A Proposed Design of Sequencing Batch Reactor for the Domestic Wastewater of De La Salle University-Dasmariñas

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ABSTRACT

The purpose of this study is to present a design of a sequencing batch reactor that will be used as wastewater treatment facility of De La Salle University - Dasmariñas. The following buildings and canteens will be considered in this research: JFH, PCH, CIHM, COS, Aklatang Emilio Aguinaldo, Electronic Resources Services (ERS) and boys and girls dormitories, Square Canteen, Café Museo, University Chapel.

A sequencing batch reactor(SBR) is known for its space-saving features compared to other wastewater treatment facility of sewage. It has five phases, the Fill, React, Settle, Decant, and Idle. Grab sampling was used in the collection of wastewater samples. Physical and chemical compositions were determined using standard test method steps written in DAO No. 35 “Revised Effluent Regulations of 1990, Revising and Amending the Effluent Regulations of 1982”. These parameters dictated the processing time of each of the five phases.

The amount of total wastewater being generated by the said buildings was gathered using the total number of fixtures in all of the comfort rooms found in the buildings. The total volume of wastewater dictates the physical dimensions of the sequencing batch reactor.

Three sequencing batch reactors(SBR) were considered in order to take less space and also two out of the three SBRs were considered to be constructed underground due to the limited and prohibited space within the East Campus.

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