2. Study on Performance Evaluation Technique of Ground Improvement - Examination for Applicability of Water Leakage Detection by Resistivity Tomography -

Tomoaki Shimizu, Kazutoshi Imaizumi

The method for detecting the water-leaking path in improved ground has been studied, because the establishment of the technique, which can accurately evaluate water-impervious performance of the improved ground by chemical grouting, is expected for improvement of reliability and cost reduction. In this study, we noticed that the electrical resistivity tomography is sensitive to ground water, and devised the detection of water leakage position using the method. As a concrete procedure of this method, the electroconductive tracer is made to diffuse through the water-leaking path, and the resistivity change in the ground is monitored.

For verifying the applicability of devised method, the experiment to detect the water leakage position was carried out using imitated improved ground constructed in the ground actually. As a result of the experiment, the validity of the principle of this method was confirmed.

Key words : resistivity change monitoring, tracer, chemical grouting