

## **Studi Perancangan *Stone Crushing Plant* di PT Cahaya Baru Madani, Desa Giriasi Kecamatan Batujajar, Kabupaten Bandung Barat Provinsi Jawa Barat**

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**Abstract.** Sustainable development is inseparable from the rock material used, one of which is rock excavation material in the form of andesite. PT Cahaya Baru Madani will design a crushing plant located in Giriasih Village, Batujajar District, West Bandung Regency, West Java Province. The area of land acquisition that will be carried out is 3,935 m<sup>2</sup> and the land that will be used for the crushing plant unit is 2,697 m<sup>2</sup>. The processing activities of andesite rock excavation at the PT Cahaya Baru Madani crushing plant unit consisted of four stages, namely feeding using a grizzly feeder, primary crushing using a jaw crusher, secondary crushing using a cone crusher and sizing using a vibrating screen. The crushing plant unit is also assisted by supporting tools namely hooper and belt conveyor. The assumed effective time at the crushing plant is 4,5 hours with a job efficiency of 75%. Feeds coming from mining companies are 600 tons/day. The type and condition of the base material cannot be determined because the results of the mining blasting were not carried out directly by PT Cahaya Baru Madani. The final product is divided into 4 types namely split 1 (3+2 cm), split 2 (-2 +1 cm), split 3 (-1+0,5 cm) and stone ash (-0,5 cm) with a total production of 110,11 tons / hour. The machine used in the crushing plant unit are one hopper with a capacity of 58,875 m<sup>3</sup>, 1 unit of GZD-850 grizzly feeder, 1 unit of 600x900 jaw crusher, 1 unit PYB1200 cone crusher, 1 unit of 3YZS1548, vibrating screen and 7 unit of belt conveyor

**Keywords :** **Crushing Plant, Production, Jaw Crusher, Cone Crusher, Vibrating Screen.**

**Abstrak,** Pembangunan berkelanjutan tidak terlepas dari adanya material batuan yang digunakan, salah satunya yaitu bahan galian batuan berupa batu andesit. PT Cahaya Baru Madani akan melakukan perancangan crushing plant yang terletak di Desa Giriasih, Kecamatan Batujajar, Kabupaten Bandung Barat, Provinsi Jawa Barat. Luas pembebasan lahan yang akan dilakukan yaitu sebesar 3.935 m<sup>2</sup> dan lahan yang akan digunakan untuk unit crushing plant adalah sebesar 2.697 m<sup>2</sup>. Kegiatan pengolahan batu andesit pada unit crushing plant PT Cahaya Baru Madani terdiri dari empat tahapan yaitu pengumpanan menggunakan grizzly feeder, primary crushing dengan menggunakan jaw crusher, secondary crushing dengan menggunakan cone crusher dan sizing menggunakan vibrating screen. Unit crushing plant juga dibantu oleh alat penunjang yaitu hooper dan belt conveyor. Waktu efektif yang diasumsikan pada crushing plant yaitu sebanyak 4,5 jam dengan