

SUMMARY

Olda Fadhilah Rusardi Aprilia, Water Resources Engineering, Faculty of Engineering, University of Brawijaya, January 2018, Study Planning System Of Water Distribution Pipe Network With WaterCAD Software In Green Orchid Residence Malang, Lecturer: Dr.Eng. Tri Budi Prayogo, ST., MT. and Dr. Very Dermawan, ST., MT.

The water needs in public must be met in terms of both quantity and quality and guaranteed to be continuity. It is sometimes common and not matched by the ability of the service. Therefore, PDAM Malang planning of distribution network in Green Orchid Residence. Planning is done because there is a demand for new services in the area of the housing. Planning utilizing discharge from Wendit Spring and get water supply from the Mojolangu Reservoir.

In order to achieve optimal planning and development in the study area, then this study will be to evaluate the existing condition in terms of both spring, reservoirs, pumps, and the other components and perform simulations to see the existing hydraulic conditions in the existing network. This evaluation can be used as a reference for planning and development in the study area. Planning and development of clean water distribution network at the location of the study conducted with several alternatives and simulated using WaterCAD Software application.

Based on calculations and simulations using WaterCAD Software, has found that for evaluation using the discharge of the water resources of 600 liters/second velocity results, headloss gradient and the pressure in the pipe is predetermined design criteria. And the condition of the reservoir can still be used for planning a new networks in the study area. For the planning and development up to 2030, there are some things corrected and supplemented, for example, from the addition a new pumps and shifts the existing pump. This effect on service to customers in order to optimize and hopes in all areas underserved water needs evenly. The cost estimation to be incurred in the planning and development of water distribution network in 2030 amounted to Rp 974.403.900,-

Keywords: WaterCAD, water, pipe network, planning, cost estimation