

25 August 2020

Mr & Mrs Thomson  
9 Beatrice Street,  
CLONTARF NSW 2092

Dear Mr & Mrs Thomson,  
Arborist Report – Tree Management Plan  
Carport - DA Mod2020/0335

Council's Landscape Referral Response dated 7 August 2020 has requested additional information pertaining the construction of the proposed carport, potential tree impacts and mitigating measures required for the protection of the two large and mature trees, both *Angophora costata* (Sydney Red Gum). The purpose of this Arboricultural Statement/Tree Management Plan is to address these issues.

The trees were within the very steep front verge and appeared in good health, condition and were "significant" environmentally. It was not determined the likely orientation of the first order roots at the time of inspection. The driveway/tree offset is particularly close to the upper tree (T1) and distanced further from the lower tree (T2).

Proposed is the construction of a carport requiring a suspended concrete crossover enabling offstreet parking. The building's footprint is minimal. The large storm water ingress drain roadside, adds a significant constraint forcing the design modification. These changes include a reduction driveway width by 0.5m approximately as compared to the original plans but pushes and angles the driveway northwards closer to both trees but particularly tree (T1). The stairs connecting carport to lower level are above grade and supported by two piers (see Appendix 1 – Engineering drawing).

Engineering drawings shows 7 piers which anchor and support the structure being:-

- 5 x 300mm piers parallel to the kerb and for the purpose of this report Pier 1 (P1) is closest to the trunk and Pier 5 (P5) is closest to the drain.
- 2 x 400mm piers to support the structure proximal to the stairs and positioned on the sloping verge.

**T1 – Close to street level:**

Five (5) piers anchor and support the driveway width at street level. Pier diameter for these piers is 300mm. Two piers are within the Structural Root Zone (SRZ) of the tree; two of the remaining piers three piers are positioned within the Tree Protection Zone (TPZ). The fifth pier is outside both TPZ/SRZ zones (AS4970-2009).



**T2: Lower terrace:**

Tree impact very low and unlikely to affect the tree.

**Likely development conflict with T1**

1. Trunk damage through construction impact
2. Pier conflict with encountered root/s – likely to be structural roots
3. Encountered roots behind the raised kerb
4. Construction movement inclusive of inground services
5. Rain shadowing beneath structure and a drying of soil

**Recommendations:**

1. The trunks of both trees shall be protected against impact damage. The trunks shall be wrapped in a shade or geotextile like fabric with timber slats placed over the fabric and around the trunks with a gap no larger than 50mm between slats. The timber slats shall be no less than 1.8 metres in height. A purpose manufactured strapping (metal or fabric) will fix the timber slats in place. Nothing is to be nailed or affixed to the trunks. The fabric choice needs to be quick drying. (See appendix 2).
2. For reference purposes, the pier closest to the T1 is P1 and the pier closest to the drain is P5 with consecutive numbering accordingly.

Piers 1, 2 & 3 shall be hand dug down to a depth of 1.5 metres or less should rock be encountered (at the discretion of the structural engineer). In the event a live tree root with a diameter of 30mm or greater be encountered, the pier placement will shift sideways to avoid the tree root/s. It is recommended encountered tree roots smaller than 30mm not be cut but rather the piers moved.

- A minimum gap of 100mm shall be provisioned between edge of root and edge of pier.
  - Any tree root 30mm or greater in diameter exposed shall be kept moist at all times whilst exposed.
  - Any tree root 30mm or greater shall not be damaged by way of digging implements.
3. Potentially raise the layback and cross over to accommodate any encountered roots. Council arborist to be engaged in conjunction with engineers should this not be possible for an alternate solution.
  4. Construction movement possibly will be via temporary stairs built by the builders and electricity supply to the carport originates from the main dwelling. Stormwater will connect to the pre-existing drain located on the south side of the dwelling.
  5. Rain shadowing due to hardstand coverage (carport) resulting in a reduction of soil moisture. A recommendation that some moisture delivery system is installed beneath the slab permitting moisture to enter the soil region. This will assist the landscaped area beneath the suspended slab whilst providing moisture to roots potentially within this area.



## Conclusion

Tree impact will only be realised upon pier excavation. Pier location flexibility is essential in the event tree roots are encountered but particularly for the two piers closest to the tree kerb side (T1). Simply, the piers need to be positioned between the roots. Any encountered roots must be preserved, protected and remain undamaged to prevent incipient root pathogen entry and subsequent progressive root decay compromising tree stability particularly given the tree's bias lean towards the roadway.

The building design will create a rain shadow with anticipation of an abrupt change to the tree's growing condition therefore provision for moisture return to the soil, by way of irrigation beneath the carport, is recommended.

I trust this information is sufficient for the purpose of Council's request. .

Yours sincerely,

Margot Blues  
B.App.Sc. (Horticulture)  
Diploma Horticulture (Arboriculture) AQF 5  
TRAQ Certified.



*Photo 1: T1 and white marking left of trunk indicating P1's placement and LHS of photograph the storm water inlet.*



Appendix 1: Proposed pier placement

MOD 4.55 APPLICATION (DA26/2015) : CARPORT FLOOR PLAN  
PROPOSED NEW CARPORT AT 9 BEATRICE STREET, CLONTARF

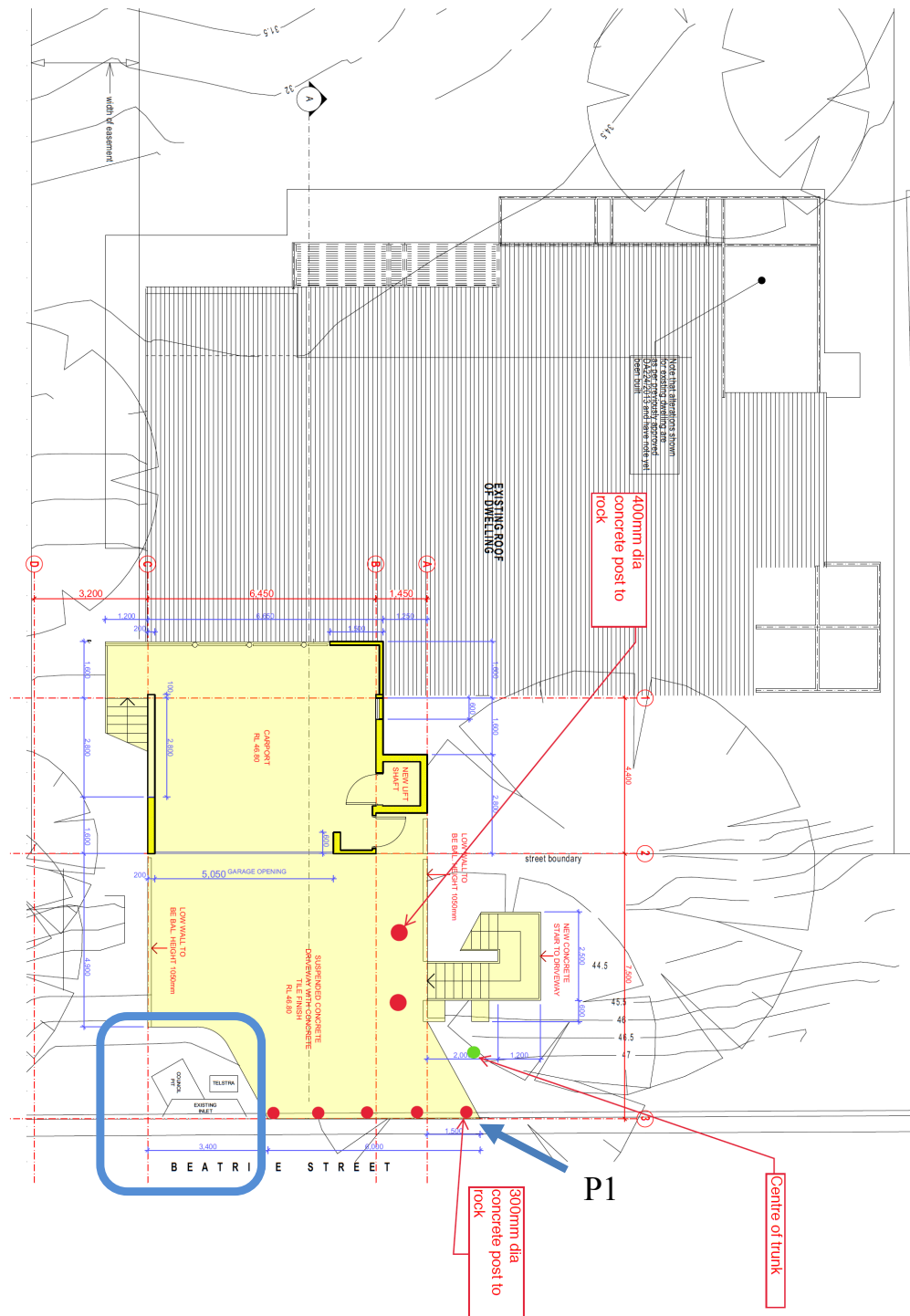


Figure 1: The proposal. Note drain (blue). Drawing supplied by owner.



## Appendix 2: Trunk protection

The following is a diagrammatic representation of trunk protection methodology and required for the prevention of impact damage. Ground protection is not required in this instance.

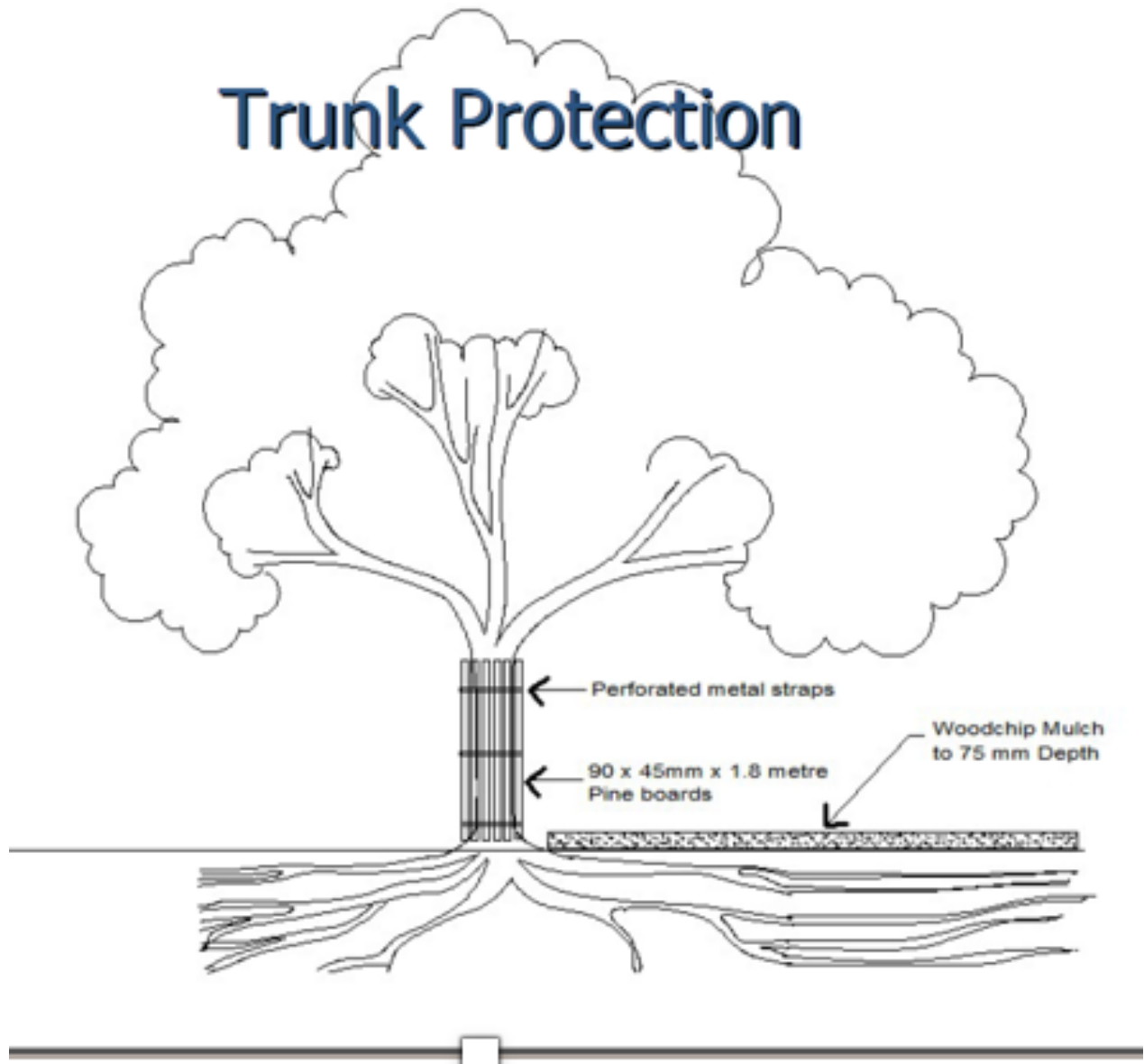


Image 1: Trunk Protection only required