

## **ABSTRACT**

### **THE INFLUENCE OF CLAY SOIL DEGREE OF SATURATION TO SOIL CONSOLIDATION BEHAVIOR**

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*Clay soil is a cohesive soil type with less favorable characteristic in civil engineering construction, such as soil consolidation. It occurs when the clay soil receives load on it, its pore water tension will increase and this causes reduced soil volume. Significant soil consolidation will occur and it influences soil support ability to support load above it. One of factors influencing soil load support is degree of saturation the comparison between water volume and pre volume of soil. Increasing water amount contained in a certain soil will increase soil volume, but soil compactness will decrease. Therefore, a test of soil degree of saturation influence to soil consolidation behavior is required.*

*To find out the extent degree of saturation influence to soil consolidation behavior, it can be proven in laboratory by making variance degree of saturation with conducting test of standard compaction, and then sample is molded and tested for consolidation by applying load on the soil sample. The objectives of load applying on the sample are to find out how fast the consolidation occurs and magnitude of consolidation in each sample.*

*The test result showed that the best sample is the one with fastest consolidation process and the smallest consolidation magnitude is in sample with lowest degree of saturation. Fast consolidation process is favorable because soil will be faster obtaining stable condition, and smallest consolidation magnitude is favorable because compaction process of a soil type is smaller so that it minimizing risk of damage of construction above its surface.*

**Keywords:** Clay Soil, Degree of Saturation, Soil Consolidation