

Conventional Evaluation Method for Railway Embankment Settlement due to Damage and Water Infiltration to Small-diameter Pipe Under Track

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Small-diameter pipes installed in railway embankments are often affected by seepage water when they are damaged, which causes soil outflow and leads to track settlement and cave-ins. In this study, we investigated pillars buried in railway embankments and conducted model experiments to understand the decrease in ground reaction force around the pipes. We also developed a numerical analysis method that takes into account the decrease in ground reaction force and calculated the degree of impact of pipe damage caused by seepage water on track settlement. The results are illustrated in a chart that classified the magnitude of the impact.