

2 May 2022

Our ref: 22SUT-1783

Frasers Property
Level 2, 1C Homebush Bay Drive
Rhodes NSW 2138 Australia

Attention: Chris Koukoutaris

Dear Chris,

Macquarie Park, Ivanhoe Estate –Tree Advice Letter

Eco Logical Australia (ELA) was engaged by Christie Civil to provide advice on seven trees (Trees 934, 935, 936, 938, 1015, 1016 and 1017) located along the boundary crib wall at the Ivanhoe Estate development in Macquarie Park as outlined in Figure 1.

These trees are identified as trees to be retained in ELA's Arboricultural Impact Assessment (AIA) (v6 dated 28 February 2020) which informed the Development Consent Conditions issued by the Minister for Planning and Public Spaces under SSD 8903, Modification 3.

Since the approval was granted, the scope of works proposed in this area has changed (as shown below). Therefore, additional advice has been sought by the Client to assess the viable retention of these trees in relation to the proposed scope of works.

As detailed in this assessment, the retention of these seven trees will not be possible under the proposed scope of works and therefore removal of these trees will be necessary. As such, additional approvals will be required as these trees are positioned outside of current approved impact area.

Further details regarding the assessment are included below, including details of the proposed works and scope change, along with the assessment outcomes.

Should you have any questions about this report, please do not hesitate to contact me on 9574 8710.

Regards,



Kirsten McLaren
Project Manager

TRIGGER FOR REASSESSMENT

The previously assessed impact area and assessment outcomes are shown in Figure 2 and 3. The original assessment (ELA 2020; AIA v6) indicated the seven trees in question could be retained as they were located above the crib wall, situated 2+metre above the proposed footprint, as advised by the client. Based on the detailed plans (ADW Johnson 2018) and client discussion disturbance of the structural root zone was not expected to occur.

Due to changes in the ground level necessary to facilitate the provisions of the new roadway, excavation of the embankment adjacent to the crib wall to a depth of approximately 3 metres from the current level, the structural root zone of these trees will now be impacted. This is compounded by the growth of the *Ficus* and other trees, which have adapted to their surrounds and utilised the lower embankment for their structural root zone.

METHODOLOGY

ELA Consulting Arborist Craig Kenworthy (AQF Level 5 Arborist) attended site on the 15 March 2022. During the site inspection the proposed works were discussed with Marc Colusso and other Christie Civil and the seven subject trees inspected.

These trees are located on top of the crib wall (see Figure 2), which is approximately 1 m in height and is in poor condition. Of the seven trees, three (3) *Ficus microcarpa* trees, typical of their species and habit. These trees were observed to have large roots traversing down the crib wall and growing into the embankment within the Frasers site, and therefore the Ivanhoe Estate development (see Figures 4 & 5).

RECCOMENDATIONS

If the proposed roadway is to be constructed as per the current design, the southern root plate of the trees will be impacted, possibly destabilising their structural integrity and ongoing viability. The structural integrity of the crib wall is also of concern due to disturbance of the crib wall footings, associated with impacts to tree roots and excavation.

Although *Ficus microcarpa* is a resilient species, due to the tree locations, differing ground levels between properties, the location of the root plate location and the destabilisation of both the trees and boundary walling, for excavation works to proceed, all seven trees will require removal.

If the proposed roadway is constructed without tree removal, issues relating to tree failure causing damage to property, injury and worst case loss of life may occur. It is also likely these trees will die due tree impacts resulting from these works.

As the trees are located on the adjacent neighbouring property, permission from the landowners of these trees would be required. Additionally, approval from the consenting authority will be required to remove these trees.

Table 1: Tree data from ELA AIA report (dated 28 February 2020)

Tree Number	Botanical Name	Common Name	Height (m)	Spread (m)	DBH (mm)	Health	Structure	Retention value
934	<i>Lophostemon confertus</i>	Queensland Brush Box	10	3	650	Good	Good	Medium
935	<i>Eucalyptus microcorys</i>	Tallowwood	14	7	650	Good	Good	Medium
936	<i>Ficus microcarpa</i>	Chinese Banyan	11	10	750	Good	Good	High
938	<i>Eucalyptus microcorys</i>	Tallowwood	13	7	500	Good	Good	Medium
1015	<i>Eucalyptus microcorys</i>	Tallowwood	19*	7*	650	Good	Good	Medium
1016	<i>Ficus microcarpa</i>	Chinese Banyan	15*	10*	750	Good	Good	High
1017	<i>Ficus microcarpa</i>	Chinese Banyan	15*	10*	750	Good	Good	High

**Estimated measurements based on 2022 inspection*

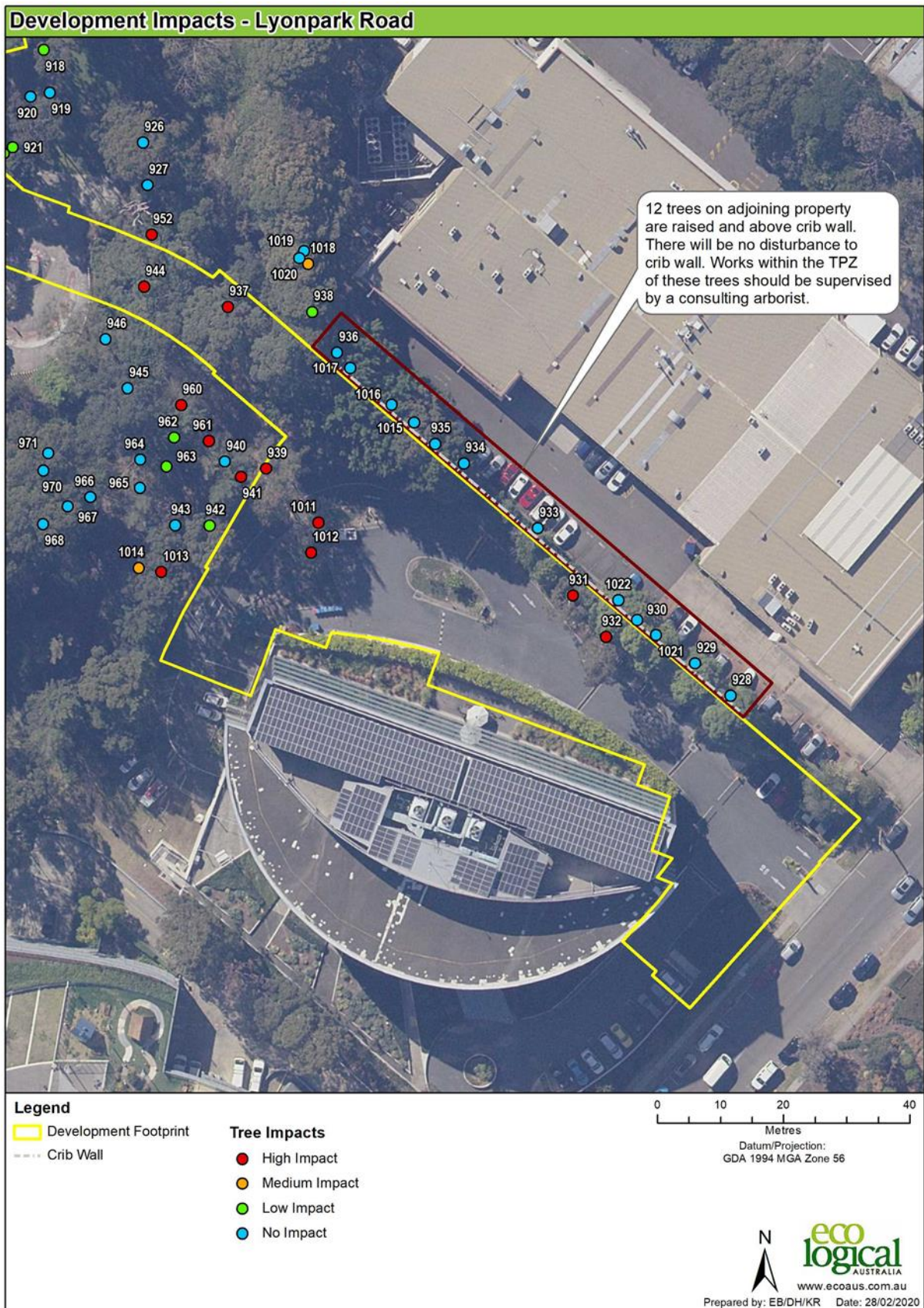


Figure 2: Crib wall scope assessed within ELAs AIA (dated 28 February 2020)

3 Assumptions and limitations

- Some trees located within the adjoining property and fronting Lyonpark Road (Figure 4) have TPZ's extending into the development footprint, however they are located above the crib wall and disturbance of the structural root zone is not expected to occur. Under AS 4970-2009, (Clause 3.3.4) allowance is given for the project arborist to consider multiple factors for tree retention including the topography and the presence of existing or past structures affecting root growth. These subject trees are located at the top of an existing retaining wall (structure) on the adjoining property, some 2+metres above the proposed footprint (ADW Johnson 2018) (Figures 8 & 9). It is considered that given the location of these trees, the impacts from works in this location can be managed to facilitate tree retention. A consulting arborist should supervise works within the TPZ of these trees to ensure care is taken when working within the TPZ.
- There are 7 Trees along the north-west border of the site at Herring Road within STIF (poor) (Figure 5) that are shown as impacted. Depending upon construction methods, these trees may be able to be retained. A consulting arborist should supervise works within the TPZ of these trees and confirm whether retention is possible.
- The retention of an existing retaining wall will protect the occurrence of Sydney Turpentine Ironbark Forest (a Critically Endangered Ecological Community) on site. Under AS 4970-2009, (Clause 3.3.4) allowance is given for the project arborist to consider multiple factors for tree retention including the topography and the presence of existing or past structures affecting root growth, as such the retention of the retaining wall in this area can facilitate tree retention. ELA recommends that works within the TPZ of these trees occurs under the supervision of a consulting arborist.

Figure 3: Assumption 3 from ELAs AIA dated 28 February 2020



Figure 4: Boundary crib wall (ELA AIA v6 28 February 2020)



Figure 5: Large roots traversing down crib wall (photo provided by Christie Civil on 3 March 2022)