

ABSTRAK

Nama : Wahyudi.

Program Studi : Teknik Lingkungan.

Judul : Perencanaan Sistem Instalasi Plambing Air Bersih, Air Limbah Domestik, *Sewage Treatment Plant* (STP) di Apartemen Menara Tower E Matoa Cibinong.

Pembimbing :

1. Dr. Eka Wardhani, S.T., M.T
2. Nico Halomoan, S.T.,M.T

Perkembangan pembangunan di Kabupaten Bogor dipengaruhi oleh pertumbuhan penduduk akibat urbanisasi. Jumlah penduduk Kabupaten Bogor diperkirakan mencapai 5,9 juta jiwa pada tahun 2021. pembangunan apartemen Menara Tower E Cibinong secara tidak langsung dapat meningkatkan kebutuhan air bersih yang berdampak peningkatan timbulan air limbah domestik. Meminimalisir permasalahan tersebut perlu adanya perencanaan sistem plambing air bersih dan air limbah domestik serta konsep *green building* yaitu dengan menggunakan poin WAC 2, dan WAC 3. Pemakaian air bersih akan dihemat dengan cara mendaur ulang air limbah *grey water*. Jumlah populasi penghuni apartemen Menara Cibinong Tower E sebesar 1.615 jiwa, dengan total kebutuhan air sebesar 185,65 m³/hari. sehingga total timbulan air buangan sebesar 148,52 m³/hari. Sistem pengolahan air limbah *grey water* menggunakan STP Bioasahi sehingga air dapat digunakan kembali sebesar 109,31 m³/hari. untuk *black water* menggunakan Tangki septik. Air bersih dan air hasil olahan disimpan pada *ground tank* lalu dialihkan ke *roof tank*. Alat plambing yang digunakan merupakan alat plambing hemat air dengan merk TOTO dapat menghemat air sebesar 52,64% Diameter Pipa air bersih dan air olahan sebesar 20-63mm dan untuk air limbah sebesar 50-110mm dengan biaya perencanaan sebesar Rp 34.885.167.342

Kata kunci :Sistem Plambing, Bangunan Hijau, Air Limbah, Air Daur ulang

ABSTRACT

Name : : Wahyudi.

Study Program : Environmental Engineering.

Title : Planning Of Plumbing System For Clean water and Domestic Wastwater Sewage Treatment Plant (STP) at Apartemen Menara Tower E Matoa Cibinong.

Consellor :

- 1. Dr. Eka Wardhani, S.T., M.T*
- 2. Nico Halomoan, S.T.,M.T*

The expansion of development in Bogor is affected by population growth due to urbanisation. The population in Bogor itself is estimated to reach 5,9 million people in 2021. Construction of Menara Tower E Cibinong Apartment indirectly could increase the needs of clean water which affected the increase of domestic waste water produced. To minimize the problem mentioned, a plumbing system plant for clean and domestic waste water with a green building concept using WAC 2 and WAC 3 point is needed. The use of clean water will be saved by recycling grey waste water. The population of Menara Cibinong Tower E is 1.615 people with total needs of clean water of 185,65 m³/day and total waste water produced in a day is 148,52 m³. For the grey waste water treatment system is using STP Bioasahi, therefore the water that can be reused is 109,31 m³/day, meanwhile for the black waste water treatment uses septic tank. The clean and treated water is stored in the ground tank, before it is redirected to a roof tank. For the plumbing tool used is a water-saving plumbing tool with the TOTO brand which can save up to 52,64% water. Pipe diameter for clean water and treated water is 20-63 mm and for waste water is 50-110 mm with a planning fee of Rp. 34.885.167.342.

Key word :Plumbing System, green building, Wastewater, Recycled water