Letter from President, Thomas J. Darga:
Subject: Decentralized Onsite Wastewater Treatment Solutions

Thank you for the opportunity to discuss and perhaps shed a little light on a topic which continues to gain recognition and positive response in the regulatory community as an outstanding "next logical step" in response to the expansion and migration of housing and commercial centers beyond the boundaries of conventional municipal wastewater treatment systems.

The traditional extra-urban response to wastewater treatment generated from households and light commercial development have relied traditionally on septic treatment or in the case of larger flows, community septic systems, or individual community based traditional small wastewater plant operations. The cost of management and operation of these plants and expansion of same has generated a significant burden on the environment as well as the advancement of wastewater treatment science, which in some cases has changed little from the first introduction of centralized wastewater treatment established as far in the past as 1700 BCE on the Island of Knossos in ancient Greece.

Outward pressure of development has expanded beyond the ability of community centralized systems to keep pace with demand and the expense of same, through expansion of sewer systems or creation of small central treatment processes. Strapped with antiquated systems and expensive upgrade costs, the trend over the recent past (50 years) has been to turn to a least cost, marginal solution of septic disposal of waste. Recognizing this ever increasing demand the American Society of Agricultural and Biological Engineers, St. Joseph, Michigan has spearheaded a combined response to the generation of onsite decentralized solutions to the demand for effective wastewater treatment and cites response from the Federal level as follows:

"In 1997, The USEPA issued The Response to Congress on the Use of Onsite and Decentralized Wastewater Management Systems. The report stated clearly that, when properly managed, onsite and decentralized wastewater treatment systems do provide adequate protection of public health and environmental quality. This document also listed specific actions and activities required to develop an onsite wastewater management infrastructure that recognizes the value of onsite wastewater systems as a viable option to protect public health and environmental quality. Following the Response to Congress, the USEPA developed the Clean Water Action Plan (CWAP) which established action items required to ensure that the goals of the Clean Water Act more fully implemented. One of the products of the CWAP is The Guidelines for Management of Onsite and Decentralized Wastewater Systems. These voluntary national guidelines represent an attempt to incorporate a comprehensive life cycle management strategy for onsite/decentralized systems."

The examination of failed traditional systems by the regulatory community, regional, state and federal, has found an alarming trend in the failure rate of these systems.

In a recent release by the EPA the following statement frames the reference for onsite decentralization systems: “The Environmental Protection Agency (EPA) estimates that from 10 to 30 percent of onsite systems are failing annually. This represents over 2.5 million malfunctions, resulting in more than 700 million gallons of improperly treated wastewater being discharged each day. Improperly treated wastewater is a source of nutrients, such as nitrogen and phosphorus, which can contribute to contamination of ground water and eutrophication of surface water resources. In addition, pathogens contained in wastewater can pose a significant human health risk.

New technologies are being applied to onsite systems, resulting in higher treatment levels, greater reliability, and more flexibility than ever before. In many communities onsite and decentralized systems are the most appropriate, least costly treatment option, and they allow maximum flexibility in planning for future growth. Most of the above information was derived from the EPA's onsite/decentralized wastewater systems web page.

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Implementation of technological advancement in the treatment of wastewater continues to grow in acceptance. The best practices methods as well as sound science combined with adherence to environmental performance standards continues to provide both a positive effect environmentally and effective waste management needs of a growing population.

Thank you for the opportunity to shed a little light on a solution for our communities and the need for environmentally sound, cost effective methods for response to expansion.

Sincerely,

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Citation: Pp. 470-478 in On-Site Wastewater Treatment, Proc. Ninth Natl. Symp. On Individual and Small Community Sewage Systems (11-14 March 2001, Fort Worth, Texas, USA), ed. K. Mancl. St. Joseph, Mich. :ASAE 701P0009.
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