

Executive Summary

The New Acute Care Hospital and Skilled Nursing Facility is an addition to the existing Chinese Hospital complex located in San Francisco, CA. The 7 story structure has been designed using a concrete slab on steel framing with a special moment frame lateral system.

In Technical Report 3, seismic loads were found to be the controlling load condition for both strength and serviceability. Since structures tend to deform beyond their elastic limits during major seismic events, fluid viscous dampers (FVD) will be investigated to determine a configuration which will be most efficient at absorbing and dissipating transient forces. The four configurations which will be studied are

- FVDs on diagonal braces
- FVDs on diagonals of concentric chevrons
- FVDs located horizontally on concentric chevrons
- FVDs incorporated into a toggle brace damper system.

Once the FVD configuration which best limits drift and flexural rotation of connections has been determined, the existing lateral system members will be redesigned using smaller sections where appropriate.

In addition to this structural depth, two non-structural breadths will be undertaken. A cost and schedule analysis will be used to compare the effect of the FVD design to the original design in terms of time and economy. An architectural breadth will be undertaken to investigate the effects (both to the exterior façade and to interior rooms) of adding braces with FVDs to selected moment frames throughout the structure.