

**ANALISIS KELAYAKAN DRAINASE KAWASAN PERUMAHAN
GARDENIA ARCAPADA PARK DI KELURAHAN CITRODIWANGSAN
KECAMATAN LUMAJANG KABUPATEN LUMAJANG**

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RINGKASAN

Analisis kelayakan drainase merupakan salah satu upaya untuk mengurangi terjadinya banjir. Terutama perumahan di kawasan kota padat penduduk yang kedepannya pembangunan terus berkembang dan akan mempengaruhi debit limpasan dan debit limbah. Sehingga dengan adanya penelitian lebih lanjut, diperlukan untuk mengetahui kelayakan drainase terhadap nilai debit banjir dalam jangka panjang. Pada penelitian ini, dilakukan analisis kelayakan drainase di kawasan perumahan Gardenia Arcapada Park di Kelurahan Citrodiwangsan, Kecamatan Lumajang, Kabupaten Lumajang dengan menghasilkan kesimpulan: (1) Hasil dari curah hujan rancangan kala ulang 100 tahun dengan metode distribusi *Log Pearson Type III* didapat angka sebesar 142,51 mm/hari. (2) Hasil dari analisis debit rencana yaitu; a). Hasil analisis debit banjir/limpasan metode rasional dengan menggunakan *software EPA SWMM 5.2* dan kala ulang 100 tahun adalah sebesar 1,221 m³/detik. b). Hasil analisis debit limbah yaitu sebesar 0,00078 m³/detik . c). Hasil debit rencana (debit banjir + debit limbah) yaitu 1,222 m³/detik. (3). Berdasarkan hasil analisis kelayakan drainase di kawasan perumahan Gardenia Arcapada Park, diketahui bahwa semua saluran statusnya aman atau layak, karena nilai debit penampang lebih besar dari debit rencana yang terjadi pada semua saluran. Maka tidak perlu merencanakan/mendesain lagi penampang yang lebih besar.

Kata Kunci: Drainase, Drainase Perumahan, Kelayakan Drainase.

***FEASIBILITY ANALYSIS OF DRAINAGE OF THE GARDENIA
ARCAPADA PARK RESIDENTIAL AREA IN CITRODIWANGSAN
VILLAGE, LUMAJANG DISTRICT, LUMAJANG DISTRICT***

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ABSTRACT

Drainage feasibility analysis is one of the efforts to reduce the occurrence of flooding. Especially housing in densely populated city areas where development will continue to grow in the future and will affect runoff and waste discharge. So with further research, it is necessary to determine the feasibility of drainage on flood discharge values in the long term. In this research, an analysis of the feasibility of drainage was carried out in the Gardenia Arcapada Park residential area in Citrodiwangsan Village, Lumajang District, Lumajang Regency, resulting in the following conclusions: (1) The results of the 100 year return period design rainfall using the Log Pearson Type III distribution method obtained a figure of 142.51 mm/day. (2) The results of the planned debit analysis are; a). The results of the rational method of flood discharge/runoff analysis using EPA SWMM 5.2 software and a return period of 100 years were 1,221 m³/second. b). The results of the waste discharge analysis were 0.00078 m³/second. c). The result of the planned discharge (flood discharge + waste discharge) is 1,222 m³/second. (3). Based on the results of the drainage feasibility analysis in the Gardenia Arcapada Park residential area, it is known that all channels are safe or feasible, because the cross-sectional discharge value is greater than the planned discharge that occurs in all channels. So there is no need to plan/design a larger cross-section.

Keywords: Drainage, Drainage Feasibility, Residential Drainage,