

## 14. Study on the Density and Composition of Disaster Waste of 2011 East Japan Earthquake

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The treatment of a large amount of disaster waste produced during the Great East Japan Earthquake poses different problems from ordinary waste treatment or the treatment of existing disaster waste as described below. (1) The damage was caused mainly by tsunami and varieties of flammable and inflammable materials including sand were mixed in the waste. (2) Areas in a wide coastal region were damaged and the treatment of large amounts of waste was required in each affected area. (3) Crushing and separating the waste in the temporary yards in affected area were required in order to make a maximum use of existing waste treatment facilities including ordinary waste incineration facilities.

The disaster waste crushing and separation work that Okumura Corporation has been implementing in Yamada Town, Shimohei-gun, Iwate Prefecture at the request of the prefectural government involves large numbers of workers, heavy machines and transport vehicles for crushing and separating the disaster waste at the site and transporting it to treatment facilities. For efficient management of the work, a “disaster waste treatment integrated management system” was developed and data is being accumulated on disaster waste treatment in the course of the work.

This study focuses on the density and composition of disaster waste, the key factors for implementing disaster waste treatment plans, and presents the results of disaster treatment in existing disasters. The results were also compared with the data obtained in the Yamada district using the integrated management system. As a result, the characteristics of density and composition of disaster waste during the Great East Japan Earthquake were partly identified at the time when the disaster waste was collected or discharged.

**Key words:** disaster waste, integrated management systems, waste treatment, density, composition