QUARTERLY PROGRESS REPORT

July 1, 2019 to September 30, 2019

PROJECT TITLE: Looking Beyond Florida's 75% Recycling Goal: Development of a Methodology and Tool for Assessing Sustainable Materials Management Recycling Rates in Florida

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COMPLETION DATE: September 30, 2019 **PHONE NUMBER: 352-392-0846**

PROJECT WEB SITE: https://www.essie.ufl.edu/home/townsend/research/florida-solid-waste-issues/hc18/

Work accomplished during this reporting period:

Development of Environmental Lifecycle Assessment Impact Factors

Since most of the impact factors were estimated for most materials and their management types. In this quarter the impact factors were further refined to ensure that they were calculated accurately based on the standard set of assumptions used in each LCA model. The WRATE model was evaluated in this quarter and proved to be useful to the project in some respects. However, the model does not include as much flexibility in changing assumptions, which is necessary to ensure standardization across model runs, thus assumption changes were required and executed. Also, certain materials, such as construction and demolition debris, and durable goods (e.g., electronics, appliances, etc.) were estimated using assumptions and published literature and reports. In many cases for these material categories there were missing values associated with certain waste management methods.

As part of Task 2 we began collecting industry data from the stakeholder working group to be used in the creation of the social and economic impact factors, which intended to include jobs produced, total costs, and recyclability. However, based on the current data collected, the available data was limited and thus currently only jobs produced impact factors were developed.

Development of Workbook Tool

The workbook tool is designed to have multiple tabs designated for different purposes. The first tabs will provide users an introduction to the workbooks functionality and flexibility. Since there are a total of eight impact factors (i.e., global warming potential, energy use, acidification potential, eutrophication potential, human toxicity, ecotoxicity, water depletion, jobs produced) the workbook contains eight separate tabs that store the impact factor for the different waste management and materials. These impact factor values are dependent upon the user deciding in the introductory tabs which LCA model they prefer. In some cases, the models do not estimate all the impact categories evaluated in the study and so there will be no associated impact factor.

Metrics:

Name	Rank	Department	Professor	Institution
Malak Anshassi	PhD Student	Environmental Engineering	Dr. Townsend	University of Florida
Melissa Burdier	Graduate Student	Environmental Engineering	Dr. Townsend	University of Florida

Stakeholder Working Group Meeting: No meeting was planned during this reporting period, however, a meeting will be planned in October or November to finalize the inputs from the stakeholder working group for the final report and workbook tool.