

**Verification Analysis Considered the Effect of Rainfall of the Railway
Embankment Seriously Damaged in the Mid Niigata Prefecture Earthquake**

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During the Mid Niigata Prefecture Earthquake, many railway embankments were seriously damaged. This is mainly due to reduction of the strength of backfill soil of embankments caused by the increased precipitation from heavy rainfalls of a typhoon prior to the foregoing earthquake. To evaluate the adverse effects of the rainfall and earthquake on the collapsed embankments, the authors conducted an infiltration analysis, dynamic analysis, and seismic residual deformation analysis using Newmark's sliding block method. This paper describes the outline of the collapsed embankment and the results of verification analysis.