

Big Tanks For A Small Community

Hudson's Landing Mobile Home Park, Stuyvesant, NY was required to upgrade their old on-site septic systems to comply with current DEC requirements. Working with environmental engineers Crawford and Associates, Castleton, NY, they installed three new "community"-based septic disposal systems for the 50 home sites.



Unstrapping tank

The hefty components of the new system were two 3,000 gallon septic tanks and three 2,000 gallon pump chambers, custom made multi-purpose tanks manufactured by Grimm Building Materials Inc., Green Island, NY. As the pictures show, the tanks were delivered and installed using their 15-ton capacity delivery truck known affectionately as "THEAPE".

Several groups of homes feed into each new 3000 gallon septic tank. Effluent then flows to the pump tanks, for timed con-

trolled dosing to the absorption beds located uphill in better soil. There are a series of absorption beds, which are programmed to alternate on 6-month cycles. In one location, the first 2000 gallon pump tank discharges to a 3000 gallon uphill holding/pump tank to accommodate the flow from the largest group of home sites, according to Brandee Nelson, Project Engineer for Crawford.

Owner Frank Palladino, Great Hudson River Properties, said he was very happy with Grimm and their products. He reports that the crane operator and truck driver were the best he has worked with in his many years in construction, and that Grimm is very family/customer oriented, seemingly putting service above profit.



Swinging tank to the hole

[photos by Grimm Building Materials]

PCANY Certification Program For Water and Wastewater Products

Now in its second year, the PCANY Certification Program is beginning to get some recognition around the country. In the July issue of *Onsite Installer*, we are cited as part of a movement to standardize methods and procedures – "Doing It the Same Way" is the article's title. The editor's point is that by doing things according to basic standards all the time, we are doing things better. And our program is being used as a model by other state groups, just as we adopted ours from the Ontario Producers Association in Canada.

Under our Certification Program, it is required that every tank is designed by a licensed engineer for the specific burial depth and loadings it will incur. The manufacturer must demonstrate a competency in manufacturing and quality control/quality assurance. And at least one tank of each size must be vacuum tested annually to at least the minimum ASTM 1227 requirements. As

each company qualifies for listing, they then cast a red tag into each tank signifying "PCANY Listed". Our goal is that no tank may be installed in New York unless it is so listed.

Watertight septic tanks and properly operating systems involve competency by many trades and professions. PCANY has produced a Recommended Practice For Installation of Concrete Septic Tanks, available to anyone. We have made recommendations for changes and improvements to the State regarding its code which governs septic tanks. We see no reason why every tank does not have an effluent filter (or screen), accessible lids for inspection and pumping, flexible connectors for inlet and outlet piping to eliminate leaking joints, and so forth. Lastly, we endorse licensing and continuing education for all component participants in this very important field of onsite waste water recycling.

Skaneateles Lake Demonstration Project – Alternative Onsite Wastewater Treatment

On June 16 in Auburn, the PCANY Septic Tank Group sponsored an all-day event on The Importance of Water Tight Septic Tanks. Attendees represented area County Health Departments, Consulting Engineers, NYS DOH and DEC, precasters and industry suppliers. The morning consisted of a tour of four home sites within the Skaneateles Lake Demonstration Project, lead by Eric Murdock, P.E., Water Systems Construction Engineer, City of Syracuse.

Many of the challenging lake site lots are not conducive to the installation of a conventional drain field, either because of steep slopes to the lake shore, rock outcroppings and poor soil, or small lot size. Many of these could benefit from the installation of an alternative onsite wastewater treatment unit prior to discharge into site soils. Currently around the lake there are about 175 homes on municipal systems, 2300 onsite systems, 100 holding tanks, and 75 composting toilets.

is not recommended under standard conditions). Unlike the system replaced, the new system does not send polluted water down to the lake.



This site has a new system very close to the house and property line, with the drainfield under the driveway.

Under strict prescriptive codes, the site shown here couldn't comply. Using the packed-bed media filter system that re-circulates effluent through a textile/peat combination filter on a timed dosage basis, the very clean effluent is pumped for dispersal into the drain field under the driveway (of course, this placement



Eric Murdock pulls an effluent filter from one demonstration site



This demonstration site serves two adjoining lakeside homes



Coils of textile and peat receive aerobic effluent from the septic tank, which is re-circulated via a timed system



Abackyard dosing chamber containing hanging filter/peat media

Photos by Jepco Sales

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Skaneateles Lake Demonstration Project *(continued from page 2)*

Another site previously discharged raw sewage into the lake. Eric's team added a shallow drainfield by overlaying the existing soil with perforated pipe and sand. Using modern technology, the septic tank pre-treats the sewage from the house: solids settle and are digested, fats and grease float, and the middle portion is treated biologically by anaerobic bacteria that digest and reduce the bio-load. (Eric stated that one half of the BOD reduction occurs passively in the septic tank, and the concrete septic tank is the "best bang for your buck"). The second chamber of the tank is a pump chamber (STEPSystem) that repeatedly re-cycles the effluent through packed bed media to aerate and clarify the liquid waste stream.

This treated effluent when returned to the pump chamber mixes with the anaerobic sewage, thereby reducing the overall nitrogen content. Nitrogen having a major impact on algae growth, the beautiful Skaneateles Lake greatly benefits. The dispersal field is dosed on a timed basis with the treated sewage effluent. The resulting bacteria counts are greatly reduced and the final treatment provided by the soil virtually eliminates all pollutants.

The eight systems installed so far are funded under an EPA grant to the City of Syracuse to demonstrate alternative OWT systems; some of these systems are the first of their kind installed in New York. The program is a joint effort of Onondaga, Cayuga and Cortland Counties, and Cornell University, the NYSDEC, DOH, and the OTN. All of the concrete tanks installed under this unique project were supplied by Sunnycrest Inc., Auburn, NY.

"Big Dividends – Effluent Filters"

excerpted from *Onsite Installer*, July '05, by Jim Anderson, Ph.D., and David Gustafson, P.E.

"One of the past decade's best onsite treatment innovations is relatively inexpensive to install, yet can pay large dividends in increasing soil treatment system life and performance. We're talking about the effluent filter (sometimes called a screen). The recognized benefits of filters are such that many permitting authorities now require them on new installations.

Septic tank effluent filters prevent excessive solids discharge, protecting the soil treatment area. Solid accumulation at the outlet filter can eventually plug the outlet, so the filters need to be cleaned regularly, along with regular tank cleaning. The expectation is that the filter will plug before major damage is done to the soil treatment area, so filter maintenance is much cheaper than dealing with a plugged drain field. Each filter is unique in its design, but they are all similar in purpose: to decrease the amount of solids carryover to the drain field and to reduce the biological oxygen demand (BOD) or organic loading component of septic tank effluent.

Installers who include effluent filters must recognize that the filters may require more frequent maintenance than is generally recommended for the pumping of septic tanks. This makes it important to provide easy access for removing and cleaning the filter. One recommendation for systems with effluent filters is to install a high-water alarm. Since the filter will plug, and because that may happen before the septic tank is scheduled to be cleaned, you want an early warning device before sewage backs up in the floor drains in the house.

The bottom line is that an effluent filter can be very good for the long-term system performance...." This article supports PCANY's position regarding recommended changes to the state code, and in designers and specifiers documents, that effluent filters should be required in every new tank (and retrofitted into old systems whenever possible).

Visit www.pcanyc.org for more information on:

- precast concrete products and their application
- precast concrete producers with links to their websites
- precast concrete association of New York, PCANY

Dexter Fowler, P.E. & V.P. Retires From New Enterprise Stone & Lime Co.

After more than 30 years at PCANY, Producer Member Newcrete Products, a Division of New Enterprise Stone & Lime Co., Dexter Fowler has taken retirement. An engineering graduate of the University of West Virginia, Dexter found work in the precast/prestressed concrete industry in Pennsylvania. He has been an honorable and notable industry presence, an example of professionalism and achievement, and a great help and friend to all of us in the industry. We wish him much happiness.

Welcome to Stromecki Engineers, PC

Welcome to our newest Professional Member, James Stromecki, P.E., of Stromecki Engineers, P.C. of East Aurora, NY. Please note that our website at www.pcanyc.org lists all PCANY members, cross lists available products and services, and offers a downloadable membership application for all categories.

Future PCANY Meetings

Look for announcements of these fall/winter meetings:

Septic Tank Group – NOWRA NY chapter formation and involvement, NPCA Septic Tank Certification and Septic Tank Committee developments, CSE Septic Tank Code update

Seminars on latest edition, PCI Bridge Design Handbook
Annual Business Meeting, February 2006

Other Industry Meetings

September 23-26, 2005 NPCA Industry Outlook Conference, Sarasota, FL

October 16-19, 2005 PCI Annual Convention/Exhibition, Palm Springs, CA

Precast Concrete Association of New York, Inc.
2829 East Avenue
Rochester, NY 14610
Tel: 518-895-8352 • Fax: 585-381-0945
Email: pcany@aol.com • Web: www.pcany.org

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Skaneateles Lake Demonstration Project ... Cooperative Success

One of the reasons for the success of alternative systems in solving failed local systems, which may be only old rusted out steel drums, is the co-operation of local county and state and federal officials. Another is an adequate budget. With all advanced technologies there is

need for professional maintenance. The introduction of pumps and alarms and automated pipe systems increases the potential for breakdowns and new disasters. Catching problems early saves the systems from premature failures and exorbitant costs. Understanding the com-

plexities of these new systems is a job for professionals, as Eric Murdock, P.E. has shown. There are always problems, and he works with the system until it is right. We are fortunate that New York recognizes that "legacy systems" have to be treated differently than new construction.

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