

## **ABSTRACT**

Rainwater is a very important source of water, especially in areas where there is no clean water supply system, low quality surface water and high groundwater retribution. In Indonesia, especially the DKI Jakarta area, is an area that has problems related to aspects of water resources, especially for drinking water needs and daily necessities. Many buildings find it difficult to get clean water so they build rainwater tanks to collect rainwater so that it can be used for clean water needs, however the rainwater that is collected is not necessarily suitable for use, especially in DKI Jakarta areas with high congestion levels. Rainwater that falls contains a lot of acid due to pollution of exhaust emissions from vehicles and industries containing Sox and NOx compounds. This condition requires efforts to increase the pH of the rainwater if it is used for daily needs. In this final project, the writer made an automatic system that controls the pH level of rainwater based on a microcontroller. When the pH is below the standard quality standard, the system will automatically turn on and add chemicals to raise the pH of rainwater so that it can be used for daily needs. The results of this study, can control the pH of the RWT mixing, so that it can control the pH of rain water that enters the RWT. This experiment also produced a formula to determine the volume of soda ash that needs to be added with a certain pump duration, especially at the Inkopkar Plaza 1 location. This system can also neutralize pH in RWT mixing tanks with a neutral quality standard range of 7.

Keywords: Rainwater, pH, Rainwater Tank