Dunning
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Comments on Sesoc Practice Note

Design of Conventional Structural Systems Following the Canterbury Earthquakes

2.2 Design Approach
In our view the current Loadings and Materials Codes were conceived to provide protection to life. It is a significant shift in philosophy to move to damage avoidance by using stiff structures. Protection of property should be an issue directly addressed with the Building Owner not prescribed by Code.

2.4 Rather than have a limit on percentage contributions to torsional resistance it would be better to ensure the torsional system is not inelastic at the overstrength of the elements taking direct shear.

3.4 We believe more emphasis on displacement compatibility of adjacent elements is required.

3.7 Recommend strain checks on wall reinforcement is mandatory.

3.10 We recommend consideration is given to horizontal and vertical displacement compatibility at wall ends with adjacent structure.

4.1 Frame Ductility
We consider it uneconomic to design frames for low ductilites such as μ = 1.25. Higher ductilities should be acceptable provided the designer addresses issues of frame elongation etc. The proposed changes seem to reflect a move to damage avoidance design.

4.3 Recommend frame elongation issues apply to all precast floor system.

5.1 See comments to 4.1 above.

5.4 In our view composite beam and precast flooring should be allowed as long as shrinkage effects etc are designed for.

6.1 Ductile EBF's
We believe bolted in replaceable active links are probably no more easier to replace then "welded in" repairs.

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8. We note that precast flooring systems will not perform as well as steel deck or insitu floors unless detailed with extreme care.

8.1 Effects of seating rotation, shrinkage cracks parallel to units need to be considered. Recommend requirements for saddle bars and starters.

8.3 Recommend starters to beams to lap with units and reinforcement transverse across units.

8.4 Armoured units may be required for deep or longspan floor units.

9.2 The minimum topping should apply perpendicular to the unit span. There is a need for long starters and saddle bars.

12.2 Geotechnical strength reduction factors require further debate.

16.2 Also need to consider period stiffening effects of heavily facaded structures with extensive sealant based joints.

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