

**EVALUASI SISTEM DRAINASE DI RUAS JALAN RANCAEKEK –  
GARUT KECAMATAN RANCAEKEK KABUPATEN BANDUNG**

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**Abstrak**

Sistem drainase diruas jalan Rancaekek – Garut memiliki permasalahan ketika hujan terjadi salah satunya yaitu banjir. Permasalahan pada drainase di ruas jalan Rancaekek – Garut ±KM 25 – 26 adalah terdapat sampah, sedimentasi, dan vegetasi di tambah adanya pembangunan yang didirikan sembarangan menyebabkan kondisi saluran menyempit. Kondisi ini perlu dilakukan penelitian terhadap kapasitas saluran eksisting yang nantinya memberikan solusi untuk kapasitas saluran yang sesuai. Perencanaan analisis sistem drainase ini penting, mengingat lokasi penelitian merupakan jalan Nasional sehingga permasalahan yang ada dapat mengganggu aktivitas warga. Data primer didapat yaitu melakukan peninjauan langsung ke lokasi penelitian berupa kondisi saluran drainase, dan dimensi saluran drainase eksisting. Data sekunder diperoleh dari Balai Besar Wilayah Sungai Citarum berupa data curah hujan harian maksimum selama 12 tahun terakhir dari stasiun hujan Rancaekek. Metode perhitungan analisis curah hujan rencana menggunakan metode Log – Person III dan perhitungan intensitas hujan menggunakan metode Mononobe. Kemudian, untuk perhitungan debit rencana menggunakan metode Rasional. Setelah itu, dilakukan pemodelan menggunakan *software* EPA SWMM 5.1. Dari hasil analisis didapat bahwa kapasitas saluran drainae eksisting sudah tidak mampu menampung debit rencana, sehingga perlu dilakukan perencanaan ulang (*redesign*) terhadap dimensi, material saluran, dan juga kemiringan saluran, agar saluran tersebut mampu menampung debit air yang terjadi.

**Kata kunci:** Drainase, Banjir, SWMM.

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**EVALUATION OF DRAINAGE SYSTEM AT RANCAEKEK – GARUT  
STREET RANCAEKEK SUBDISTRICTS BANDUNG DISTRICTS**

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**ABSTRACT**

Drainage system on the Rancaekek – Garut street has problems related to rain, one of which is flooding. Problems with drainage on the Rancaekek - Garut ± KM 25 - 26 street section are garbage, sedimentation, and vegetation, plus the construction that is erected carelessly causes the channel conditions to narrow. The problem with drainage on the Rancaekek - Garut ± KM 25 - 26 street is that there is garbage, sedimentation, and vegetation, plus the construction that is erected carelessly causes the channel conditions to narrow. This condition needs to be researched on the existing channel capacity which will provide a solution for the appropriate channel capacity. Planning for drainage analysis is important because the research location is a national road so that existing problems can interfere with people's activities. Primary data is obtained by conducting a direct observation on the location of the study in the form of existing channel conditions, and channel dimension. Secondary data obtained from the Balai Besar Wilayah Sungai Citarum in the form of maximum daily rainfall data from the Rancaekek rain station. The method of calculating the planned rainfall analysis uses the Log – Person III method and the calculation of rain intensity using the Mononobe method. Then, for the calculation of discharge plans using Rational methods. After that, modeling is using EPA SWMM 5.1 software. From the results of the analysis it was found that the channel capacity was not able to accommodate the planned discharge, so it was necessary to redesign the dimensions, channel material, and also the slope of the channel, so that the channel was able to accommodate the water discharge that occurred.

**Keywords: Drainage, Flood, SWMM.**

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