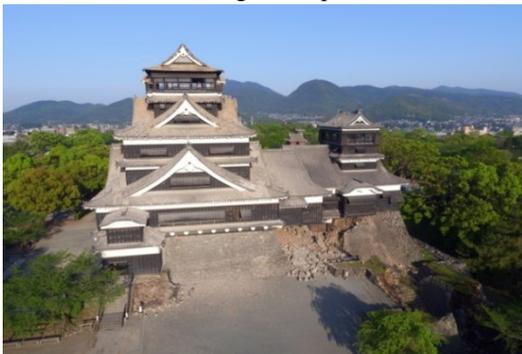




The earthquake damage and restoration of Kumamoto Castle

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The earthquakes of 7 on the Japanese seismic intensity scale have struck Kumamoto City on April 14th and 16th 2016. Kumamoto Castle has suffered serious damage. Stone masonry walls designated as a Special Historic Site by the Japanese Government have partially collapsed by the earthquake. Out of a total of 973 planes (approximately 79,000 m²) of stone masonry walls, 229 planes (approximately 8,200 m²) have fallen off, which is mainly caused by the failure of *Tsuki-ishi* that are stones to construct stone masonry walls. Approximately 30 % of the total stone wall area (517 planes, approximately 23,600 m²) needs to be re-laid due to the looseness and swelling of the wall. Apart from the damage to the stone masonry walls, many depressions and cracks were found in the ground, all 13 buildings that were designated as Important Cultural Property by the Government have been damaged and turrets called “*Kita-juhachiken Turret*” and “*Higashi-juhachiken Turret*” were destroyed when the stone walls fell down. As for “*Uto Turret*” which is the only multi-storied turret in the designated Important Cultural Property, “*Tsudoku Turret*” has collapsed while the fifth story turret has survived. With respect to the restored turrets such as a castle tower, all 20 of them were damaged and stone masonry walls under some buildings have partially fallen, which caused to increase the risk of building collapse. For example, “*Iidamaru five-story Turret*” is one of such examples. However it was fortunate that the earthquakes happened during the nighttime so that there were no casualties. Currently we are conducting the collection of the fallen stones and the materials from the damaged Important Cultural Property buildings which landed on the roads and private lands, the prevention of building collapse, and the execution of countermeasure against rainwater for crack points on the ground and so on. Furthermore, we are undertaking a construction work to secure bypasses which is required for a full-scale restoration work in the future. And also, we will develop a basic plan for the restoration of Kumamoto Castle by March 2018 and proceed with the restoration work according to the plan.



Photos of Kumamoto Castle damaged by 2016 Kumamoto Earthquake