

QUARTERLY PROGRESS REPORT

December 1, 2015 to February 28, 2016

PROJECT TITLE: Use of Solid Waste in Asphalt and Concrete in Florida.

PRINCIPAL INVESTIGATOR(S): Timothy G. Townsend

AFFILIATION: Professor, University of Florida
Department of Environmental Engineering Sciences

CO-PRINCIPAL INVESTIGATOR(S): Chris Ferraro

AFFILIATION: Research Assistant Professor, University of Florida
Department of Civil and Costal Engineering Sciences

COMPLETION DATE: August 31, 2016

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PROJECT WEB SITE: <http://pages.ees.ufl.edu/townsend/research/hc15/>

Work accomplished during this reporting period:

Municipal Solid Waste Incineration Bottom Ash

Graduate students developed and executed a 7-day sampling event of two municipal solid waste incineration facilities (RDF and mass burn) in Florida. The goal of the sampling event was to collect representative composite samples of fresh bottom ash from each facility corresponding to one week of normal operation. Grab samples of freshly quenched bottom ash were collected at hourly intervals over the 7-day period and compiled at the end of the sampling event. Additionally, large front end loaders were used to collect daily samples of fresh bottom ash which were stockpiled onsite and left for monitoring of pH, as well as for additional sample collection for the duration of the project. The grab samples were transported back to UF for environmental characterization and analysis.

Work planned for the next reporting period:

Perform an environmental characterization of the two freshly sampled ash streams. Characterization will focus on the amount of inorganic species present in the bottom ash and their corresponding environmental leachability. Also, plan to assess the effect of natural weathering or “curing” of the stockpiled bottom ash as it pertains to trace metal stabilization and leaching reduction. Atmospheric carbonation of fresh bottom ash is assumed to reduce the natural pH of the bottom ash and reduce leachability of amphoteric species, especially lead.

Metrics:*Graduate Students*

Name	Rank	Department	Professor	Institution
Justin Roessler	PhD student	Environmental Engineering	Timothy Townsend	University of Florida
Linda Monroy Sarmiento	PhD student	Environmental Engineering	Timothy Townsend	University of Florida
Michael Hofmeister	Master's student	Environmental Engineering	Timothy Townsend	University of Florida
Matthew Schafer	Master's student	Environmental Engineering	Timothy Townsend	University of Florida
Stephen Townsend	Master's student	Environmental Engineering	Timothy Townsend	University of Florida

Undergraduate Students

Name	Rank	Department	Professor	Institution
Ryan Hundersmark	Undergraduate Research Assistant	Environmental Engineering	Timothy Townsend	University of Florida
Kyle Clavier	Undergraduate Research Assistant	Environmental Engineering	Timothy Townsend	University of Florida

TAG Meeting: The research team began preparation for the annual TAG meeting which is currently being scheduled for first week of April 2016.