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Geophysical methods in recognition of the state of hydroinsulation barriers. Case study of the Vistula river levees

Abstract

The paper presents methodology of evaluation of the technical state of embankments using a complex geophysical methods. For imaging of embankment corpus and its substrate integrated inversion of independent geophysical datasets was made. In framework of performed work the method of analysis of embankment body enhanced by hydroinsulation barriers was developed.

The analyzed part of levee was enhanced by two types of hydroinsulation barriers. The first type was a Deep Soil Mixing (DSM) barrier and the second one was Vibro Injcted Thin Wall (WIPS - in polish: „*Wibracyjnie Iniekowana Przesłona Szczelinowa*") barrier. Presented in this paper fast geophysical methods allow to avoid the dangers related to the proper sealing of levees and designed depth of the base of hydroisulation barrier.

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