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ESTIMATION FOR PILES BEARING CAPACITY IN LITHUANIAN SOILS

SUMMARY

In this work such tasks are analyzed:

1. Review of up-to-date pile bearing capacity estimation methods;

2. Lithuanian quaternary sediments as the base for pile foundation;

3. The creation of physical model of the vibromonolithic pile and foundation interaction while in the I marginal state.

For the solution of the first task, the calculation methodology of the pile bearing capacity of the European countries' was briefly analyzed, and it can be divided into three groups:

> » calculation according to the data received during pile testing;

> » calculation according to the data received during laboratory analysis;

> » calculation using the data of the various probing completed in-situ.

For the solution of the second task, the map of the pile base bearing capacity average values was designed (M 1:1500 000). This map is designed according to the chosen pile model and calculation methodology (EN 1997-3).

For the solution of the third task the five outdoor tests were performed and the some of the up-to-date soil and pile ratio models were analyzed.

The main conclusions would be:

1. The pile bearing capacity calculation methods are different in various countries, because of the individual geological conditions and because of the subjectivity of the researchers (engineers). Due to the method discrepancy, final calculation results for the same pile are different;

2. The biggest part of the Lithuanian territory consists of the average strength and firm soils as a pile foundations;

3. According to the designed hypothetical soil and pile interaction physical model, the distribution of the deformations is close to the parabola; therefore the influence range of the deformations can be calculated according to the quadratic function.