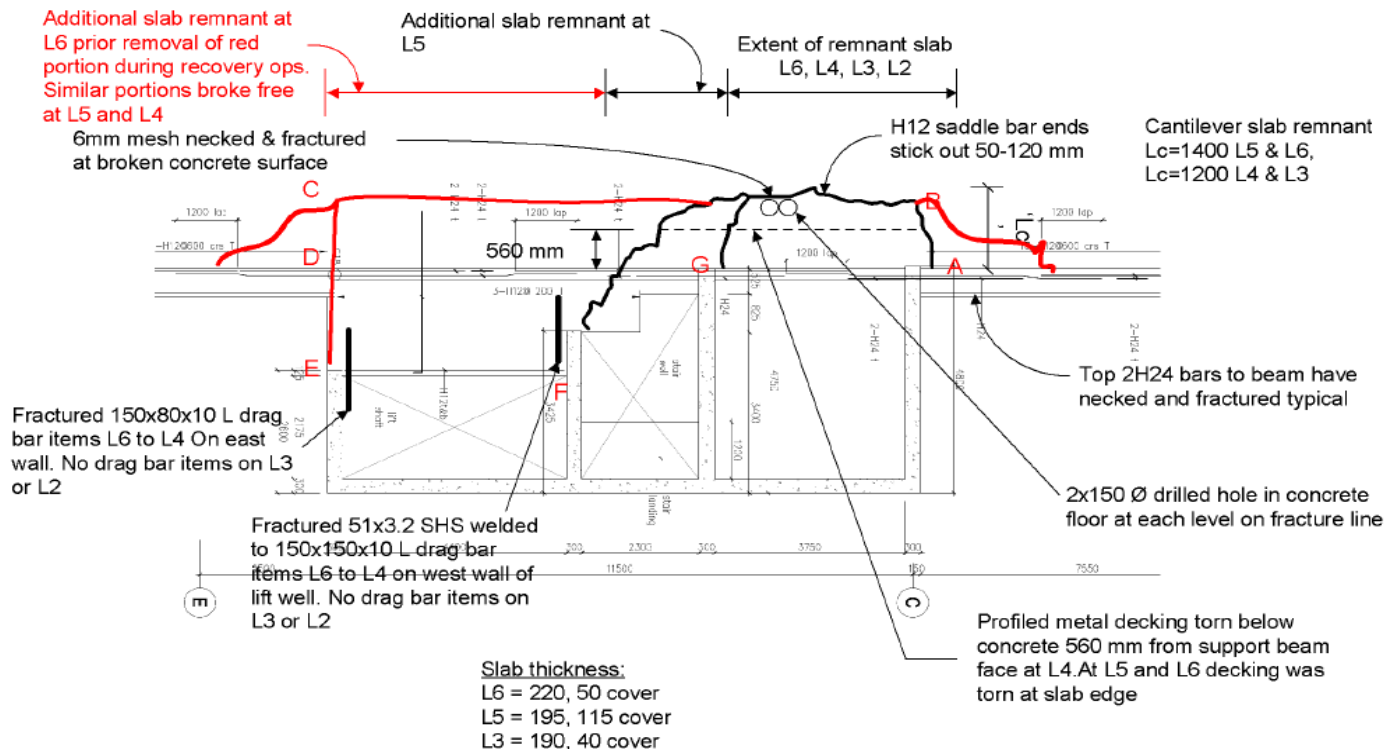


Additional thoughts

Additional thoughts since presentation was prepared

- I want to emphasize that the report discussion of the diaphragm tension failure planes shown below is strong: That is, on the upper floors, that the tension failure plane observed in the field is not the weakest and therefore not likely. However, this does not rule out partial disconnection.



Additional thoughts since presentation was prepared

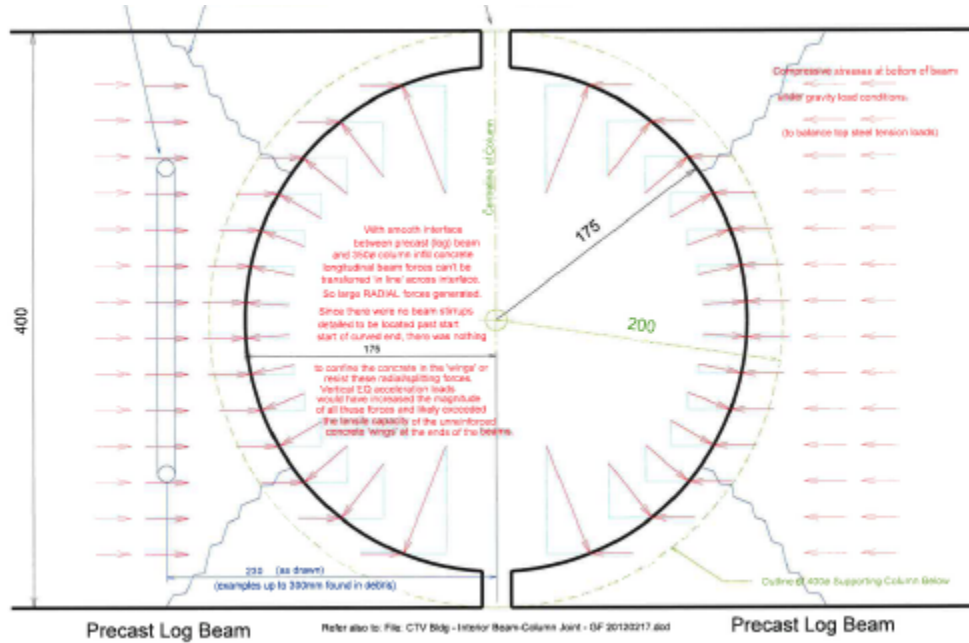
- There has still been very little discussion about the light damage observed in the North Tower. Could the drifts proposed to cause failure in some columns occurred without causing damage to the tower (without disconnection)? 1%-1.5% story drift (which affected columns) is large for the NS oriented walls of the tower.

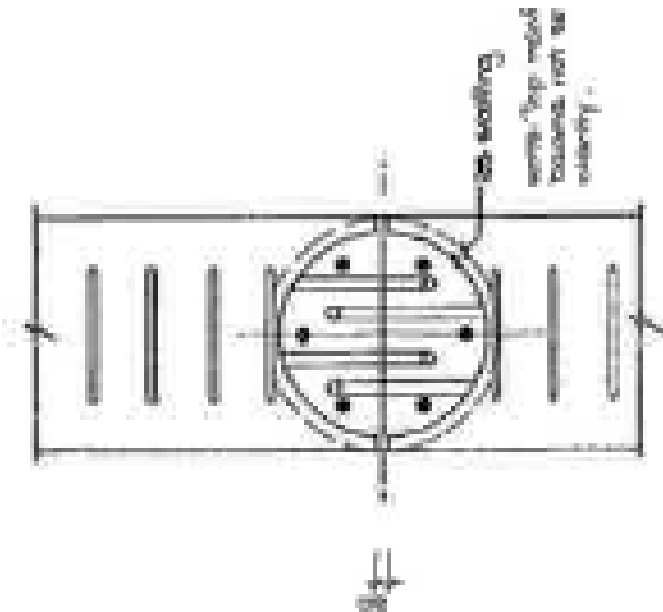
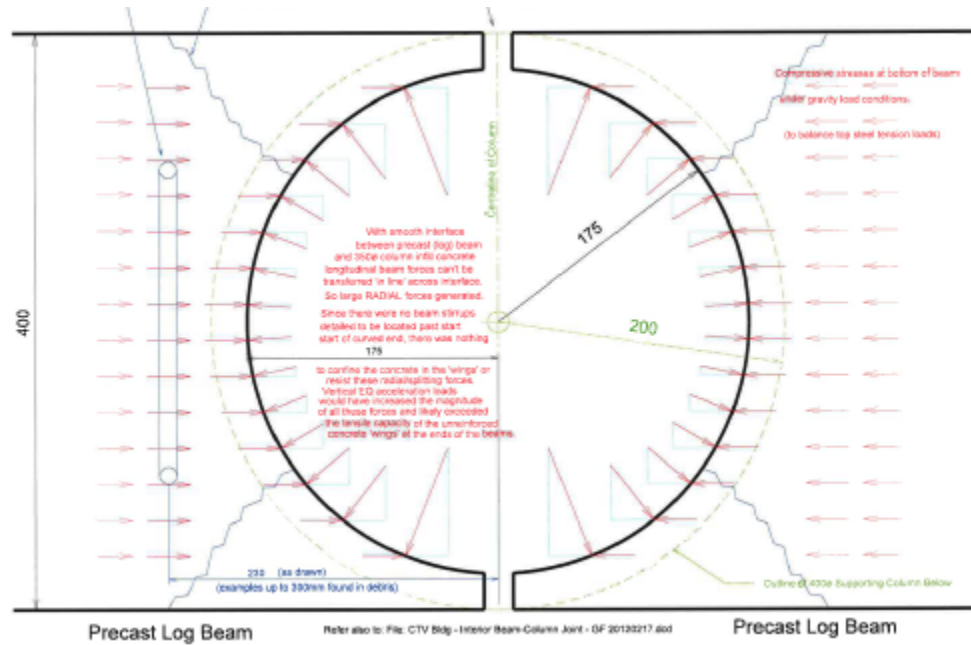
Additional thoughts since presentation was prepared

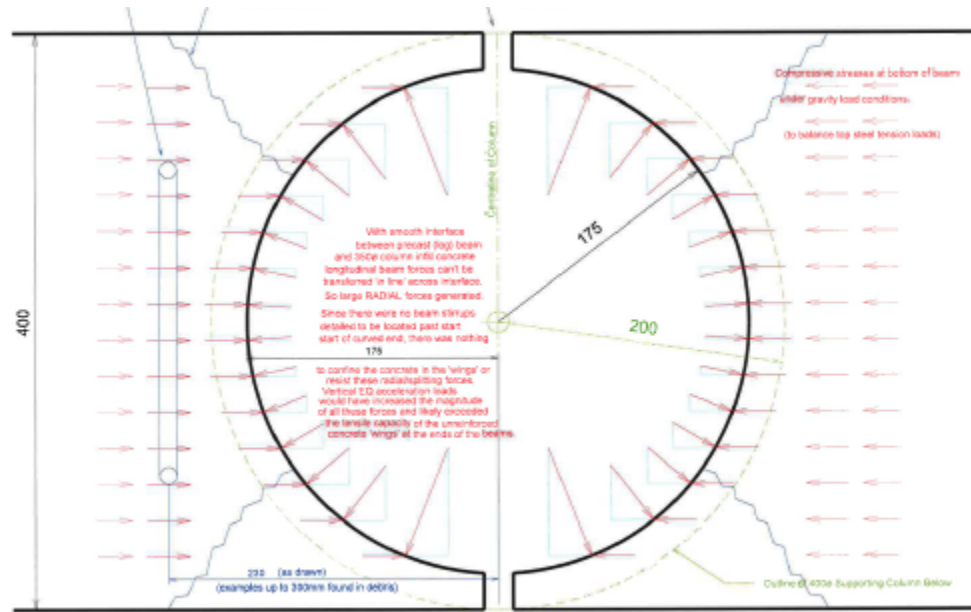
- It is not clear to me exactly how engineers at the time would have implemented the requirements for “Limited Ductility” so it is difficult to speculate on whether such a structure would have survived

Additional thoughts since presentation was prepared

- I noted in my report Graham Frost's initial letter to DBH, but his testimony was far more detailed and convincing concerning:
 - The lack of intact joints observed
 - The smooth precast surfaces and lack of bond to the cast in place concrete
 - The potential failure plane of the precast wings under compression (either from vertical accel. or bending)







Precast Log Beam

Refer also to: File: CTV Bldg - Interior Beam-Column Joint - QP 20123217.dwg

Precast Log Beam

