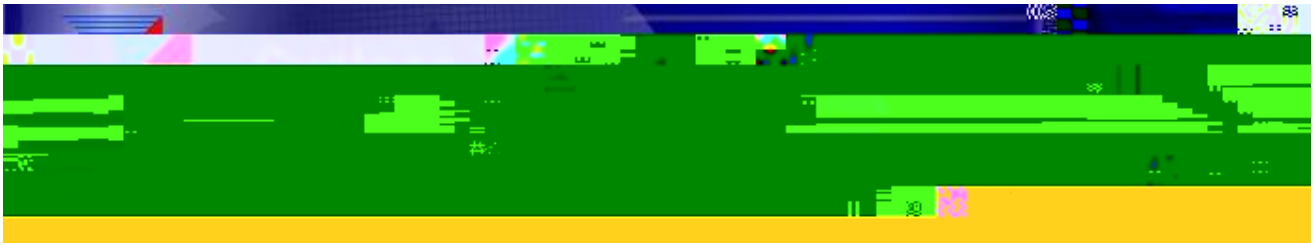

Phone 07 47814754 *Fax* 07 47751184 *Email* jcu.cts@jcu.edu.au

wind velocity squared. That is, a small increase in wind speed gives a larger increase in wind loads!

The wind loading standard AS/NZS 1170.2 gives a strength limit state design wind speed of nearly 70 m/s referenced at 10 m height in open terrain, for the cyclonic regions of North Queensland. The damage investigation estimated the peak wind speeds to be less than this design value. This implies that structures designed to the wind loading standard should be structurally adequate for the wind forces generated during Cyclone Larry.

Housing constructed since the mid 1980s performed well, structurally. This is to be expected due to the contemporary housing having a regional design wind speed greater than the event wind speed. The main source of structural damage to newer construction was from wind driven debris. For a small number of cases, poor detailing led to loss of structural elements. In general, garage doors performed poorly leading to water ingress, internal pressurization and subsequent damage. The loss of flashings, guttering vents and soffits also contributed to water ingress, which on occasion resulted in the collapse of the ceiling. Such collapse could lead to structural problems if the ceiling is relied upon to provide diaphragm action to link bracing walls.

Increase in wind speeds due to speed up over steep topography did cause increase in damage to buildings. This was more apparent in the older housing. However there were a few cases of damage to contemporary houses, where the construction details were inadequate for the site topography. This highlights the need for

Phone 07 47814754 Fax 07 47751184 Email jcu.cts@jcu.edu.au Web www.eng.jcu.edu.au/cts