

Table of Contents - Athol Carr (NLTH)

PAGE	TITLE	INFORMATION
1	1. Introduction	
2	2. Initial Concerns with the NLTH Modelling and Analysis	
2	2.1 Modelling details	
3	2.2 Time step	
3-4	2.3 Column yield interaction surfaces	
4-5	2.4 Beam-column joints	
5	2.5 Masonry infill walls	
6-7	2.6 Floor diaphragm connections to tower	
7-11	2.7 Damping model	
12-26	Documents and remarks regarding the telephone conference, 25 May 2012	Attendees: Ashley Smith, Derek Bradley, Barry Davidson, Tony Stuart, Brendon Bradley, Athol Carr, Graeme McVerry, John Mander, Robin Shepherd
<i>List of documents included in this section:</i>		
14-15	Letter from Compusoft to Athol Carr regarding CTV Analysis, dated 28 May 2012	
16-18	Letter from Compusoft to Athol Carr regarding further analysis of the CTV Building, dated 31 May 2012	
19-24	Follow up remarks to the telephone conference 25 May 2012 by John Mander, dated 28 May 2012	Includes a sketch and a list of references

PAGE	TITLE	INFORMATION
27-34	Documents and remarks regarding the CTV Analyses Video Conference, 8 June 2012	Attendees: Athol Carr, Robin Shepherd, John Mander, Barry Davidson, Brendon Bradley, Graeme McVerry, Ashley Smith, Derek Bradley, Tony Stuart
<i>List of documents included in this section:</i>		
27-29	<i>Brief summary of results of a video conference regarding CTV analyses, 8 June 2012</i>	
30	<i>Email discussion following the Videoconference on the following issues</i>	
31-34	<i>Letter from Compusoft to Athol Carr regarding Compusoft interpretation of meeting held 8 June 2012, dated 8 June 2012</i>	
35-36	Drag-Bar Strength	
37-39	Concrete Strength	Includes two scanned extracts
40-41	Column Plastic Hinge Modelling	
43-44	Masonry In-fill Panels	
45-47	Floor Diaphragm modelling	Includes scanned handwritten note
48	Earthquake Records (Inclusion of Resthaven accelerograms)	
49-57	Earthquake Records (Duration of analyses)	Includes graphs (p 50-53 and 56)
58	Damping	
58	Beam Pull-out at Exterior Columns	
59-124	Beam-Column Joints	Includes graphic (p 60)
<i>List of documents included in this section:</i>		
62-64	<i>Letter from Compusoft to Athol Carr regarding beam column joint model, dated 15 June 2012</i>	<i>Includes graphic (p 63)</i>

PAGE	TITLE	INFORMATION
66-67	<i>Letter from Compusoft to Athol Carr regarding information flow, dated 15 June 2012</i>	
69-79	<i>Response to Compusoft letter of 14 June 2012 by John Mander</i>	<i>Handwritten letter, includes calculations and sketches</i>
81-92	<i>Draft paper by Nicholas Brooke of Compusoft regarding the development of a model for beam-column joints of the CTV building</i>	<i>Includes several graphs and a list of references</i>
96-103	<i>Letter from Compusoft to Athol Carr regarding a summary of input parameters for SAP2000 analysis model</i>	<i>Includes graphs, images and tables</i>
109-111	<i>Handwritten note, calculations and sketches by Compusoft regarding CTV joints</i>	
117	<i>Handwritten calculations and sketches</i>	
125	Analysis Procedures	
126-127	Other Issues (Internal Stair Case)	Includes architectural drawings
128-130	Other Issues: (Earthquake excitations between 4 September 2010 and 22 February 2011)	
131-136	Appendix A: Panel of Experts to Consider NLTHA for CTV Building.	
137-198	Appendix B: SAP2000 Screen Plots of CTV NLTHA Model Documentation and Meshing Details	
199-317	Appendix C: Papers Submitted to Aid Discussion on Modelling	
	<i>List of documents included in this section:</i>	
200-211	<i>Park, S. and Mosalam, K.M.. Analytical Model for Predicting Shear Strength of Unreinforced Exterior Beam-Column Joints, ACI Structural Journal. March-April 2012, p149-160.</i>	

PAGE	TITLE	INFORMATION
212-225	<i>Anderson, M, Lehman, D, and Stanton, J. A cyclic shear stress–strain model for joints without transverse reinforcement. Engineering Structures 30 (2008) 941–954.</i>	
226-229	<i>Karthik, M.M. and Mander, J.B. Stress-Block Parameters for Unconfined and Confined Concrete Based on a Unified Stress-Strain Model. Journal of Structural Engineering, ASCE, February 2011, p270-273.</i>	
230-255	<i>Celik, O.C. and Ellingwood, B.R., Modeling Beam-Column Joints in Fragility Assessment of Gravity Load Designed Reinforced Concrete Frames, Journal of Earthquake Engineering, 12:,2008, p357–381.</i>	
256-269	<i>Lehman, D., Stanton, J., Anderson, M. Alire, D. and Walker, S. Seismic Performance of Older Beam-Column Joints. 13th World Conference on Earthquake Engineering, Vancouver, B.C., Canada, August 1-6, 2004, Paper No. 1464.</i>	
270-305	<i>Paulay, T. and Williams, R.L. The analysis and Design of and the Evaluation of Design Actions for Reinforced Concrete Ductile Shear Wall Structures. Bull. NZ Soc. For Earthquake Engineering, Vol 13, No 2, June 1980, p108-143.</i>	
306-317	<i>Park, S. and Mosalam, K.M.. Parameters for shear strength prediction of exterior beam–column joints without transverse reinforcement, Engineering Structures, 36 (2012) 198–209</i>	
318-355	Curriculum Vitae - Athol J. Carr	