

Technology Award

The Kanchpur, Meghna, and Gumti New Bridge Construction and Old Bridge Renovation Project

Road Transport and Highways Division/Bridges Division, Ministry of Road Transport and Bridges, People's Republic of Bangladesh, Oriental Consultants Global Co., Ltd., Japan Bridge & Structural Institute, Inc., Katahira & Engineers International, Nippon Engineering Consultants Co., Ltd., SMEC International, Obayashi Corporation, Shimizu Corporation, JFE Engineering Corporation, IHI Infrastructure Systems Co., Ltd.

Reason for the Award

The objective of the Kanchpur, Meghna, and Gumti New Bridge Construction and Old Bridge Renovation Project was to relieve traffic congestion and provide for the future increase in traffic on National Highway 1 between Dacca, the capital city of the People's Republic of Bangladesh, and the important port city Chittagong, the second city of Bangladesh, by repair and strengthening of the existing bridge, and constructing a new bridge in parallel with the existing bridge. Scouring is a serious problem on the rivers of Bangladesh during the flooding season, and the existing bridge piers have already been affected. Also, at the time of commencement of construction the traffic congestion was quite severe, so it was necessary to construct the new bridge nearby in the shortest time possible while maintaining the traffic on the existing road. In order to proceed with the construction under these circumstances, the steel tubular cofferdam well foundation method was adopted for the substructure and integrated with the existing bridge foundations, which solved the scouring problem including the existing bridge. For the superstructure, the steel narrow box girder, composite deck slab, and launching erection methods were adopted to minimize work on site. In this way it was possible to complete the work in a short period of time, and increase the durability of the deck slab, thereby reducing the maintenance cost required in the future. Also, the existing bridge was a hinged PC moment-resisting bridge, so the hinges and expansion and contraction devices were removed and the PC external cables were made continuous, so maintenance is reduced and the long-term durability is increased. Therefore this project was highly evaluated for the introduction and transfer to Bangladesh of many Japanese construction technologies, greatly contributing to the development of civil engineering technology and the development of society in Bangladesh, and it has been recognized as worthy of the Technology Award.