Concrete Recycling in Egypt for Construction Applications: A Technical and Financial Feasibility Model

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Abstract : The construction industry is a very dynamic field. Every day new technologies and methods are developing to fasten the process and increase its efficiency. Hence, if a project uses fewer resources, it will be more efficient. This paper examines the recycling of concrete construction and demolition (C&D) waste to reuse it as aggregates in on-site applications for construction projects in Egypt and possibly in the Middle East. The study focuses on a stationary plant setting. The machinery set-up used in the plant is analyzed technically and financially. The findings are gathered and grouped to obtain a comprehensive cost-benefit financial model to demonstrate the feasibility of establishing and operating a concrete recycling plant. Furthermore, a detailed business plan including the time and hierarchy is proposed.

Keywords : construction wastes, recycling, sustainability, financial model, concrete recycling, concrete life cycle

Conference Title : ICCBE 2014 : International Conference on Civil and Building Engineering

Conference Location : Paris, France

Conference Dates : December 30-31, 2014