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September 25, 2019

Attention: Professor Francis T.K. Au
Head of Department
Department of Civil Engineering,
The University of Hong Kong,
Pokfulam Road, Hong Kong

Dear Professor Au,

The PRC coupling beam research and design concepts developed by Dr. Ray Su and his team have been used by our company as a resource for more than a decade in the design and construction of such projects as Tsubaki Tower Hotel currently under construction in Guam, the Diamond Head Tower of The Ritz-Carlton Residences Waikiki Beach that opened in October 2018, Pacifica Honolulu that opened in 2011, and Trump International Hotel Waikiki that opened in 2009, as well as a number of other projects.

Some of the sites where we build are subject to extremely high seismic and typhoon forces. We have used PRC link beams primarily because they enable us to meet US codes for shear strength without adding structural depth. Specifically, they enhance the shear strength of shallow (low depth) links in high-rise buildings, so the structural depth of each floor system can be compressed to fit as many floors as possible into our allotted height.

We have also found that PRC coupling beams have advantages over other types of coupling beams. We could use wide flange links but those make it difficult to place concrete around the steel section and consolidate everything well. They also increase link flexural capacity a lot more than plates, which runs counter to capacity design philosophy in high seismic regions. In the case of steel fibre-reinforced links, the research has focused on eliminating high seismic detailing requirements rather than enhancing shear capacity above the current code limit.

Given all those factors, PRC coupling beams, which have been backed up by Dr. Su's research, have continued to be a useful application in our projects.

Sincerely,

Steven M. Baldrige, P.E., S.E., LEED AP
President