

**New York State
Environmental Investment Program
Research Project Summary
Don's Welding Service Inc.**

Project Background

Don's Welding Service Inc. (DWS) located in Depew is a service orientated business specializing in custom welding projects and equipment fabrication in the construction, building and manufacturing sectors. GCS Radiant Inc. patented a radiant floor heating product which has experienced manufacturing problems. The GCS product consists of a recycled plastic tray that is filled with concrete, then screwed in place over Pex tubing; flooring is then laid over the heating panels to finish the job. GCS approached DWS about the possibility of developing a system to fill the trays and becoming the manufacturer of the GCS product.

Project Description

In order to fill the trays in a production system, a dosing mechanism needed to be designed and tested. DWS engaged AIC Consulting Engineers and Romano & Associates in this feasibility study with hopes of developing a prototype method to fill the trays and a mix design specific for the GCS product.

Project Results

The original concept of AIC was to fill the trays with a volumetric dosing method through a pumping and valve system. After experiencing difficulties in getting assistance with the specific concrete mix design needed, DWS abandoned this concept and fabricated a system that would work with any concrete mix design. A static filling method was devised, fabricated and tested. This system worked well but is in need of further testing in an actual production scenario.

A final mix design was developed by Romano & Associates that appears to meet GCS requirements. From a cost analysis, the price of glass powder will remain competitive to that of Portland cement, ultimately reducing the final cost of the product.

GCS sales have increased dramatically. Capital would be required to implement these results into an actual manufacturing facility to meet current demand. DWS has discussed a draft proposal with GCS to move forward with a manufacturing operation.

Contractor: Don's Welding Service Inc.
County: Erie
ESD Region: Western
ESD Contact: 518/292-5340

NYS EIP Investment: \$110,006.14
Contractor Match: \$ 33,462.50
Total: \$143,468.64
Completion Date: October, 2008