PENGARUH BENTUK *BUFFLE BLOCK* TERHADAP REDAMAN ENERGI PADA MERCU TIPE *OGEE*

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ABSTRAK

Untuk meredam gerusan di hilir *stilling basin*, maka di pasang *Buffle Block* pada kolam olak. Untuk tujuan ini diperlukan penelitian pada bendung dengan mercu tipe *ogee* dan untuk menguji efektifitas *Buffle Block* dalam mereduksi energi aliran, panjang loncatan, yang paling efektif dan ekonomis sebagai redaman energi. Penelitian dilanjutkan dengan metode eksperimen, dengan berbagai variasi debit dan pada *Buffle Block*. Penelitian ini dilakukan di Laboratorium menggunakan model mercu tipe ogee. Kategori loncatan hidrolik yang dihasilkan berupa *oscillating jump, steady jump, dan weak jump.* Nilai *froude* yang terjadi di hilir sebelum menggunakan *Buffle Block* lebih besar dibandingkan setelah menggunkan peredam energi *Buffle Block*. Terjadi redaman loncatan hidrolik setelah menggunakan *Buffle Block* rata-rata sebesar 54,41%. Terjadi pengurangan panjang gerusan (Lmaks) rata-rata sebesar 69,67% dan kedalaman gerusan (ds) rata-rata sebesar 81,31%. Berdasarkan perhitungan efektifitas model bahwa desain peredam energi *Buffle Block* tipe Z (run 4) paling efektif sebagai peredam energi, dan diperuntukan untuk mengurangi *local scouring.*

Kata Kunci : *Buffle Block*, Redaman Energi, Loncatan Hidrolik

INFLUENCE OF FORM OF *BUFFLE BLOCK* AGAINST ENERGY AMBASSION IN THE MERCU *OGEE* TYPE

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ABSTRACT

To reduce scouring down the stilling basin, Buffle Block was installed in the oak pond. For this purpose research is needed on ogee-type weir dams and to test the effectiveness of Buffle Block in reducing energy flow, stepping length, which is the most effective and economical as energy attenuation. The study continued with the experimental method, with various variations of discharge and on Buffle Block. This research was conducted at the Laboratory using the ogee type mercury model. The hydraulic jumping categories produced were oscillating jumps, steady jumps and weak jumps. The froude value that occurs downstream before using the Buffle Block is greater than after using the Buffle Block energy damper. There was a hydraulic jump attenuation after using Buffle Block on average 54.41%. There was a reduction in the scour length (Lmaks) averaging 69.67% and scour depth (ds) averaging 81.31%. Based on the calculation of the effectiveness of the model that the Buffle Block type Z (run 4) energy reducer design is most effective as an energy reducer, it is intended to reduce local scouring.

Keywords: Buffle Block, Energy Damping, Hydraulic Jump