

**DESIGNING THE TECHNICAL RECLAMATION OF SAND AND
STONE MINING (SIRTU) IN NGARGONTONTRO HAMLET,
SUMBER VILLAGE, DUKUN DISTRICT, MAGELANG REGENCY,
PROVINCE CENTRAL JAVA**

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ABSTRACT

This study was conducted in Ngargontontro Hamlet, Sumber Villager, Dukun District, Magelang Regency. The location of this study was the area of sand and stone mining owned by private property with the open mining system in the form of a basin. This study was aimed to know the geographical condition of the land of sand and stone mining resulted by the mining activities, and to design the appropriate technical reclamation.

The methods used in the study were mapping method, survey method, laboratory analysis method, and evaluation method. The parameters used in the research of geographical condition of the land of sand and stone mining were excavation edge measurements, excavation baseline measurements, excavation slope measurement, excavation wall height measurements, measurement of excavation of excavated materials, and road conditions. Furthermore, the parameters were evaluated to be able to design the appropriate reclamation plan with the land allotment in accordance with the Magelang District Spatial Plan.

*Based on the results of the measurement and the observation, and the results of the analysis and evaluation showed that excavation edge parameter which is >5 meter far from the ownership classified as a good field, excavation baseline parameter classified as a damaged land with average value > 1m, excavation slope measurement had average value 76° >50% and classified as a damaged land, excavation wall height parameter had average value 7,74 meter, that value is more than > 4 meter and classified as a damaged land, about excavation of excavated materials parameter showed the result >20% tonase and classified as a damaged land, and the last parameter that is road condition showed spread the holes is more than 30% and classified as a damaged land. The reclamation technique proposed was making a bench terrace with drainage making. The method of planting chosen was the planting pattern of monoculture cultivation using a pot system. The plants chosen were sengon (*Albizia chinensis*) as a pioneer plant and vetiver as a cover crop.*

Keywords: Land Damage, Sand and Stone Mining, Reclamation