Thesis Title	Performance of a Two-stage Horizontal-flow Roughing Filtration for Algae Removal
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Candidate	Mr. Pongchakas Moongkhumklang
Supervisors	Asst. Prof. Dr. Dome Sittivate
	Asst. Prof. Dr. Chalermraj Wantawin
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Abstract

In this research, the Two-stage Horizontal-flow Roughing Filtrations (HRF) were studied in order to compare the algae removal by using the different media between PVC and large gravel, which their sizes were 9.5 – 22.6 mm. These experiments performed under flow velocities 0.3, 1.0 and 1.5 m/h, respectively. Influents of these experiments were pump form pond in KMUTT that had algae concentration between 26 and 253 µg/l all over the experiments. The results showed that the efficiency of two media was not quite different in all of flow velocities and these efficiencies were 84 and 74, 67 and 61, and 50 and 57 percent, respectively. The differences of these media were their porosity. Hence the HRF that packed with large gravel would clog faster than the one with PVC. This is because the porosity of PVC and large gravel were 59 and 44, respectively

The performance of a two-stage Horizontal-flow Roughing Filtration that performed under flow velocities, that mentioned above. This two-stage HRF was packed with PVC in the 1ststage and small gravel (2-8 mm.) in the 2ndstage. The test results showed that the algae removal efficiencies of two-stage HRF were 92, 79 and 74 percent, respectively.