

**EFISIENSI ALAT BERAT PADA PEKERJAAN TANAH
JALAN BEBAS HAMBATAN
(Studi Kasus *Main Road* Tol Cisumdawu STA 4+375 – STA 8+450)**

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ABSTRAK

Tol Cisumdawu merupakan jalan bebas hambatan dengan total panjang \pm 60 km, dengan kecepatan rencana 80 km/jam yang akan melewati Cileunyi, Tanjung Sari, Sumedang, Cimalaka, Legok, Ujung Jaya dan Kertajati. Jalan Tol Cisumdawu terdiri enam seksi (*section*). Tugas akhir ini meninjau pekerjaan tanah pada *section I phase III main road* ruas jalan Cilenyi – Tanjung Sari STA 4+375 hingga STA 8+450.

Analisis efisiensi alat berat yang dilakukan yaitu dengan menganalisis aspek volume pekerjaan tanah, produktifitas, biaya operasi & perawatan, biaya satuan pekerjaan alat berat, analisis kombinasi alat berat, analisis waktu dan biaya, serta analisis efisiensi dari perhitungan yang didapat dengan realisasi di lapangan.

Hasil analisis ini menghasilkan kombinasi dan produktifitas alat berat, dengan total biaya pekerjaan Rp 59.522.613.776,00- dan total waktu pengerjaan 865 hari kerja dengan durasi kerja 8 jam/hari pada kombinasi *eksisting*. Untuk kombinasi alternatif menghasilkan total biaya pekerjaan Rp 52.282.534.393,00- dan total waktu pekerjaan 275 hari kerja dengan durasi kerja 16 jam/hari. Serta memberikan metode pengerjaan dan *time schedule* untuk kombinasi alternatif.

Kata kunci : Alat Berat, Pekerjaan Tanah, Produktivitas, Efisiensi, Jalan Tol

HEAVY EQUIPMENT PRODUCTIVITY IN EARTWORK FREEWAY

(Case Study Main Road Cisumdawu Road STA 4+375 – STA 8+450)

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ABSTRACT

The Cisumdawu toll road is a freeway with total length of $60 \pm$ km, with a design speed of 80 km/hour which will pass through Cilenyi, Tanjung Sari, Sumedang, Cimalaka, Legok, Ujung Jaya and Kertajati. The Cisumdawu toll road consists of six section. The final project review earthworks in section I phase III of the main road section of the Cilenyi – Tanjung Sari road STA 4+375 to STA 8+450.

The efficiency analysis of heavy equipment is carried out by analyzing aspects of earthwork volume, productivity, operating & maintenance cost, unit costs of heavy equipment work, analysis of heavy equipment combinations, analysis time and cost, as well as efficiency analysis from calculations obtained with realization in the field.

The results of this analysis resulted in the combination and productivity of heavy equipment, with a total work cost of Rp 59.522.613.776,00- and total processing time of 865 working days with work duration of 8 hours/day on the existing combination. For the alternative combination, the total cost of work is Rp 52.282.534.393,00- and total work time is 275 working days with a work duration of 16 hours/day. As well as providing work methods and time schedules for alternative combinations

Keyword : Heavy Equipment, Earthworks, Productivity, Efficiency, Toll Road