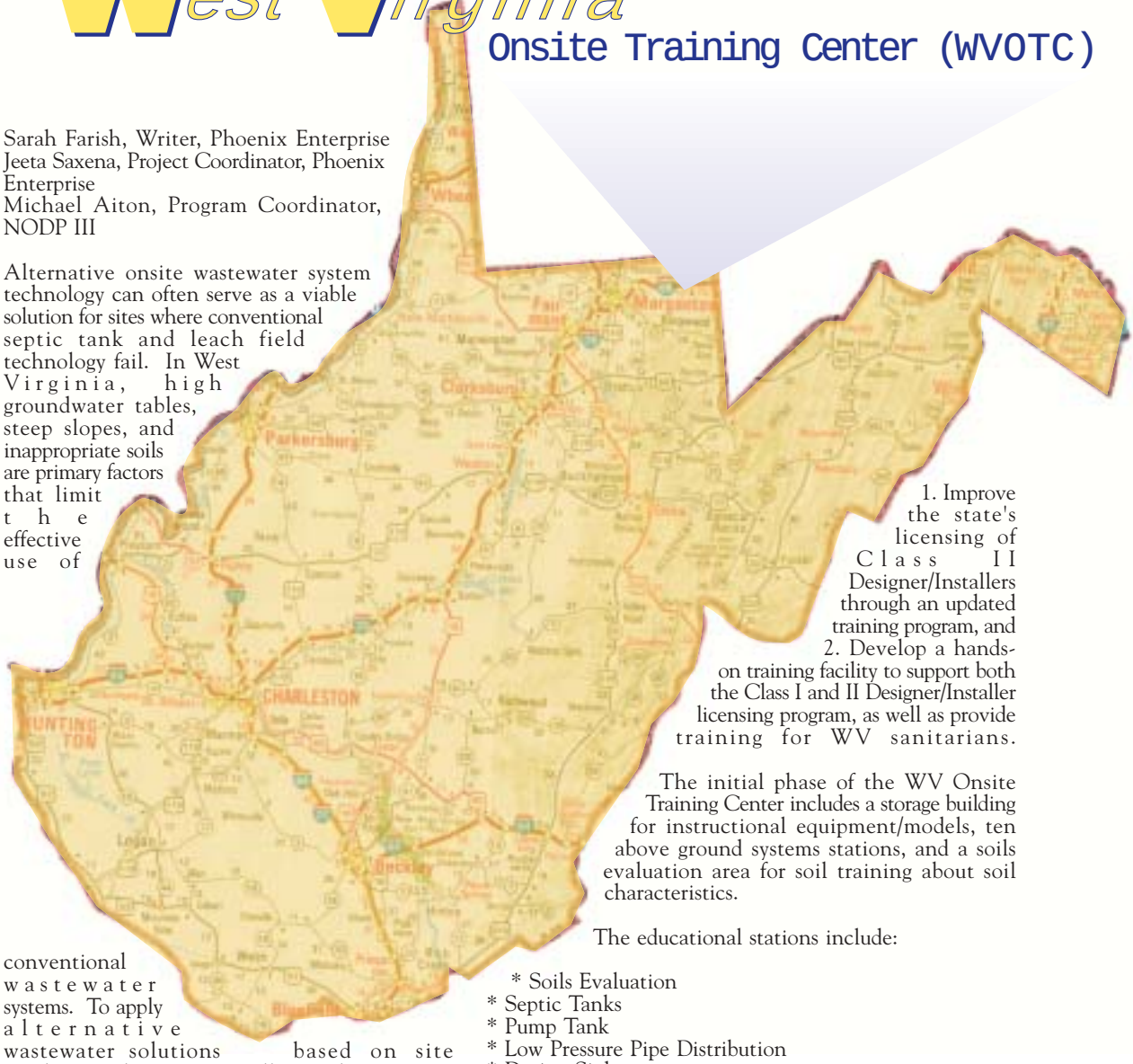
If you would like to read more on the Sandler Selling System™ in its entirety, call me for a FREE paperback edition of our 29-page report, "Why Salespeople Fail™".

Michael Strickland is President of Sandler Sales Institute-The Michael Strickland Group, a sales and sales management consulting firm located in Louisville, KY. Call for a FREE paperback edition of "Why Salespeople Fail ...And What To Do About It," 502-454-5454, or email your request to Sandler@sbitraining.com

West Virginia Onsite Training Center (WVOTC)

Sarah Farish, Writer, Phoenix Enterprise
Jeeta Saxena, Project Coordinator, Phoenix Enterprise
Michael Aiton, Program Coordinator, NODP III

Alternative onsite wastewater system technology can often serve as a viable solution for sites where conventional septic tank and leach field technology fail. In West Virginia, high groundwater tables, steep slopes, and inappropriate soils are primary factors that limit the effective use of conventional wastewater systems. To apply alternative wastewater solutions based on site conditions, designers, installers and sanitarians need training on the available technologies for effective wastewater treatment.



With the support of the WV Bureau of Public Health, the WV Sewage Advisory Board and industry representatives, the National Onsite Demonstration III (NODP) project set up a training field site and developed an updated training program for West Virginia. It is designed to provide hands-on experience with various alternative wastewater treatment technologies suitable for a variety of geological, soil and climatic conditions.

Representatives of the WV Bureau of Public Health and NODP staff identified two key priorities:

1. Improve the state's licensing of Class II Designer/Installers through an updated training program, and
2. Develop a hands-on training facility to support both the Class I and II Designer/Installer licensing program, as well as provide training for WV sanitarians.

The initial phase of the WV Onsite Training Center includes a storage building for instructional equipment/models, ten above ground systems stations, and a soils evaluation area for soil training about soil characteristics.

The educational stations include:

* Soils Evaluation
* Septic Tanks
* Pump Tank
* Low Pressure Pipe Distribution
* Dosing Siphon
* Pump to a D-Box, Flood Dosing Trenches
* Home Aerobic Unit
* Foam Biofilter
* Recirculating Sand Filter
* Peat Filter
* Constructed Wetland
* Pump Assembly Exercise
* Miscellaneous Onsite Wastewater Components

Educational signs at each of the outdoor demonstration stations describe how the system works with system diagrams as appropriate. These educational signs are laminated posters that are mounted on wooden boards placed strategically. Plexi-glass covers protect the posters, and can be changed to match curriculum and technology as needed.

Class II Sewage System Designer/Installer Curriculum and Training Materials

Class II sewage systems, often referred to as alternative or experimental systems, are onsite wastewater systems approved by the state of West Virginia for use when a conventional septic tank and gravity drainfield system (Class I) would not be expected to function well. For example, high water tables, shallow depth to bedrock, steep slopes, or inappropriate soils types or textures might limit or prohibit the use of a Class I system thus making the Class II system essential. In fact, the need to install Class II systems is expected to increase as fewer sites suitable for Class I systems remain in West Virginia.

Aware of this situation, Class I installers are interested in being certified as Class II installers to expand their business opportunities and offer customers more viable solutions for wastewater treatment problems. However, many Class I installers are unfamiliar with the technologies and designs for Class II systems, and can be unfamiliar with the general concepts of how soil actually treats wastewater. The Class II course was designed to educate installers on the design options available for installation on sites where a Class II system is required and to provide them the fundamental concepts for wastewater treatment.

Before the WVOTC offered this course, West Virginia's county sanitarians took a major role in "designing" Class II systems for Class II installers and often provided significant assistance with alternative onsite wastewater system design. As widespread use of Class II systems increases, sanitarians cannot provide the level of support previously available. In addition, sanitarians cannot help with the design, since they are also responsible for reviewing the final design prepared by the Class II Designer/Installer. Training Designers/Installers to effectively design alternative systems will reduce their dependence on sanitarians for systems design.

Curriculum Development

After reviewing materials from various onsite training programs across the country, NODP and WV BPH staff based the training materials partly on the University of Minnesota Extension Service Onsite Wastewater training materials, and on Northwest Onsite Wastewater Training Center training materials. In addition, instructors for the program provided materials for various segments of the course.

The curriculum includes twelve modules:

1. Introduction to Wastewater Treatment
2. Soils and Site Evaluation
3. Designer/Installer Responsibilities/Liabilities
4. Pumps and Siphons
5. Instrumentation/Controls
6. Drainfield Alternatives
7. Intermittent and Recirculating Sand Filters
8. Home Aerobic units
9. Other Class II Alternatives
10. Health and Safety
11. Permits
12. Factors in Technology Selection

For information on The WV Onsite Training Center's next training session, contact Mike Aiton, NODP, (800) 624-8301.

Illustration by Lonnie Walker

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Zabel® Outdoors

BRITISH COLUMBIA

In September the Zabel marketing crew flew to British Columbia for a meeting. And while they were there they thought, "Oh well we might as well do some fishing." Searching for any kind of guide service can turn a dream trip into a nightmare. From the accommodations, personal chef to the fishing, the Fraser River Lodge was top notch.

We started off both mornings catching pink salmon one after the other until our arms were tired. Then needing a rest we thought we would try the sturgeon fishing.

After Brian hooked into the first sturgeon we all knew there would be no rest with these ancient monsters.

Participants on this trip were. Brian Borders, Bill Rawlins, Tom Petty, and Tom Jenkins.

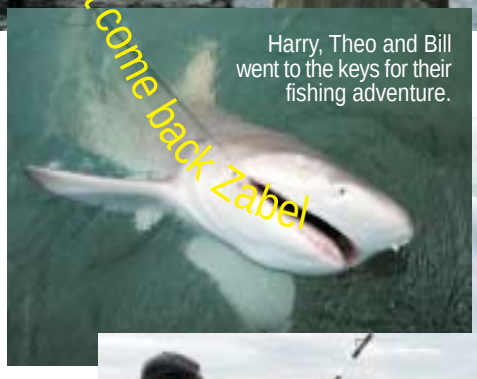
We would like to thank our guide, Dean.

Everyone caught a Sturgeon. And the Big Guy (Brian Borders) caught two. What an experience.

For more info on the Fraser River Fishing Lodge point your browser to www.fraserriverlodge.com or call Frank Steiger at 604-702-0036.

Florida Keys

Please don't come back Zabel

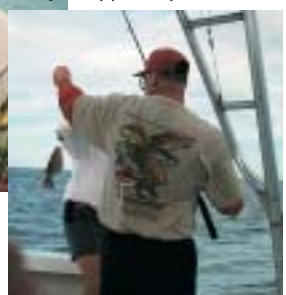


Harry, Theo and Bill went to the keys for their fishing adventure.

Harry giving it his all!

You can't imagine how big Theo said this one was...

But when he finally landed it Harry snapped a photo!



It doesn't get any better than this!

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Product(s) covered by one or more U.S. and/or International patents. Other U.S. and International patents may be pending.

TechTalk

By Tom Petty, P.G., R.E.H.S.

Do you have a technical question? Go online and get answers to all your tech questions from the pros at Zabel.

www.zabelzone.com/techtalk.htm

GDS-Z200-D

Can a Zabel GDS-Z200-D Flow Director be used to divide the raw sewage flow from a residence to two different waste treatment systems?

The Flow Director can be used to direct the flow to different systems. However, the Flow Director or Flow Divider should not be used to move raw sewage. The solids in the waste stream can cause the product to clog. If you are moving waste from a septic tank or advanced treatment system, the waste stream is almost entirely liquid. This is what the Flow Director is designed for. The waste can be easily directed, using the Flow Director, to separate disposal systems.

PDS-DV-4-4

Can a PDS-DV-4-4, four-zone Pressure Distribution Valve, be used to distribute effluent to a three zone system?

The four-zone valve is designed to distribute to a four-zone system only. If a three-zone system is designed, the cam inside the four-zone valve must be replaced with a three-zone cam. This is easily done by removing the two screws on top and replacing the cam. However, the best way to handle this is to avoid the problem altogether and use the PDS-DV-4-3, three zone Pressure Distribution Valve, to meet the design needs of a three-zone system.

What is the flow rate through the Zabel Filters?

The filter itself does not restrict the flow rate through any of our filters. The screen of the A1800 series and the plates of the A100/A300 series do not impede the flow out of a tank. The only determining factor with respect to flow is the size of the outlet pipe. The smaller the outlet pipe, the more restricted the flow. Most outlet pipes on tanks are 4 inches. The flow through this pipe is the flow rate through the filter.

Why do advanced treatment systems often get reductions in the amount of disposal field required and conventional technologies, such as gravel filled ditches, do not?

In a conventional system, anaerobically treated effluent, usually from a septic tank, is dispersed in the system where the soil is expected to provide final polishing and treatment of the waste stream. Here, the suspended solids and BOD load are acted upon by the bacteria in the soil, and these natural processes clean up the wastewater so it can be reintroduced into the ground water supply. While this process is quite efficient and produces good results, it is dependent upon having enough "good" soil available to carry out this process. In areas where "good" soil is limited, or materials for conventional technologies are hard to come by, advanced treatment systems, like our Aerocell and Aerodiffuser, clean up the effluent through aerobic processes so that the soil does not have to work as hard. Most regulatory agencies have accepted the fact that the lowering of the TSS and BOD make a system more likely to operate properly, even in marginal situations. This is why these systems get the reductions in disposal field that can range from 20% to over 50%.

Technology.

At Infiltrator Systems, we design and engineer onsite septic system products to complement nature's own processes for recycling wastewater. Our chamber technology is based on fundamental principles of physics, soil science and topography and is scientifically engineered for the job. Manufactured from recycled resins, our chamber products feature advanced technology like SideWinder® sidewalls that maximize the available surface area for infiltration, and MicroLeaching® louvers that limit the intrusion of soil and fines, while optimizing effluent disposal and promoting evapotransporation.

Performance.

Our chambers provide the maximum infiltrative surface area per linear foot. Compared with stone and pipe systems, Infiltrator chambers offer comparable wastewater treatment with up to a 50% smaller footprint. There are more than 600,000 Infiltrator systems installed in the United States and 13 other countries.

To receive the latest third-party research documentation on leaching chamber performance, please contact the Infiltrator Systems Inc. Technical Service Department at 1-888-231-9567.

Commitment.

We understand that everyone has a role and responsibility in conserving our natural resources. That's why we invest millions in research and development to create new products that operate more efficiently and conserve water resources. We also sponsor installer education seminars and onsite events and publish materials for homeowners so they can maintain their septic systems and learn how to keep our water resources safe for the future.

INFILTRATOR SYSTEMS INC

Environmental Onsite Wastewater Solutions™

6 Business Park Road • P.O. Box 768 • Old Saybrook, CT 06475 • 860-577-7000 • fax 860-577-7001

Zabel's Travels

We have always told Bill Rawlins if he stuck with Zabel it would take him higher! New houses, cars and airplanes. See Bill, we told you so.

In November Bill Rawlins and Mark Marsh of Marsh & Moore took Mark's AISI Marchette to a meeting with Coast Pump Water Technologies Co. in Venice, Florida. A nine hour drive only took these guys an hour.

The Marchette is an Italian military jet trainer used in third world countries. Mark says the Marchette if full aerobatic stressed to 6g's Positive and 4G's negative. The top speed is 230 knots with a cruise speed of 185 Knots.

Shot of St. Augustine

Mark has flown since 1978 and holds a singe engine muilti and glider rating. He is presently working on his sea plane rating. He flew aerobatic competition and air shows up to 1985 and was ranked 14th in the United States at one time.

While on a training mission in Lee County Kentucky, Tom Petty took time to visit Natural Bridge State Park.

Zabel's® Helping Hands program, the brainchild of Bill Rawlins, Jr., Southeastern Environmental Specialist, continues to provide assistance for homeowners who cannot afford to repair their failing septic system. Bill says, "The Helping Hands program is designed to provide Zabel products and services to those who can least afford and most often need them."

Environmental Supervisor, Wade Bobo holds down the shovel, while several local contractors install the Zabel recirculation device.

What do you have when you mix education requirements, the desire to help someone in need, and new technology? Another Helping Hands project! The most recent Helping Hands project, sponsored by Zabel took place on October 26th in Centre, Alabama. Zabel's state-of-the-art AeroCell™ Advanced Treatment System was installed at the home of Ms. Mattie Shooks.

Zabel became aware of the need for the project when Mr. Wade BoBo from the Cherokee County Health Department mentioned the situation in passing. When the call went out from Mr. Kenneth Dodd, a local contractor, the response was unbelievable. Every need was met- all materials, equipment and even lunch were donated.

During this successful project, the participating contractors not only helped someone in need but were also awarded CEU's and were able to become certified in the new AeroCell Advanced Treatment System.

Thanks to each and every one of you who helped make this problem a thing of the past for Ms. Shooks. It is the continued support of caring individuals that make Zabel's Helping Hands projects a big success.

Zabel's Brian Borders finally earning his keep installing the pump system.

The local paper in Centre, Alabama ran this list of contributors to the project.

Zabel would like to add our thanks.

The Cherokee County Health Department would like to thank the following contributors for their time and effort to make this possible:

Zabel Environmental Technology donation of the AeroCell
Kenny Dodd donation of loading and hauling of fill material, installation of the AeroCell
Keith Dean donation of the loading of the fill material and dozer work on the site
James Westbrook donation of hauling fill
Wayne Storey donation of hauling fill
Jerry Angle donation of hauling fill
Billy Crane donation of hauling fill
David Pruett donation of hauling fill
Kenneth Mackey donation of hauling gravel
Leon Fiffe donation of hauling fill, bobcat, and electrical work on site
Kerr's Redi Mix donation of the septic tanks
Coosa Sand and Gravel donation of the gravel
Billy Baker donation of fill material
Dewey Peek donation of setting of the tanks, and installation of the effluent disposal field
Marvin and Jason Langley bobcat and installation of the effluent disposal field
Bob Guthrie donation of engineering of the system
Danny Lecroy donation of the Bar-B-Que
Lanny Starr donation of the Baked Beans
Larry Fergurson donation of the Slaw
Foodland donation of the Hamburger buns
Piggly Wiggly donation of the Chips
McDonald's donation of the Ice
Ingles donation of Soft Drinks

Along with safeguarding the environment, Wade Bobo has a passion for experimenting with new ways of enticing the local bass to bite.

CLUSTER Systems and ZABEL® Products

By Brian Borders, R.S.

Photos by Noel Coplen. *Thanks Noel Great Job!*

Can you spot the onsite system providing treatment to the wastewater from 16 houses? Could it be that gorgeous fishing pond right in their backyards? Here is a tip, unless your fishing for "**brown trout**" I wouldn't go fishing in that pond!

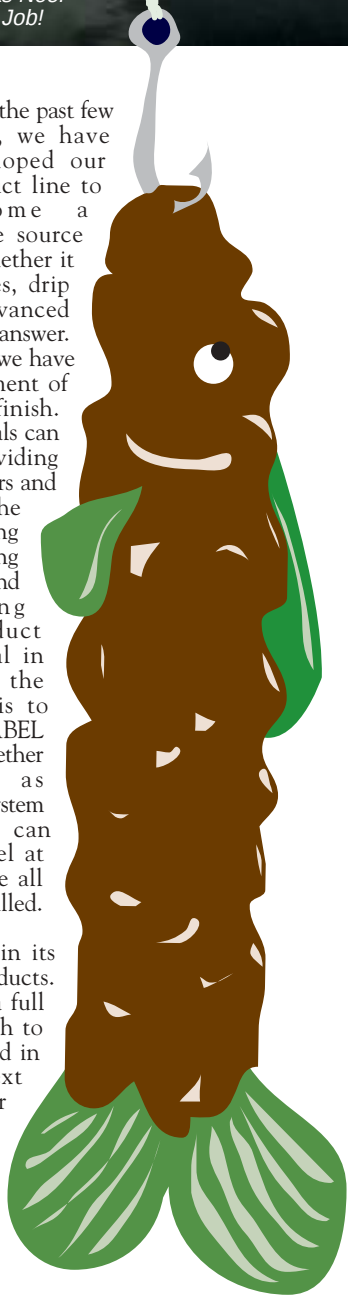
This subdivision was my first real exposure to a cluster system utilizing centralized treatment and disposal for multiple residences. I encountered it during a trip to Graves County, KY to assist the local environmentalist, Noel Coplen. Noel and I were looking at some of his problem sites when he took me to see one of their success stories. The system had been installed for about 5 years and had been providing a reliable form of wastewater treatment for this development. The residents and developer were completely satisfied with the results.

This particular cluster system consisted of individual primary septic tanks installed at each residence with gravity flow to a central lift station. The lift station then moved the effluent up to a central lagoon installed in the middle of the development. Overflow from the lagoon was disposed of through a single drain field system located along the subdivision road. Other than the chain link fence surrounding the lagoon you would never know this "fishing pond" was actually treating thousands of gallons of wastewater everyday. The Homeowners Association had even taken up a collection to install a fountain in the center of the lagoon, to add to its eye appeal. Little did they know they were actually aiding the treatment capacity of the lagoon by incorporating a source of aeration.

Cluster systems come in many shapes, sizes and configurations. They can be an ideal solution for difficult sites with limited room or poor soils. They provide solutions to developers, homeowners and regulators who are looking for efficient, cost effective methods to treat wastewater. Some may be as simple as the subdivision Noel and I visited or complex with individual Advanced Treatment Systems located at each residence and with disposal occurring through a centralized drip irrigation field. Whatever the design or configuration, ZABEL can be part of the solution.

Over the past few years, we have developed our product line to become a single source provider for everything onsite. Whether it is effluent filters, STEP packages, drip irrigation, or your choice of advanced treatment systems, ZABEL has the answer. Not only do we have the products, we have the staff to assist in the development of the cluster system from start to finish. Our team of wastewater professionals can provide upfront assistance by providing training and education to developers and homeowners. We can also assist the designer or engineer in the planning and design of the system by reviewing plans, providing product drawings, and by developing complete product quotes. Our goal in assisting during the design process is to ensure that all ZABEL products mesh together and operate as planned. During system installation, we can provide personnel at the site to ensure all ZABEL products are correctly installed.

At ZABEL, we view the system in its entirety not just in providing products. We are committed to providing a full service, complete turnkey approach to onsite systems. If you are interested in obtaining assistance on your next cluster system development or for any onsite system large or small, give us a call and we will put our team and all our resources to work for you.



"Rebel Humor"

Alabama Hunters

A couple of Alabama hunters are out in the woods when one of them falls to the ground. He doesn't seem to be breathing, his eyes are rolled back in his head.

The other guy whips out his cell phone and calls 911. He gasps to the operator, "My friend is dead! What can I do?"

The operator, in a calm soothing voice says, "Just take it easy. I can help. First, lets make sure he's dead."

....There is a silence, then a shot is heard. The guy's voice comes back on the line. He says, "OK, now what?"

Author unknown, found on the internet

Harold Allen of Harold Allen Septic in Hull Georgia showed off his unique method of advertising at the GOWA show in Athens.

Harold Allen Septic Tank Cleaning
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FREE SHIPPING
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The development of new on-site technologies has resulted in many organizations scrambling to educate and train their members and employees. Zabel's Environmental Specialists spend the majority of their time working with groups of professionals in their educational efforts. At Zabel, we pledge our support to the education of the on-site professional. Whether your organization is that of installers, manufacturers, regulators or design engineers, Zabel wants to assist you in your training efforts.

Simply complete the blanks/boxes below, and return the form. Your Environmental Specialists will contact you to arrange a time, place and date. Zabel can participate in your agenda of on-site training, or we can conduct a complete training session over the various technologies new to the industry. We look forward to sharing in the success of your organization.

Organization Name _____

Address _____

City _____ State _____ Zip Code _____

Phone _____ Fax _____ Email _____

Complete Training Class _____ One of Participants at Training Class _____

Expected Number of Attendees _____

Topic(s): Check all areas of interest

☐ Effluent Filters ☐ Effluent/Sewage Pumps and Sizing ☐ Discharge Systems ☐ Alarms & Controls

☐ Access Systems ☐ Grease Traps ☐ Peat Systems ☐ Basin Systems & Aerocell ☐ Codes/Standards

☐ Aerobic Systems ☐ STEP Systems ☐ Other _____

Bill Rawlins
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Email: bjr1171@aol.com
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Tom Petty, R.E.H.S., P.G.
Environmental Specialist
Email: Tpetty@zabelzone.com
Ph: 1-800-221-5742

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Patent Pending

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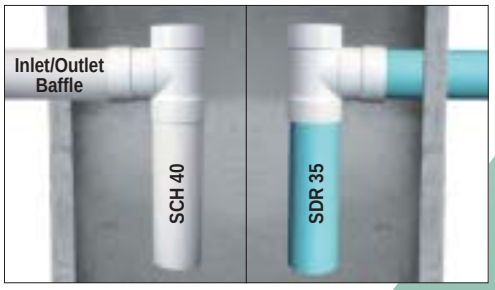
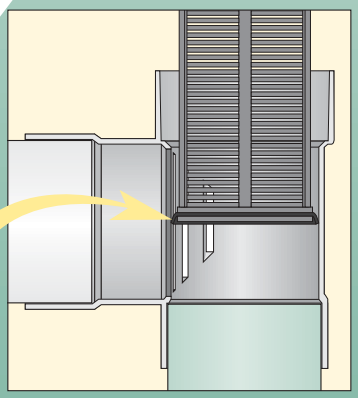


By-Pass Protection

Versa-Tee's supplemental filtering system prevents solids carry-over!

Warning: the Versa-Tee's outlet filter slots are a supplemental protection device and should not be used in place of a Zabel A1800 Series Cartridge.



As the Zabel Filter cartridge is removed, the Filter' s gasket sweeps the **Versa-Tee's Filter Slots** clean of any large solids!

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Product(s) covered by one or more U.S. and/or International patents. Other U.S. and International patents may be pending.

2002

March

25th-26th, NE Onsite WW Treatment Short Course

April

3rd-4th - NW Onsite WW Treatment Short Course & Equipment Exhibition, University of Washington, Seattle, WA.

9th-11th, Head of the Watersheds Decentralized WW Conf. Duluth, MN. Tami Vatalaro 218-720-4322

11th-13th, NCSTA Show

May

3rd - AOWA, Montgomery, Alabama

July

18th-20th - FOWA, Dayton Beach, Florida

TBA - Interstate Conference

September

13th-14th - GOWA Conference - Jekyll Island, GA. - Bruce Widener 678-646-0369

18th-21st - NOWRA Conference, Kansas City, Missouri

CEU Training Classes

An up to date listing of tradeshows and CEU training classes can be found on our website. www.**zabelzone**.com/onsiteeducation.htm

March 23, 2002
Perry County, Kentucky
Contact: Kevin Nichols (606) 633-2945

April 17, 2002
GOWA/Zabel CEU Training
Jefferson, Georgia

April 25, 2002
University of West Alabama Training Center, Allen Tartt 205-652-3803 Ext. 25

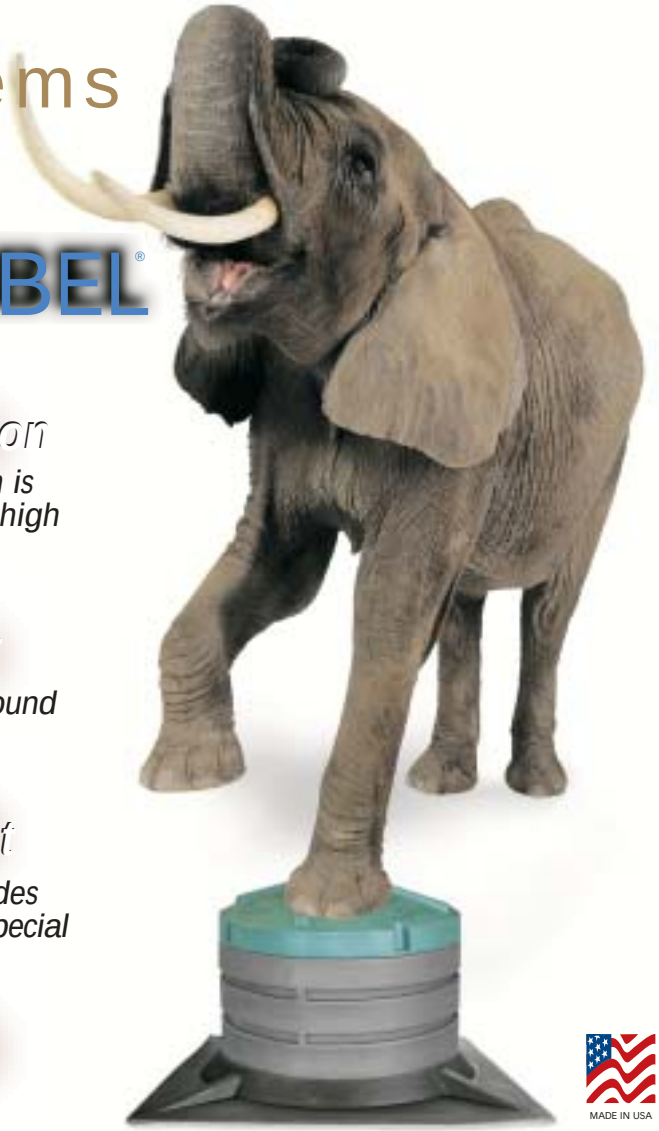
May 7, 2002
FOWA/Zabel CEU & Product Training
Fort Lauderdale, Florida
Contact: Kevin Sherman (863) 652-3803

May 22-24, 2002
Advanced Training
University of West Alabama Training Center, Allen Tartt 205-652-3803 Ext. 25

August 5, 2002
FOWA/Zabel CEU & Product Training
Crestview, Florida
Contact: Kevin Sherman (863) 652-3803
osmc2001@yahoo.com

Access Systems

Tough Enough TO BE A ZABEL®



Quality Construction

Every ZEUS Access System is constructed of UV protected high quality polyethylene

Water Resistant

Provides protection from ground water infiltration

Tamper Resistant

Every Access System includes tamper resistant screws ,and special fastening bit

Interlocking

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Poly Tank Adapter
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