

ABSTRACT

There are lots of high rise building project in Indonesia. Lately the development area is approaching to the near shore area. Building design in that area needs special attention. Settlement phenomenon in high rise building are normal. If unpredictable differential settlement happens, it is a big problem. One of retrofitting method is box matt wall. This method is applied for the first time in Indonesia.

The purpose of this research is to study the cause of unpredictable differential settlement and evaluate box matt wall methods. Data in this study are obtained directly from the observation at the site.

There maybe some mistake in foundation design, because there are lacks of soil investigation data. Unpredictable differential settlement happens because foundation punching effect. Rate of settlement at June 2016 to January 2017 decrease 50% compared to rate of settlement at December 2013 to May 2014. Correlation number between rate of settlement and progress is 0.138, it means that retrofitting method use box matt wall method is not effective, because method of repairmen should be applied to the soil not applied to the foundation structure.

Keywords: differential settlement, design, retrofitting, box matt wall