

ADDITIONAL INFORMATION REQUESTED FOR DA2021/0325 - REPORT 2

**Alterations & Additions
2 Dixon Avenue
Frenchs Forest 2086
Lot 1 DP31074**

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Issued to Northern Beaches Council for Development Consent

This report to be read in conjunction with the following documents:

- Drawings A101-A120, prepared by L. Pracy
- Arboricultural Impact Assessment, Botanics Pty Ltd, 30 June 2021

30 June 2021

BACKGROUND

On 16 June 2021, Northern Beaches Council requested additional information regarding a number of aspects of the proposed development at 2 Dixon Avenue Frenchs Forest, as outlined below:

Development Engineering

Additional Information received on 11/6/2021

Based on the long section provided the vehicles appear to scrape and it is unclear if grade transitions have been provided in accordance with AS2890.1. The applicant shall provide long sections at both edges of the proposed driveway with dimensions, grades and transitions to demonstrate that vehicles will not scrape for the proposed driveway. The garage level may need to be raised to achieve compliance.

The proposed driveway falls towards the garage and stormwater disposal for the low level driveway will need to be addressed to prevent flooding of the basement garage. Hence the applicant shall indicate the proposed method of stormwater disposal for the low level driveway to the kerb.

Landscape Officer

Updated Comments - 16/06/2021

Following original concerns regarding the potential impacts of proposed works on existing trees to the north of the site, amended Architectural Plans as well as an Arboricultural Impact Assessment have been provided with the application.

The Arboricultural Impact Assessment has assessed the potential impacts of proposed works on Tree No. 1, a significant canopy tree located within the road reserve, as well as Tree No. 2, a significant native canopy tree located partially within the site as well as the road reserve. A tree root investigation has also taken place as part of the Arboricultural Impact Assessment.

Concern is raised regarding the location of this tree root investigation, as it has been dug immediately adjacent to the existing driveway. Although this is somewhat informative as it has highlighted the presence of one significant root, this tree root investigation is required to take place in line with the proposed works, as per the original comments above. The reason for this is to understand the impacts of the proposed works, rather than what is existing. This is to ensure the proposed works do not have a significant impact on this tree and its SRZ, as it appears the current proposal will impact the structural integrity of this tree, and will likely see its decline and possible failure in the future. It is therefore recommended that the Arboricultural Impact Assessment be revised, with a new tree root investigation to occur specifically on the outside edge of the proposed retaining wall adjacent to the driveway widening (eastern side of driveway).

Upon further review of the proposal, an additional canopy tree is also required to be planted in the north-east corner of the site, a minimum 3m from the existing/proposed dwelling. This tree is necessary to mitigate the increase in built form and building mass as a result of the extensions to the first floor, as well as enhance the overall streetscape of the area. This tree planting is vital to satisfy control D1 as key objectives of this control include "to enable planting to maintain and

enhance the streetscape" as well as "to provide for landscaped open space with dimensions that are sufficient to enable the establishment of low lying shrubs, medium high shrubs and canopy trees of a size and density to mitigate the height, bulk and scale of the building".

The landscape component of the proposal is therefore not currently supported due to the unknown impacts of the proposed driveway widening and associated retaining walls on the health of existing Tree No. 2. It is therefore recommended that an amended Arboricultural Impact Assessment be provided with a new tree root investigation, ensuring this tree root investigation is conducted on the outer edge of the proposed works. This is vital to understand the true impacts of the proposed works, rather than what is currently present within the site.

RESPONSE

1. Driveway gradients

The **AS/NZS 2890.1: 2004 - Off-street car parking** outlines the requirements and recommendations for the design and layout of off-street parking facilities.

Concern was raised by Council regarding the slope of the driveway, and adherence with AS2890.1. The proposed design for the basement garage and low level driveway has been amended due to feedback from Council and George Palmer, AQF Level 5 Arborist, in relation to the adjacent Lemon Scented Gum (Tree 2). The redesign has been developed in accordance with AS2890.1, as demonstrated by Drawing A120 - Driveway Sections. Section G is along the western edge of the driveway, and Section H is along the eastern edge.

The driveway has been relocated to the northwest, and skewed at an approximate 10 degree angle, to avoid the Structural Root Zone (SRZ) of Tree 2. This relocation will necessitate an associated partial extension/relocation of the kerb crossing.

AS2890.1 states that the maximum permissible slope for a driveway is 1V:4H (25%), and the proposed driveway adheres to this maximum slope. The slope in the garage is 1V:33H (2%) to provide a drainage slope, thus creating an algebraic difference in slope greater than 15% for sag grade changes, which triggers Clause 2.5.3(d) - Changes of grade. This clause requires a transition slope equal to half the algebraic difference between the slopes, which calculates to be 13.5% for this proposal.

The length of the transition gradients is suggested at 2m for gradient changes of up to 18%. For gradient changes greater than this, the template method in Appendix C is to be applied, to confirm that vehicles will not scrape when using the driveway. A clearance of 120mm is used as a guide in Appendix C, however Clause C2(a) allows for a lesser clearance, Clause C2(b) stating that the underside of the design vehicle must not fall below the plot (proposed driveway) at any point.

The template method in Appendix C was utilised, and it was found that there was sufficient clearance at all points on the driveway for a B85 car. The car in Drawing A120 - Driveway Sections is a Volkswagen Passat, with similar dimensions to the template B85 car (B85 car has a 90mm longer wheelbase, and 100mm longer rear overhang), and is used as a visual reference for the application.

Table 1: Compliance with AS2890.1

Element	AS2890.1 criteria	Proposed development	Complies?
Driveway			
Width	3.0m min	3.0m min.	YES
Maximum gradient	1V:4H (25%)	1V:4H (25%)	YES
Gradient in garage	1V:20H (5%) max	1V:33H (2%)	YES
Transition gradients	$\frac{(25\%+2\%)}{2} = 13.5\%$	1V:7.4H (13.5%)	YES
Transition gradient length	2m min for 18% difference	2.0-2.37m	*YES
Gradient crossing property line	1V:20H (5%) max	1V:40H (2.5%)	YES
Property line transition length (for 'footpath')	1m min	1.5-2.6m	YES
Obstructed view	No sight obstruction for vehicle leaving driveway within 2.5m of road edge	No sight obstructions in described zone	YES
Single car garage			
Headroom	2.2m min.	2.3m	YES
Internal width	3.0m min.	4.3m	YES
Width from centreline of parking space to any obstruction	1.5m min	2.1m	YES
Doorway width	2.4m min.	3.4m	YES

* Assessed using Template Method for B85 car as per Appendix C of AS2890.1

Raising the level of the garage floor was not considered a suitable option for the proposed development, as it impacted on the functionality of the design, including clearances and access for the internal stair access to the living room. Raising the garage floor would also then result in the granny flat having to be raised, which would subsequently breach the building envelope on the northwestern side of the development, and may also cause a breach of the Warringah Development

Control Plan 2011 - Part B Built Form Controls - B2 Number of Storeys, which states that basement garages should not project more than 1m above existing ground level, in order to be exempt from being classed as a storey.

The driveway will be constructed by a Council-approved contractor, and construction will also be under the supervision of an arborist.

2. Stormwater disposal from low level driveway

The proposed method of stormwater disposal from the low level driveway and basement garage is designed to manage the impact of stormwater runoff on Council's stormwater drainage infrastructure, in accordance with the Council's *Stormwater Drainage From Low Level Properties Technical Specification*.

The basement garage is the lowest point on the property, and therefore gravity flow of collected stormwater from the low level driveway is not possible.

Due to the geology of the site and other site constraints, including the trees along Dixon Ave, it is proposed that any stormwater captured from the low level driveway, as well as intermittent subsurface seepage flows, will be collected in a sump, and pump discharged to the existing drainage pit on the southeastern side of the dwelling. This will then flow to the existing stormwater disposal system, which drains to the natural downstream catchment. The nearest stormwater gully pit is approximately 100m away, so pumping directly to this pit is not possible.

The specifications of the sump and pump-out system will be determined by a suitably qualified stormwater engineer, and may include modification/enlargement of the existing drainage pit and construction of a surrounding bund, to slow down peak stormwater flows from the site, in lieu of being able to pump directly to a stormwater gully pit.

3. Driveway trees

After the initial Arboricultural Impact Assessment and sensitive root investigation was submitted to Council, concerns were again raised about the location of the driveway.

Following advice from Council and George Palmer, AQF Level 5 Arborist and Director of Botanics Pty Ltd, **the driveway has been redesigned and realigned westward, to ensure that there is no excavation within the Sensitive Root Zone (SRZ) of Tree 2.** The incursion into the TPZ of both Tree 1 and Tree 2 has been minimised as

much as practicable, keeping the incursions below 10% of the TPZ, classified as minor encroachment as per AS4970 - Protection of trees on development sites.

The deepest excavation for the driveway is outside the TPZ for both Tree 1 and Tree 2. There is minor excavation across the property boundary, to the western side of the driveway, to ensure the requirements of AS2890.1 - Off-street car parking can be met. All excavation for the driveway will be hand-dug, unless site constraints (ie geology) preclude this.

The findings of the revised report did not alter, in that the proposed development will have insignificant impact on the existing Paperbark tree, and minimal impact on the Lemon Scented Gum. The sensitive root investigation in accordance with AS4970-2009, specifically Clause 3.3.3 Major Encroachment, found one woody root from the Lemon Scented Gum, approximately 60mm in diameter, on the edge of the proposed driveway. This root was just outside the structural root zone (SRZ) of the tree, and thus the report determined that the development would not cause significant impact to the health and longevity of the tree.

The report found that the development recognises the horticultural and arboricultural significance of both trees, and appropriate construction setbacks have been made to allow for their preservation. The report recommends a number of tree preservation measures, including the appointment of an arborist to supervise the construction. The development will follow the recommendations of the report.

4. Additional tree

An additional canopy tree is required to be planted in the northeast corner of the site, a minimum 3m from the existing/proposed dwelling. This tree is necessary to mitigate the increase in built form and building mass as a result of the extensions to the first floor, as well as enhance the overall streetscape of the area.

The tree chosen is a Blueberry Ash (*Elaeocarpus reticulatus*), endemic to eastern Australia, and growing to a height of +7m with a relatively non-invasive root system, taking into account the subterranean services in that corner of the property. The location of the planting can be seen on Drawing A114 - Landscape Plan, and the screening effect of the tree can be seen on Drawing A117 - Visualisation - Front.

CONCLUSION

The proposed development at 2 Dixon Ave Frenchs Forest is a considered design, which will add much to the functionality and neighbourhood aesthetic of the dwelling.

We believe that the issues raised by Council have been adequately addressed by this report:

1. The access to the basement garage is in accordance with AS2890.1 - Parking Facilities - Part 1: Off-Street car parking, Access to the basement garage does not pose any clearance risk from either cars scraping on the driveway, or by the clearance restrictions of the granny flat deck.
2. Stormwater from the low level driveway and basement garage will be managed in accordance with Council's *Stormwater Drainage From Low Level Properties Technical Specification*. The specifications of the sump and pump-out system will be determined by a qualified stormwater engineer.
3. The driveway design is sympathetic to the existing trees, which are of significance to the development, and as such will be protected and preserved during construction, as per the recommendations of the Arboricultural Impact Assessment conducted by Botanics Pty Ltd.
4. An additional canopy tree will be planted in the northeast corner of the site, to mitigate the increase in built form and building mass as a result of the extensions to the first floor, as well as enhance the overall streetscape of the area.

We believe that the proposed development will have no adverse environmental or community impacts, and that this report addresses the concerns raised by Council. We trust that the above submission is satisfactory and hope that in your assessment of this application, the merit of this proposal and the existing site constraints will be considered.