

INNOVATION IN EXTENDING THE LIFE OF LANDFILLS

By R. Jerry Murphy, Ph.D., PE

Chastain-Skillman, Inc. has a U.S. patent pending application (No. 60/664,034) for integrating leachate recirculation and the collection of landfill gas while the landfill is under construction, rather than after it has been closed. The method was developed and applied at the Highlands County, Florida landfill. The purpose of recirculating leachate is to accelerate the degradation rate of the municipal solid waste (MSW) which enhances the rate at which the waste settles.

This provides an attendant increase in air space to accommodate additional MSW as the landfill is built. Concurrently, when not recirculating leachate, the same network used to distribute the leachate is used to collect landfill gas which evolves from the MSW degradation process. The design is based on the local hydrology, and the leachate distribution/gas collection system is configured to provide equalized flow of both phases of fluid. It has been estimated that the Highlands County landfill has saved in the order of \$1 million annually based on the additional volume of landfill space recovered.

Jerry Murphy, Ph.D., PE, is a Senior Engineering Consultant in Chastain-Skillman's Lakeland office. He has over 40 years experience in environmental engineering which includes 21 years in the U.S. Army and 23 years as a professor in environmental engineering. He has contributed over 40 technical papers in his field, is a Diplomat of the Academy of Environmental Engineers, and past president and member of the Board of Trustees' of the Institute of Professional Environmental Practice. He can be reached at (863) 646-1402 or jmurphy@chastainskillman.com.

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