

AFFIDAVIT OF DENNIS MARSDEN - 1 OCTOBER 2010

COURT DETAILS

Court	Land and Environment Court of NSW
Class	Sydney
Case number	40745 of 2010

TITLE OF PROCEEDINGS

Applicant	Parks & Playgrounds Movement Inc
Respondent	Newcastle City Council

FILING DETAILS

Filed for	Newcastle City Council, Respondent
Legal representative	Daryl Gray, Sparke Helmore Lawyers
Legal representative reference	APM: NCC272/873, PCN: 22386
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AFFIDAVIT

Name Dennis Marsdon
 Address 6 Leumeah Close, West Pennant Hills NSW 2125
 Occupation Arborist
 Date 1 October 2010

I say on oath:

- 1 I am a qualified arborist.
- 2 I am the Principal of The Sugar Factory – *Arbor Advocate*.
- 3 I have read and agree to be bound by the Expert Witness Code of Conduct, Schedule 7 of the Uniform Civil Procedure Rules.
- 4 Exhibited before me at the time of swearing this affidavit is a bundle of documents marked "DM1".
- 5 **Tab A** of Exhibit DM1 contains a copy of my curriculum vitae is annexed and marked "A".

History of Reports Prepared

- 6 In or around May 2004, I was engaged by Newcastle City Council (**the Council**) to carry out a particular type of assessment with the Council's City Arborist, Mr Phil Hewitt, of Hill's Weeping Fig trees in the Newcastle Precinct. **Tab B** of Exhibit DM1 contains a copy of my report dated 7 June 2004.
- 7 In my report dated 7 June 2004, I refer to a report prepared by Ms Judy Fakes dated 20 April 2004 on **Fig Trees** on Tyrell Street. **Tab C** of Exhibit DM1 contains a copy of that report.
- 8 In December 2006 I prepared a report for Root Projects Australia Pty Ltd on the root-plate architecture of Hill's Weeping Figs along Laman Street outside the Art Gallery. **Tab D** of Exhibit DM1 contains a copy of that report.
- 9 In June 2007, significant storms including strong gale force winds hit Newcastle. After the storms, I was engaged by the Council to assess the stability of three nominated fig trees along Laman Street. **Tab E** of Exhibit DM1 contains a copy of my report dated 11 July 2007.

- 10 In or around July 2009, I was engaged by the Council to undertake an assessment of 14 fig trees on both sides of Laman Street, between Darby Street and Dawson Street (**the Trees**). **Tab F** of Exhibit DM1 contains a copy of my report dated 7 August 2009.
- 11 In or around late September 2009, I was engaged by the Council to inspect a Hill's Weeping Fig tree on the corner of Brooks and Swan Street in Cooks Hill. The tree had suffered failure of two scaffolds under gale-force winds during the dust storm on 23 September 2009. **Tab G** of Exhibit DM1 contains a copy of my report dated 6 October 2009.
- 12 In or around February 2010, I was engaged by the Council to carry out a further assessment of the root-plate architecture of the Trees including trenching investigations. **Tab H** of Exhibit DM1 contains a copy of my report dated 8 March 2010.
- 13 In or around early August 2010, I was engaged by the Council to provide an assessment of the stability of the one of the Trees (ID 12025) located just west of the pedestrian crossing on the southern side of Laman Street. The report was prepared because Hunter Water Corporation removed one of the roots of the tree when carrying out its works. **Tab I** of Exhibit DM1 contains a copy of my report dated 12 August 2010.
- 14 In early September 2010, I received a copy of an arborist report prepared by Mr Mark Hartley dated 30 August 2010 from the Council. On or about 6 September 2010, I prepared a response to Mr Hartley's report. **Tab J** of Exhibit DM1 contains a copy of my response.

Reply to Affidavit of Mr Mark Hartley

- 15 I have read the Affidavit of Mr Hartley sworn 28 September 2010. I refer to my report dated 6 September 2010 at Tab J of Exhibit DM1 in response to that affidavit.

Reply to Affidavit of Mr Sean Freeman

- 16 I have read the Affidavit of Mr Sean Freeman sworn 20 September 2010. I refer to 'Annexure C' of that affidavit, being the "Expert Arboricultural Opinion", and make the following comments.
- 17 On Page 6 at paragraph 2.1.1 of the Expert Arboricultural Opinion, Mr Freeman states:

"In my opinion the single most critical error within all the reports provided to NCC is the assumption that one or more of the figs on Laman Street had failed

under wind loading, i.e. been blown over during the severe storm on 8th June 2007."

18 Lonsdale (Lonsdale, D (1999) *Principles of Tree Hazard Assessment and Management*. HMSO, London) defines windthrow as: *"The blowing over of a tree at its roots"*. Lonsdale provides two failure modes of root-plates: total and partial.

19 In respect of partial failure of root-plates, Lonsdale states *inter alia*:

"The anchorage of such a tree is usually poor..." and: *"On sites with high-value targets, wind-rocked trees must usually be regarded as hazardous..."*

20 Under the sub-heading 'Direct signs of root instability', Lonsdale states that one of the features to observe is: *"Visible movement of the root-plate in a breeze."*

21 I did not make an assumption that one or more of the trees on Laman Street had failed under wind loading. It was related to me after the event by Mr Phil Hewett, the then City Arborist of Newcastle City Council, that two of the trees outside the Art Gallery were directly observed as displaying movement of the root-plate to the extent that one side of the root-plate had lifted out of the ground and the opposite side subsided during the storm, and that immediate action was taken to remove the crowns of the two trees in order to prevent total failure.

22 I have never claimed that any tree on Laman Street suffered whole-tree failure during the storm event of June 2007.

23 Wind-throw can take two forms: partial failure and total failure. The word common to both forms is 'failure'. It has always been maintained that the subject trees suffered partial windthrow.

24 On page 6 at paragraph 2.1.16 of the Expert Arboricultural Opinion, Mr Freeman states:

"The evidence from Denis [sic] Marsden's 2007 report and photographs taken on 19th June 2007 indicated that no trees had been entirely blown over."

25 The statement references my report of July 2007 titled: "Investigation Into Stability of three Hill's Weeping Figs along Laman Street Newcastle." Pages 6 and 7 of that report show photographs of two trees that had been entirely blown over.

26 On page 6 at paragraph 2.1.17 of the Expert Arboricultural Opinion, Mr Freeman states:

"In Mr Marsden's 2007 report it is argued that evidence was observed to suggest at least three of the figs had moved, and that one of the threes was continuing to move..."

27 It was not argued; it was a statement of fact. Two of the trees outside the Art Gallery were directly observed as having root-plates that had tilted out of the ground on one side and into the ground on the opposite side during the storm. The third tree was further down in the residential part of Laman Street. My report of July 2007 set out the facts: one of the large surface roots of the (third) tree had been observed and measured by then City Arborist Mr Phil Hewett as having lifted above the ground by some 20mm, and when Mr Hewett and I together inspected the tree a few days later, the lift had increased to 50mm. A resident had also noticed this and had informed Council.

28 Mr Freeman states on page 7 at paragraph 2.1.18 of the Expert Arboricultural Opinion:

"I believe it very likely that extreme wind loading imposed by wind gusts during the June 2007 storm on the Laman Street Figs resulted in some movement in the interface between roots and the sub-grade in which they are growing."

29 During the same inspection, there was doubt raised over whether or not one of the other trees outside the Art Gallery had been destabilised (Tree #4796 in the numbering system of those days). The concept that tree roots could have flexed while under wind load and displaced nearby infrastructure was considered and to this end a programme of monitoring tree movement by Council's surveyors was devised and implemented. After seven weeks of once-per-week monitoring, it was concluded that this particular tree had not been destabilised.

30 Had there been doubts over the stability of other trees, the above approach would have been used.

31 Mr Freeman states on page 7, paragraph 2.1.20 of the Expert Arboricultural Opinion:

"The fig trees within Laman Street have been subjected to poor past management practices, and the sub-grade environment surrounding their roots is less than ideal for normal root growth. However it appears that the fig trees have thus far been able to make growth adaptations to maintain their structural integrity."

32 This ignores the casebook history of Hill's Figs with eccentric root systems in Newcastle precinct. It began with the whole-tree failure of two Hill's Figs on Tyrrell Street (just around the corner from Laman Street) in 2004, as stated in several of my reports. The failure of Laman Street trees was foreseen also in that same year, and again in 2006.

Summary

- 33 The subject trees are growing in confined areas and have routinely suffered root damage or removal in the repair of nearby infrastructure, and by direct vehicular damage. Consequently, the trees have developed lineal or eccentric root-plates. The casebook experience with this species growing in similar planting locations in Newcastle and having eccentric root-plates is that such trees have a higher than normal propensity to failure than trees with non-eccentric root-plates and that tree failure is more likely to occur under strong wind loading.

SWORN at

Signature of deponent

Signature of witness

Name of witness

Address of witness

Capacity of witness

Solicitor/ Justice of the Peace