

28 February 2024

Chris Huggett
29 Condoover Street
North Balgowlah NSW 2093

Development Advice For DA2023/1756 29 Condoover Street, North Balgowlah NSW, Australia

Dear Chris,

Please find below the information compiled in conjunction with the third-party report by iiAIA for 29 Condoover Street, Balgowlah. This information is designed to be used alongside the Tree Care advice provided in the Abnoba Arbor report and should not be utilised in isolation.

ArborScan Pty Ltd has been commissioned by Mr Chris Huggett (The Client) to provide recommendations regarding the proposed construction of a driveway within the Tree Protection Zone (TPZ) of the *Jacaranda mimosifolia*, which has been expressed to be a valuable component of the Northern Beaches Council's urban forest and local streetscape. The aim is to balance the necessity of accessing the new carport area with the imperative conservation of this Street tree, particularly its root system, which underpins its health and structural integrity.

The TPZ is established to safeguard the essential area surrounding a tree required for maintaining its vitality and structural stability. For the *Jacaranda mimosifolia* in question, the TPZ extends 4 metres from the trunk, with the Structural Root Zone (SRZ) reaching out 2.2 metres. It is within this context that the potential impacts of constructing a driveway needs careful consideration.

Indiscriminate excavation within this sensitive zone poses severe risks, including root damage which could significantly impair the tree's ability to uptake water and nutrients, leading to a decline in health and an increased susceptibility to disease and pests. Furthermore, the use of heavy machinery and construction materials can lead to soil compaction, adversely affecting the soil's ability to retain air and water, essential for healthy root growth. Alterations to natural water flow and potential chemical contamination from construction materials and vehicle leaks present additional risks. The physical imposition of a driveway also restricts space for future root expansion, potentially diminishing the tree's lifespan and vitality.

There are inherent challenges associated with the construction of the crossover. To implement a completely above-grade solution, it would be necessary to raise the elevation of the carport structure to minimise excavation of the driveway. Nevertheless, this approach would lead to the driveway, further away from the tree, becoming significantly elevated from the ground due to the land's natural slope. This situation could pose risks to public safety and result in impractical outcomes. Furthermore, the connection to the kerb will still require cutting and excavation to facilitate the transition to the road.

In light of the challenges, it is imperative to adopt a construction approach that minimises impact. The pier and beam method has been proposed as a viable alternative to the concrete being simply laid on the ground, offering significant advantages by supporting the driveway above the ground, thereby reducing soil pressure and allowing for continued root growth beneath the structure. Nonetheless, the implementation of this method requires planning to avoid unnecessary excavation within the TPZ and SRZ.

The architect, in consultation with ArborScan, has proposed a modified driveway layout that addresses these critical concerns. This design accommodates the tree's current and potential future growth, ensuring adequate space from establishment to maturity typical for this species in an urban setting. By adjusting the driveway's dimensions to minimise its footprint, the design facilitates necessary access while conserving the tree's room to grow.

The proposed excavation, limited to a maximum depth of 50-150mm, has been meticulously planned to minimise impact on the tree, considering its species, age, and current condition. While it is acknowledged that some root damage may occur, the excavation's depth and extent have been carefully calibrated to ensure that the tree's overall health and longevity remain uncompromised.

It is crucial to recognise that while the pier and beam construction minimises direct soil pressure, it does necessitate additional consideration regarding the placement and depth of piers within the TPZ. This is a crucial aspect of the planning process to ensure that the benefits of this construction method do not come at the expense of further tree root system damage.

Implementation into the design of a pervious concrete surface for the driveway construction will allow water to permeate through, thereby reducing runoff and promoting natural water infiltration into the soil beneath. This characteristic is particularly beneficial within the TPZ, as it helps maintain natural soil moisture levels, crucial for the tree's sustained health.

In conclusion, the proposed approach to the driveway construction represents a balanced, thoughtful compromise that prioritises the health and preservation of the *Jacaranda mimosifolia* while accommodating necessary urban development. With careful planning and mitigative strategies outlined in this proposal to ensure that we preserve the valuable urban greenery while meeting the sites infrastructural needs.

For the construction of the driveway recommended by ArborScan Pty Ltd near the *Jacaranda mimosifolia*, the acting contractors need to adhere to the following care practices:

Minimise Excavation: Limit excavation within the Tree Protection Zone (TPZ) and Structural Root Zone (SRZ) to a maximum depth of 50-150mm to prevent significant root damage, ensuring the tree's health and longevity are not compromised. This excavation must be performed using a toothless bucket under AQF5 Project Arborist Supervision.

Avoid Heavy Machinery: Refrain from using heavy machinery within the TPZ to prevent soil compaction, which affects the soil's ability to retain air and water necessary for the tree's root growth.

Pier and Beam Method: Utilise the pier and beam construction method to support the driveway above the ground, reducing soil pressure and allowing for continued root growth beneath the structure while carefully planning the placement and depth of piers by hand digging to avoid damage to the root system. Roots over 40mm in diameter must not be cut without prior consultation with the Project Arborist and Northern Beaches Council.

Preserve Natural Water Flow: Implement a pervious concrete surface for the driveway to allow water to permeate through, reducing runoff and promoting natural water infiltration into the soil, thus maintaining natural soil moisture levels within the TPZ.

Design Consideration: Follow the modified driveway layout proposed by the architect and ArborScan, which minimises the driveway's footprint and accommodates the tree's current and potential future growth, providing adequate space from establishment to maturity.

Chemical Contamination: Prevent potential chemical contamination from construction materials and vehicle leaks by ensuring proper containment and disposal methods are in place. No equipment is to be washed or disposed of within the TPZ area.

Tree Protection: Refer to the AIA report for advice on Tree Protection Requirements.

Educate Construction Team: Ensure that all personnel involved in the construction are aware of the TPZ, SRZ, and the importance of preserving the tree's root system, and understand the specific care practices to be followed.

Communication: Maintain open lines of communication between ArborScan, the construction team, and Mr. Chris Huggett to address any concerns or adjustments required during the construction process.

Compliance with Local Regulations: Adhere to all local council regulations regarding tree preservation, construction within TPZs, and urban development to ensure legal compliance and community standards are met.

By implementing these practices, the contractors can ensure a balance between the necessary development and the conservation of the *Jacaranda mimosifolia*, contributing to the sustainable development of the Northern Beaches Council's urban forest and local streetscape.

For Supporting documentation link – Assumptions & Limiting Conditions, Definition of Survey Assessment Terms and other useful supporting documentation please refer to the following link: [Appendix](#)

Should you have any queries relating to this information or its recommendations, please do not hesitate to contact us on 0417 305 514.

Regards,



Marc Fisher
Consulting Arborist
(AQF5 Arboriculture)