



THE LITTLE DIGGER

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Minnesota Onsite Sewage Treatment Contractors Association

Applications Now Being Accepted for Tony Ruppert Scholarship Fund

The Minnesota Onsite Sewage Treatment Contractors Association (MOSTCA) is pleased to announce that applications are now being accepted for the Tony Ruppert Scholarship Fund.

The scholarships are available to full-time students who are related to MOSTCA members or employees of MOSTCA members (including suppliers). As long as the relative remains a MOSTCA member or employee, students may reapply for the scholarship annually.

In addition to completing an application and certification of relative's employment by a MOSTCA member, scholarship applicants must also submit an essay of no more than 500 words on the following topic:

"How does sewage affect our lakes, streams and wetlands?" Comment on the impact of treated sewage versus untreated sewage.

All applications must be submitted to the MOSTCA office, postmarked by MAY 1, 2004. Winners will be announced at the MOSTCA Summer Conference.

University of Minnesota Establishes Long-Term Soil Hydrology Research Sites

Jessica Wittwer and Dan Wheeler, University of Minnesota Extension Service

In addition to training Individual Sewage Treatment System (ISTS) professionals, the Onsite Sewage Treatment Program (OSTP) at the University of Minnesota strives to provide new information to better our understanding of all aspects of the sewage treatment process. One such component of proper sewage treatment is soils understanding.

Minnesota has many unique combinations of soils and landscapes. Each of these geomorphic areas has a specific set of soil morphological characteristics along with a hydrology that is not fully understood. In order to develop an understanding of these different geomorphic areas, we install soil-hydrology monitoring equipment along a hillslope to relate hydrology to soil morphology. Long-term soil hydrology monitoring sites measure water movement through the soil-landscape, which will allow for the characterization of hydrologic patterns for a specific parent material(s) and landform.

Our objectives in establishing these long-term sites include: identify unique geomorphic areas of the State where soils, landscape, and hydrologic information is needed; install piezometers, wells and thermocouples along hillslopes in each of the geomorphic areas; and develop educational materials (hydro-

hydrology research

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Research Update

Long-Term Soil Hydrology Research Sites

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graphs, soil profile descriptions, soil survey reports, photographs, etc.) to allow for on-site soils, landscape, and hydrology training.

The OSTP has identified some long-term soil hydrology monitoring sites across Minnesota. Each site is/will be installed in varying soil types, parent materials, landforms and hydrology. It is expected that sites possessing different combinations of parent materials and landforms will be monitored to maximize diversity among sites (Table 1).

The equipment being used to monitor near-surface soil saturation includes: deep wells, nested piezometers (for more detailed information about water movement such as recharge, discharge,

flowthrough, perching), and thermocouples (soil temperature). The monitoring of each site will occur on a biweekly basis, during the growing season, for a minimum of 5-7 years to ensure an adequate sample of hydrologic fluctuation has been captured. While most recording will be completed by hand, a few sites every year will benefit from higher frequency readings collected by automated well-level recording devices.

Monitoring sites serve an additional educational role as field sites for Soils and Soils Continuing Education OSTP workshops, regionalized training workshops, or in-depth soils workshops discussing site hydrology/ fluctuations and redox processes interactions in each landscape/geomorphic area. This project not

only benefits the soils training aspect of the OSTP, it also enhances the understanding of hydrology and can be applied to the design, function, treatment, and maintenance aspects of the OSTP as well. In addition to educational uses of such a site, local, regional and state officials also require detailed soil information in order to make sound recommendations to private and public landowners around the State.

While the OSTP has located a number of soil hydrology monitoring sites, we are still seeking your input for locating additional sites around Minnesota. Please contact Dan Wheeler with your suggestions, tel. 612-625-8791, fax 612-625-2208 or e-mail wheel027@umn.edu.

Table 1: Currently identified long-term soil hydrology monitoring sites

Site Location	Parent Material	Landform	Year installed
Waseca	tan/buff till	till plain-drained	2002
	tan/buff till	till plain-undrained	2002
Jay Cooke State Park-Carlton	red lacustrine	lake plain	2003
Austin	loess-outwash/bedrock	stream terrace	2003
	outwash/bedrock	stream terrace	2003
Kensington Runestone County Park-Alexandria	tan/buff till	moraine	2003
Carver County	tan/buff till	till plain	Estimated 2004
	tan/buff lacustrine	ice-walled lake plain	Estimated 2004
Pine County	red lacustrine	lake plain	Estimated 2004
	unknown	unknown	Estimated 2004
Todd County	tan/buff till-outwash	drumlin	Estimated 2004
Kandiyohi County	tan/buff till	till plain	Estimated 2004
Mower County	loess/till	erosion surface	Estimated 2004