

**Lake Erie Protection Fund Small Grant Technical Report
SG 319-07
Lake County General Health District
Drip Distribution Demonstration Project**

Purpose

The purpose of this project was to meet a commitment to the Ohio Department of Health (ODH) and the Ohio Environmental Health Association to assist in the training needed for the proper implementation of the January 1, 2007 ODH Sewage Treatment System (STS) Rules. The other main purpose of the project was to establish a permanent location to conduct training in the installation, inspection and operation and maintenance of a drip distribution sewage treatment system.

Grant Project Justification

“Water Quality: Bacterial Pollution”

“Strategic objective to reduce bacterial contamination coming from inadequate or non-functioning private home septic systems”

“Strategic Actions (WQ-6) Implement laws and rules for new permitting requirements and operation of private home septic systems”

The Lake County General Health District submitted the grant application in January of 2007 under the premise that this project would assist to accomplish the strategic action(s) of the Lake Erie Protection & Restoration Plan. At the time of the grant application submittal, the ODH STS Rules had become effective January 1, 2007. The rules specifically addressed the strategic actions concerning the requirements for installation and operational permits as well as requirements of operational assessments of new and existing home sewage treatment systems. A major factor in the successful implementation of those rules was to improve the knowledge base of the system technologies presented in the rules among installers, sanitarians, service providers and homeowners using the systems.

Project Description

Project Timeline

The original project timeline planned this project to begin in March or April of 2007 and to be completed by September of 2007. In April of 2007 the state legislature began communicating their concerns with the Ohio Department of Health and the other interested parties involved with the passage of HB 231 and the adoption of the ODH STS Rules. These concerns resulted in the need for letters, telephone calls, emails, meetings and testimony at the statehouse in an attempt to save the sewage law and rules. As a result of the additions to the state budget bill regarding sewage, the ODH STS January 1, 2007 rules were rescinded and the law was shelved for a two year period during which a state legislatively formed study commission would make recommendations. The rules rescission and the reinstatement of the 1977 rules became effective July 1, 2007. These actions occurred in the middle of the construction season therefore the grant project was delayed. The project began August 2007 and was completed in May of 2008.

Project Scope (Grant deliverables)

The first phase of the project was to prepare a training video to summarize the key aspects of installation and inspection of a drip distribution system and the role of the service provider. The second phase of the project was to provide training workshops for sewage system installers,

sanitarians and service providers on the key aspects of drip distribution. The focus was to extend invitations to all counties in the Lake Erie Watershed.

Project Specifics

The first step in the project was to develop an outline of project needs, details and desired outcomes. The Health District obtained permission from the Lake County Commissioners to install the demonstration system on county property that is located on a section of the Lake County Engineer's facility campus (adjacent to the Health District Mosquito Control Building). The Health District obtained estimates for all goods and services and made several contacts for potential donations and discounts for materials and services for the project. The Health District installed a two zone, American Manufacturing drip distribution system in three applications: below grade using a vibratory plow, at grade and in a mound. Originally we were going to install the system only at grade but decided to demonstrate all possible applications of drip tubing.

The Health District met with Stream Key, Inc., the company that distributes the American Manufacturing system in Ohio. They prepared design plans for the Health District with our guidance at no cost. The system was designed such that the installation would be shallow in areas and left open for training purposes. The intent was to provide installers, sanitarians and service providers a view of the system components that exist below grade and are usually covered with soil and therefore not visible for observation once a system is completed and backfilled. Installing the system in this manner allowed for "hands on" training. Once the plans were completed, we met with the film company to review the project details. We were directed to prepare a script that included the sequence of construction, the types of camera angles needed (i.e. wide angle, aerial, medium view and zoom in close ups).

Contributions/Donations & Discounts

This project was not only made possible by obtaining the grant, but also from the generosity of many participants. The following is a summary of the contributions for this project:

- Permission for construction on Lake County property – Lake County Commissioners & County Engineer
- Donation of design plans, material list & installation day assistance – Stream Key, Inc.
- Donation of two zone drip package – American manufacturing
- Discount on pump tank – Mack Vault
- Donation of sand, gravel & topsoil – Sidley, material hauled by County Engineer's office
- Discount on piping, fittings, geotech fabric – McMillan Building Supply
- Discount on installation – DeGreen Construction Services, Marut & Sons
- Water for pump tank – Painesville Township Fire Department
- Discount on film production – 529 Films
- Use of County Engineer platform truck for filming

Once the script was prepared, a filming date was selected with a next day back up in case of rain. One of the biggest concerns was weather, we needed sunshine without rain and we were fortunate to receive it. The preparation for filming day required the coordination of the installation crews, obtaining electrical permits and inspection, two emergency trips to Home Depot (missing fittings), preparation of placards to direct the sequence of filming, plans for lunch and drinks for the crews, provision of a first aid kit and other essentials. The filming day lasted 12 hours from 7:00 AM to 7:00 PM and included six staff and a supervisor. The news media was contacted and a copy of the articles are included as an appendix to this report. Some members of the Health District staff were in the film and assisted with the construction of the system, one

filmed the installation from our perspective and another photographed digital photos for documentation of the project.

The following photographs demonstrate the involvement in the project:



Beginning the filming day



Filming electrical work



Filming the tank installation



Aerial filming from platform truck

Project Specifics Continued

The editing of the video required two script revisions, insertion of additional voiceovers, insertion of digital photo views and three revisions of the video. Once the installation and the video production was complete, the Health District staff planted grass over the system and later winterized and tarped it to protect it from erosion. The first phase of the project (the system installation & video production) was presented at the Ohio Environmental Health Association Annual Educational Conference in April 2008 in Columbus. This provided opportunity to advertise for the coming workshops in May 2008. The second phase of the project included two workshops back-to-back on May 28th & 29th. The agenda was developed and speakers were secured. The power point presentations for the classroom sessions were completed and training manuals were produced.

Invitations to the workshops were sent via email and hard copy to all local health departments in the Lake Erie Watershed. The invitations were sent to all local health departments via the ODH list serve and posted on the ODH website. The Health District also mailed invitations to local installers, service providers and system designers. The attendance was limited to 50 participants each day. The invitation and agenda for the workshops are included in the Appendix to the report.

Representatives from Stream Key, Inc. and American Manufacturing assisted in the training for the field portions of the workshops. Training manuals and the videos were distributed to each participant. Three sets of those grant deliverables were included with this report. The workshop attendance reached the 50 person maximum capacity each day and included a mix of registered sanitarians from various health departments, installers and service providers throughout the Lake Erie watershed. The Ohio Lake Erie Commission Board of Directors were also invited but unfortunately could not attend due to scheduling conflicts.

Considerations & Lessons Learned

The Health District obtained ballpark estimates prior to application for the grant. Unfortunately there was insufficient time to develop the system plans before obtaining firm estimates. This led to an application for less than the maximum small grant amount of \$10,000. In hindsight the Health District should have applied for the maximum grant dollars to help defray the in kind costs to our department. This project was challenging and somewhat exciting. Our lack of knowledge on the methods used for video production resulted in underestimating the amount of time that would be needed by the project director. This project was successful partially because of the excellent working relationship that the Health District staff had previously established with our local and state officials, contractors and material suppliers. The support and contributions of the various people and organizations was a huge contribution to the project.

Enclosures

Please find enclosed three copies of the training manual with the video included inside the front pocket.

