

ANALYSIS OF WASTE WATER RECYCLING IN BUILDING MINISTRY OF PUBLIC WORK

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ABSTRACT

DIKA DIKA LESTARI. Analysis of Waste Water Recycling System In Building Ministry of Public Works. Essay. Jakarta. S1 Study Program Building Engineering, Department of Civil Engineering, Faculty of Engineering, Universitas Negeri Jakarta. June 2016.

This study aims to determine wastewater recycling system Rotating Biological Contactor (RBC). How does the system work, the wastewater treatment procedure, the capacity of the treatment facility and the final result of processing water in Building Ministry of Public Works, will then be applied in the building of the Technical Department of Jati Baru. RBC's how the system works by using bacterial membrane to maintain the function outlines substances and odors in wastewater., So that the waste water does not smell and can be reused. In addition to RBC system has advantages of simple construction and operation process, the energy requirements are relatively smaller, it does not require large amounts of air, mud were relatively small compared with the activated sludge process, as well as relatively not cause foaming.

Rotating Biological Contactor (RBC) is a type of filter media that removes organic matter and ammonia from water. Media used in the form platter (disk) mounted spherical thin-lined rows in a shaft made of steel, then screened in a special reactor where it flowed in a continuous seecara wastewater. The media used consisted of a plastic sheet with a diameter of 1 to 3.6 meters, with a thickness of 0.8 millimeters. This material can be used in a way shaped wavy or curly and flat disk affixed between and attached to one trace module. The disc or plate attached to a steel shaft with a length of 8 meters. Multiple modules can be installed in series or parallel to get the level of quality of processed products is expected. The modules are rotated partially submerged in a state which is about 40% of the diameter of the disk. Approximately 95% of the entire surface of the media are alternately immersed into waste water, spin speed varies between 1-2 RPM.

From the analysis of waste water recycling system at the Ministry building public works, RBC systems can save water consumption by 56% and can reduce water pollution and the environment. RBC has processed water meets quality standards of waste water that has been set in the 2005 gubernatorial 122.

Keywords: Recycling of waste, Rotating Biological Contactor (RBC)