

Analisa Tingkat Hunian Optimal Penggunaan Air Recycling Di Gedung MTH 27 Office Suites = Analysis of Optimum Occupancy Rate to Support Recycled Water Usage in MTH 27 Office Suites

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Abstrak

Di MTH 27 Office Suits, air hujan dialirkan melalui pipa air hujan dan saluran keliling menuju sumur-sumur resapan, overflow dari sumur resapan dialirkan menuju Raw Water Tank yang kemudian difilter dan dimasukkan ke dalam Ground Water Tank, air dari GWT ini kemudian dinaikkan ke Roof Tank Air Bersih dan dialirkan menuju outlet-outlet air bersih gedung. Air bekas dan air kotor sisa penggunaan dialirkan menuju Sewage Treatment Plant dimana hasil air Recycling ini kemudian dinaikkan menuju Roof Tank Air Recycling dan digunakan kembali untuk flushing di closet, urinoir, dan siram tanaman, siklus ini sesuai dengan prinsip zero run off.

Pada saat hujan besar, kadangkala air hujan tidak cukup tertampung di dalam RWT dan GWT yang memiliki kapasitas terbatas, jika terjadi demikian maka floating valve pada pipa RWT akan menutup dan air hujan langsung dibuang menuju saluran kota, kondisi surplus air ini tidak berdampak biaya.

Sebaliknya pada saat shortage air recycling, back up shortage air recycling menggunakan air bersih yang dipindahkan secara otomatis dari roof tank air bersih menuju roof tank air recycling, sehingga air PDAM tidak hanya digunakan untuk kebutuhan air bersih, tetapi juga digunakan untuk flushing dan siram tanaman manakala air hasil recycling tidak berhasil memenuhi kebutuhannya, kondisi ini berdampak pada timbulnya biaya tidak terencana. Diperlukan pengetahuan akan minimal tingkat hunian gedung untuk memastikan penggunaan sistem air recycling secara optimal.

.....In MTH 27 Office Suits, rainwater is channeled through rainwater pipes and circular canals to infiltration wells, overflows from infiltration wells are channeled to Raw Water Tank which is then filtered and put into Ground Water Tank, the water from GWT is then raised to the Clean Water Roof Tank and channeled to the building's clean water outlets. Used water eg. grey and black water are channeled to the Sewage Treatment Plant where the recycled water is then raised to the Recycled Water Roof Tank and reused for flushing in closets, urinals, and watering plants, this cycle is in accordance with the zero run off principle.

During heavy rains, sometimes the rainwater couldn't be accommodated in the RWT and GWT which have limited capacity, if this happens then the floating valve on the RWT pipe will close and rainwater will directly discharged into the city channel, this surplus water condition has no cost impact.

On the other hand, when there is a shortage of recycled water, the back up for such condition is that clean water automatically transferred from the Clean Water Roof Tank to the Recycled Water Roof Tank, so that PDAM water is not only used for clean water needs but is also used for flushing and watering plants when there is a shortage of recycled water, this condition has an impact on the emergence of unplanned costs.

Knowing of minimum building occupancy levels is required to ensure optimal use of water recycling systems.