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CITY OF MARIBYRNONG
ADVERTISED PLAN

# Town Planning Submission

## 12 Ballard Street, Yarraville 3013

## -Maribyrnong Planning Scheme -

*July 2024*

# Contents

# 1 Introduction

## 1.1 Overview

Planning permission is sought to proposed townhouses at 12 Ballard Street, Yarraville 3013.

The site is within a General Residential Zone – Schedule 1 (GRZ1) pursuant to provisions of the Maribyrnong Planning Scheme and is covered by development contribution plan overlay controls.

Pursuant to Clause 32.08-5 of the General Residential Zone – Schedule 1 (GRZ1), a permit is required to construct two or more dwellings on a lot.

This report provides an assessment of the proposal against the relevant provisions of the Maribyrnong Planning Scheme.

## 1.2 Development Summary

As part of the assessment, the following development summary has been prepared:

| | | |
|---|---|---|
| Site Area | 463 m² approx. | |
| Number of Dwellings | 2 Units | |
| **Dwelling** | Proposed Unit 1 (m²) | Proposed Unit 2 (m²) |
| *Total residential area*(m²) | *229.50* | *214.43* |
| *Total porch/balcony area* (m²) | *1.23* | *3.92* |
| *Existing & Proposed Private Open Space*(m²) | *34.77* | *34.80* |
| *Proposed car spaces* | *2* | *2* |
| *Site Coverage (%)* | *31.10%* | *28.50%* |
| Permeable ground | 187.69m² | |
| Permeable ground % | 40.53% | |
| Total site coverage | 59.46% | |

# 2 Subject Site

The subject site is located on the West side of Ballard Street. The site is within a residential area of Yarraville. The site is described as Lot 174 LP10950.

The site is rectangular in shape with a East-West orientation. It has a frontage facing to Ballard Street approximately 12.19 metres and the depth of 38.02 metres. The overall site area is approximately 463 square metres.


**Figure 1 - Cadastral Map**

The land is sloped approximately 0.25 metres toward the front boundary of the site and do not contain significant trees that require to be removed.

The site has an existing single storey brick house with tiled roof. The length and width of the site allows to proposed two townhouse development.

The subject site does not fall within a heritage area. Small portion at the rear of the site is fall within inundation overlay and the whole site is fall within areas of Aboriginal Cultural Heritage Sensitivity.

The streetscape character of the dwellings adjoining and opposite the site is a combination of single & double storey weatherboard, brick veneer, and render with tiled or steel sheet roofs.

The site is serviced by one crossover on Ballard Street provides access to the existing carport.

# 3 Site Context and Locality

The subject site is within close proximity approx.

- 1.9km To Yarraville Train Station.
- 570m To Kingsville Primary School
- 1.1km To Williamstown Rd Shopping Strip
- 450m To Wembley Primary School
- 400m to Mcdonald Reserve
- 8km to Approx. to Melbourne CBD.

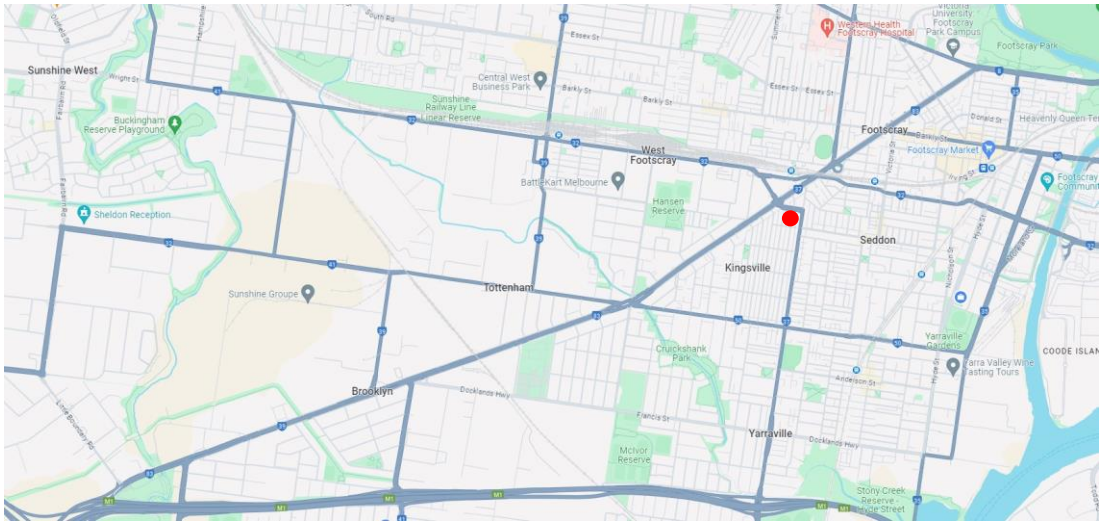



**Figure 2 - Location Map**

Ballard Street comprises a residential street which carries a dual lane of traffic in opposite directions. Public footpaths and nature strips extend along both sides of the road reserve. There is no restriction on the kerbside parking.

The subject site is located within the Yarraville of the Maribyrnong Neighbourhood Character Guidelines. Dwellings are located within a sparsely planted garden. Front setbacks typically comprise lawn and small plantation area with a high greenery fence to the frontage.

In relation to the site's immediate context, the abutting property to the North (10 Ballard Street, Yarraville) is a Double storey weatherboard house with a colorbond roof. It has front setback of approximately 7.256 metres, and the closest setback to the common boundary of 0.981 metres. There are couple of habitable windows.

The abutting property to the South (14 Ballard Street, Yarraville) is a single storey weatherboard house with a tiled roof. The front setback of approximately 7.195 metres and the setback boundary to subject site is 2.29 metres.

At the rear is 7 Angliss St, Double Storey brick tiled roof home, with some habitable room windows.

# 4 The Proposal

Planning permission is sought to construct two units of townhouses at 12 Ballard Street, Yarraville.

The new townhouses will be facing Ballard Street with considered setback consistent with the most of development dwellings in the area.

A development summary is provided below:

| | Scale of Development | Number of bedrooms | Car Parking Provisions | SPOS Provisions |
|---|---|---|---|---|
| **Unit 1** | Double Storey | 4 | 2 | 34.77 m² |
| **Unit 2** | Double Storey | 4 | 2 | 34.8 m² |

Secluded private open space will be located to the West.

Proposed townhouse units will have a maximum average height from the natural ground level of approximately 7.26 metres, with internal heights of 2.74 meters for the ground floor and 2.55 meters for the first floor. Site coverage of 59.46% is proposed with permeable surfaces to cover 40.53% of the site.

The proposed townhouse units consist of the following design elements:

- The front entry is protected by a porch which will also emphasize the entrance.
- The townhouse has spacious open plan kitchen, living and meal area. Stacker slider door provide a full access to the secluded private open space.
- The proposed townhouse unit is provided with a laundry, linen cupboards, Study nook's at ground floor level.
- Master bedroom with ensuite and walk in robe is provided at ground floor levels for each townhouse. With an additional Master, 2 separate bedrooms, retreat and designated bathroom to the first floor.
- Landscaping is proposed along the streetscape of the new proposed townhouse as well as the existing building at rear secluded private open areas.
- Proposed townhouse units will be provided with letterbox to the frontage at the Ballard Street.
- Dwellings will be constructed with a mixture of brick, render, standing seam cladding, complemented with cement sheet and screenings in response to the site context.
- Windows will be constructed of aluminium and glazed with obscure glass where necessary.
- Externally the dwellings have been designed in a contemporary fashion and will feature mixed facade treatments including face brickwork, render finish and steel sheet roofing.

In general, the development proposed is considered to have been carefully conceived, having full regard to both the constraints exhibited by the site, and the neighbourhood context into which the proposal is to be incorporated.

The proposed dwellings will be contemporary in design however they have incorporated the basic design elements and selected finishes which are complimentary to the housing theme in the area. The dwellings are highly articulated and will provide a staggered and visually interesting facade to the Ballard Street frontage of the site and are to be landscaped using a mix of small trees, shrubs and garden beds that are common within the existing vegetation in the streetscape.

# 5 Planning Policy

## 5.1 State Planning Policy Framework

The State Planning Policy Framework (SPPF) seeks to ensure that the objectives of planning in Victoria (as set out in the Planning and Environment Act 1987) are fostered through appropriate land use and development planning policies and practices which integrate relevant environmental, social, and economic factors in the interests of net community benefit and sustainable development.

| Clause | Planning Policy |
|---|---|
| **11** | **Settlement** |
| 11 .02 | Urban growth |
| 11 .04 | Metropolitan Melbourne |
| **12** | **Environmental and landscape values** |
| 12.01 | Biodiversity |
| 12.04 | Significant environments and landscapes |
| **15** | **Built Environment and heritage** |
| 15.01 | Urban environment |
| 15.02 | Sustainable development |
| **16** | **Housing** |
| 16.01 | Residential development |
| 16.02 | Housing form |
| **17** | **Economic development** |
| 17.01 | Commercial |
| 17.02 | Industry |
| 17.03 | Tourism |
| **18** | **Transport** |
| 18.01 | Integrated transport |
| 18.02 | Movement networks |

The objective of the above policies are to encourage development in locations with access to physical and community infrastructure while providing a range of lot sizes to allow housing for varying sized households. At the same time development should provide for, convenient and safe road network, appropriate pedestrian and cycle paths, sufficient, useable public open space and low vulnerability to fire. Residential development should be cost-effective in infrastructure provision and use, be energy efficient, incorporate water-sensitive design principles and encourage public transport use whilst maximising opportunities for increased residential densities to help consolidate urban areas.

The proposal's consistency with State policy is primarily a result of its infill scale development within an existing urban area and its careful consideration of adjoining land uses and utilisation of effective urban design principles. Overall, the proposal respects the amenity of adjoining properties given the site layout and responds to topography. The proposed dwellings will positively enhance the character of the area.

Of particular relevance to this application are the following policies:

### Clause 11 Settlement

Planning is to anticipate and respond to the needs of existing and future communities through provision of zoned and serviced land for housing, employment, recreation and open space, commercial and community facilities and infrastructure.

Planning is to prevent environmental problems created by sitting incompatible land uses close together.

Planning is to facilitate sustainable development that takes full advantage of existing settlement patterns, and investment in transport and communication, water and sewerage and social facilities.

## Clause 15 Built Environment and Heritage

Planning should ensure all new land use and development appropriately responds to its landscape, valued built form and cultural context, and protects places and sites with significant heritage, architectural, aesthetic, scientific and cultural value.

Creating quality-built environments supports the social, cultural, economic and environmental wellbeing of our communities, cities and towns.

Land use and development planning must support the development and maintenance of communities with adequate and safe physical and social environments for their residents, through the appropriate location of uses and development and quality of urban design.

Planning should achieve high quality urban design and architecture that:

- Contributes positively to local urban character and sense of place.
- Reflects the particular characteristics, aspirations and cultural identity of the community.
- Enhances liveability, diversity, amenity and safety of the public realm.
- Promotes attractiveness of towns and cities within broader strategic contexts.
- Minimises detrimental impact on neighbouring properties.

### *15.01-1 Urban design*

Objective: To create urban environments that are safe, functional and provide good quality environments with a sense of place and cultural identity.

### *15.01-5 Cultural identity and neighbourhood character*

Objective: To recognise and protect cultural identity, neighbourhood character and sense of place.

### *15.02-1 Energy and resource efficiency*

Objective: To encourage land use and development that is consistent with the efficient use of energy and the minimisation of greenhouse gas emissions.

## Clause 16 Housing

Planning should provide for housing diversity, and ensure the efficient provision of supporting infrastructure. New housing should have access to services and be planned for long term sustainability, including walkability to activity centres, public transport, schools and open space. Planning for housing should include providing land for affordable housing.

### *16.01-2 Location of Residential Development*

Objective: To locate new housing in or close to activity centres and employment corridors and at other strategic redevelopment sites that offer good access to services and transport.

### *16.01-4 Housing diversity*

Objective: To provide for a range of housing types to meet increasingly diverse needs.
The clause encourages the development of well-designed medium-density housing which:

- Respects the neighbourhood character.
- Improves housing choice.

- Makes better use of existing infrastructure.
- Improves energy efficiency of housing.

#### *16.01-5 Housing affordability*

Objective: To deliver more affordable housing closer to jobs, transport and services.

### Clause 18 Transport

#### *18.01-1 Land use and transport planning*

Objective: To create a safe and sustainable transport system by integrating land-use and transport.

## 5.2 Local Planning Policy Framework

The City of Maribyrnong is changing, as Melbourne's inner western suburbs become more popular and significant new residential developments occur. In the past, the defence industries and other manufacturing industries dominated the municipality, which was once Melbourne's industrial heartland. With the closure and redevelopment of many of these industrial sites and changing economic circumstances, the municipality has experienced considerable changes to its economy, pattern of land uses and population.

The proposed development is within a 'Incremental change area' - residential areas without heritage significance or an identified residential character that warrants planning protection through specific overlays.

### Clause 21.04-2 Housing Growth

Having regard to Clause 21.04-2 of the planning scheme with respect to population, it is stated that Maribyrnong's population is forecasted to grow to 104,000 by 2031, which provides justification in increasing residential densities on sites such as the site that is the subject of this application to construct two dwellings.

### Clause 21.06-1 Urban Design

Objective 3 states *'to encourage well designed residential development'*- The proposed dwellings are contemporary and innovative with respect to the existing street character whilst maintaining high quality design characteristics.

### Clause 21.07-1 Residential Capacity and Location

**Objective 1**–*'To provide significant opportunities for new residential development in substantial change'*

*'Encourage residential development in substantial change areas to predominantly comprise medium and higher density housing in the form of townhouses; units; apartments; and shop-top dwellings'*- The proposed development is consistent with this strategy.

*'Encourage a range of dwelling types and sizes, including affordable housing, to be provided in larger developments'* – The proposed development offers the street landscape a broader range of dwellings in comparison to existing homes in Ballard Street.

**Objective 2** – 'To provide incremental opportunities for new residential development in incremental change areas and incremental change activity centres'

*'Support smaller scale infill residential development in keeping with the streetscape and character of the centres and their adjacent residential in incremental change activity centres'* – The proposed

development is consistent with the character of the change area and within close proximity to a Neighbourhood Activity Centre

*'Encourage the retention of existing housing that positively contributes to preferred neighbourhood character'* – The proposed development will retain the existing character of the dwelling in its current form.

### Clause 21.07-2 Housing Diversity and Affordability

Further justification to support the construction of two dwellings on the subject site is derived from statements included in Clause 21.07-2 of the planning scheme with respect to Maribyrnong's strategies to support a mix of housing and encouraging housing affordability. These strategies state

*'Support increased housing choice by providing a diversity of dwelling types, sizes and Tenures'*- hence the reason why we are creating a diverse and affordable housing option for more people to be able to live within the Maribyrnong area.

*'Increase the overall stock of housing within the municipality, particularly medium andhigher density development to ensure greater diversity to meet changing household needs'*-hence the reason why it is encouraging by state government to produce a diversity for new households to be built by 2030.

# 6 Zoning and Overlay Controls

## 6.1 Zone

The site is within a General Residential Zone – Schedule 1 pursuant to the provisions of the Maribyrnong Planning Scheme.

The purpose of this zone is:

- To implement the State Planning Policy Framework and the Local Planning Policy Framework, including the Municipal Strategic Statement and local planning policies.
- To provide for residential development a range of densities with variety of dwellings to meet the housing needs of all households.
- To encourage residential development that respects the neighbourhood character.
- In appropriate locations, to allow educational, recreational, religious, community and a limited range of other non-residential uses to serve local community needs.

Pursuant to Clause 32.08-5 of the General Residential Zone – Schedule 1, a permit is required to construct two or more dwellings on a lot.

## 6.2 Overlays

### Planning Overlay

The site is within Inundation Overlay and Areas of Aboriginal Cultural Heritage Sensitivity.

# 7 Particular and General Provisions

## 52.06 Car parking

The purpose of this provision is to:

- *To ensure that car parking is provided in accordance with the State Planning Policy Framework and Local Planning Policy Framework.*
- *To ensure the provision of an appropriate number of car parking spaces having regard to the demand likely to be generated the activities on the land and the nature of the locality.*
- *To support sustainable transport alternatives to the motor car.*
- *To promote the efficient use of car parking spaces through the consolidation of car parking facilities.*
- *To ensure that car parking does not adversely affect the amenity of the locality.*
- *To ensure that the design and location of car parking is of a high standard, creates a safe environment for users and enables easy and efficient use.*

Clause 52.06-5 - Table 1 of this clause sets out the car parking requirement that applies to a new dwelling. Where land is proposed to be used for a dwelling, the Clause identifies that the following parking requirements apply:

- 1 space to each one or two bedrooms dwelling
- 2 spaces to each three or more bedrooms dwelling (with studies or studios that are separate rooms counted as a bedrooms) plus
- 1 space for visitors to every 5 dwellings for developments of 5 or more dwellings

## 55TWO OR MORE DWELLINGS ON A LOT AND RESIDENTIAL BUILDINGS

The purpose of this provision is to:

- *To implement the State Planning Policy Framework and the Local Planning Policy Framework, including the Municipal Strategic Statement and local planning policies.*
- *To achieve residential development that respects the existing neighbourhood character or which contributes to a preferred neighbourhood character.*
- *To encourage residential development that provides reasonable standards of amenity for existing and new residents.*
- *To encourage residential development that is responsive to the site and the neighbourhood.*
- *The provisions of this clause contain objectives which describe the desired outcome to be achieved in the completed development and standards which contain the requirements to meet the objective.*
- *An assessment of the proposed development is provided at Attachment 1 of this submission against the provisions of Clause 55.*

## 65 Decision guidelines

- The responsible authority must decide whether the proposal will produce acceptable outcomes in terms of the decision guidelines of this clause.

# 8 Planning Considerations

Having regard to the policy objectives outlined above, it is submitted that the proposed development is consistent with the State and Local Planning Policy Frameworks detailed in the Maribyrnong Planning Scheme.

The relevant policy directions outlined in the scheme encourage the development of well-designed housing which makes effective use of existing infrastructure and provides housing diversity.

Melbourne 2050, Melbourne@5million and the Maribyrnong Planning Scheme seek to facilitate sustainable development that takes full advantage of existing settlement patterns to create opportunities for consolidation of established urban areas.

The Maribyrnong Planning Scheme seeks to encourage housing diversity and housing affordability by supporting the provision of well-designed and located medium density housing.

It is submitted that the proposed development addresses these policy objectives by providing for a development that:

- Improves housing choice and furthers the aims of urban consolidation;
- has excellent access to existing physical and social infrastructure and public transport;
- provides adequate car parking and will allow safe and efficient vehicle movements to and from the site; and
- will enhance the local neighbourhood by providing a well-designed development that relates well to its environment and respects neighbourhood character.

The site is in a General Residential Zone – Schedule 1, which amongst other objectives, seeks "to provide for residential development at a range of densities with a variety of dwellings to meet the housing needs of all households" and "To encourage residential development that respects the neighbourhood character".

The proposed development will provide two dwellings within an established residential area that is within proximity to a wide range of education, community and commercial facilities, including Kingsville Primary School and Mcdonald Reserve. The proposal is therefore considered to address the provisions of which identifies the need to diversity housing stock in well located areas.

This general, strategic support for residential development is of course subject to the particular character and circumstances of a proposal, including its ability to meet the relevant policy and/or design criteria.

## 8.1 Clause 55 (ResCode)

A detailed assessment of the proposal against the provision of Clause 55 is provided at Attachment A of this submission. In summary however, this assessment indicates that the proposed development complies with all objectives and the majority of standards.

# 9 Conclusion

It is submitted that the proposal to construct two townhouse dwellings on the land at 12 Ballard Street, Yarraville has been designed with regards to the State and Local Policy Framework and relevant provisions set out in the Maribyrnong Planning Scheme.

The proposed development provides a satisfactory response to the existing neighbourhood character and objectives of Clause 55. The result is that the development will provide a high standard of on-site amenity without unreasonably affecting the amenity of the adjoining dwellings. We submit that the proposal is worthy of Council support.

# Appendix A– Assessment against Clause 55 (Rescode)

Refer to Clause 55 of the Planning Scheme for objectives, decision guidelines and a full description ofstandards.

## Neighbourhood Character and Infrastructure — Clause 55.02

| Title and Objective | Standard | Complies/Does not Comply/Variation Required |
|---|---|---|
| **B1**<br>**Neighbourhood Character**<br>The design response must be appropriate to the neighbourhood and the site.<br>The proposed design must respect the existing or preferred neighbourhood character and respond to the features of the site | ▪ Appropriate design response to the neighbourhood and site<br>▪ Design respects the existing or preferred neighbourhood character and responds to site features. | ✓ **Complies**<br>The design response is appropriate to the area |
| **B2**<br>**Residential Policy**<br>Residential development is consistent with any relevantpolicy for housing in the State Planning Policy Framework and the Local Planning PolicyFramework, including the Municipal Strategic Statement and local planning policies.<br><br>Support medium densities in areas to take advantage of public transport and community infrastructure and services. | ▪ Application to be accompanied by written statement that explains consistency with relevant housing policy in SPPF, LPPF, MSS and local planning policies | ✓ **Complies** |
| **B3**<br>**Dwelling Diversity**<br>Encourages a range of dwelling sizes and types in developments of ten or more dwellings. | ▪ Developments of ten or more dwellings should provide a range of dwelling sizes and types,including:<br>– Dwellings with a different number of bedrooms.<br>– At least one dwelling that contains a kitchen, bath or shower, and a toilet and washbasin at ground floor level. | - **NA** |
| **B4**<br>**Infrastructure**<br>Provides appropriate utility services and infrastructure without overloading the capacity of utility services and infrastructure**.** | ▪ Connection to the reticulated sewerage, electricity, gas and draining services<br>▪ Capacity of utility services andinfrastructure, including reticulated services and roads should not be exceeded unreasonably<br>▪ In areas where utility services or infrastructure have little or no spare capacity,developments should provide for the upgrading of or mitigation of the impact on services or infrastructure. | ✓ **Complies**<br>It is unlikely the development will result in an overloading of the capacity of infrastructure or services in this area. There is nothing to suggest the development would necessitate the upgrading of services or infrastructure. |
| **B5**<br>**Integration with the street** | ▪ Developments should provide adequate vehicle and pedestrian links that maintain or enhance local accessibility. | ✓ **Complies** |

| | | |
|---|---|---|
| Integrate the layout of development with the street. | ▪ Development should be oriented to front existing and proposed streets. | ✓ **Complies**<br><br>The Proposed Dwellings are to be street facing towards Ballard Street. |
| | ▪ High fencing in front of dwellings should be avoided if practicable. | ✓ **Complies**<br><br>Timber Sleeper fence of 0.9m high is proposed |
| | ▪ Development next to existing public open space should be laid out to complement the openspace. | - **NA** |

## Site Layout and Building Master — Clause 55.03

| Title and Objective | Standard | Complies/Does not Comply/Variation Required |
|---|---|---|
| **B6**<br>**Street Setback**<br>The setbacks of buildings from a street respect the existing or preferredneighbourhood character and make efficient use of the site. | ▪ Walls of buildings should be set back from streets:<br>– At least the distance specified in a schedule to the zone, or<br>– If no distance is specified in a schedule to the zone, the distance specified in Table B1.<br><br>*Porches, pergolas and verandahs that are less than 3.6 metres high and eaves may encroach not more than 2.5 metres into the setbacks of this standard.* | ✓ **Complies**<br><br>The proposed townhouses will have a front setback of 7.22 metres on the ground floor towards Ballard Street. The front setback at the first floor level is 7.36 metres to Ballard Street. It is considered consistent with the most recently developed dwellings. |
| | ▪ There is an existing building onboth the abutting allotments facing the same street, and the site is not on a corner. | **- NA** |
| | ▪ There is an existing building onone abutting allotment facing the same street and no existingbuilding on the other abuttingallotment facing the same street,and the site is not on a corner. | **- NA** |
| | ▪ There is no existing building on either of the abutting allotmentsfacing the same street, and thesite is not on a corner. | **- NA** |
| | | |
| **B7**<br>**Building Height**<br>Building heights respect the existing or preferred neighbourhoodcharacter. | ▪ The maximum building height should not exceed the maximum height specified in the zone, schedule to the zone or an overlay that applies to the land. | ✓ **Complies** |
| | ▪ If no maximum height is specified in the zone, schedule to the zone or an overlay, the maximum building height should not exceed 9 metres, unless the slope of the natural ground level at any cross section wider than 8 metres of the site of the building is 2.5degrees or more, in which case the maximum building height should not exceed 10 metres. | ✓ **Complies** |
| | ▪ Changes of building height between existing buildings and new buildings should be graduated. | ✓ **Complies** |
| **B8**<br>**Coverage**<br>Site coverage respects the existing or preferred neighbourhood character and responds to the features of the site. | ▪ The site area covered by buildings should not exceed:<br>– The maximum site coverage specified in a schedule to the zone, or<br>– If no maximum site coverage is specified in a schedule to the zone, 60 per cent. | ✓ **Complies**<br><br>A site coverage of 59.46% is proposed. |

| | | |
|---|---|---|
| **B9**<br>**Permeability**<br>Reduce the impact of increased stormwater run-off on the drainage system and facilitate on-site stormwater infiltration. | ▪ The site area covered by the pervious surfaces should be at least:<br>– The minimum area specified in a schedule to the zone, or<br>– If no minimum is specified in a schedule to the zone, 20 percent of the site. | ✓ **Complies**<br><br>Permeable surfaces will comprise 40.53 percent of the site area. |
| **B10**<br>**Energy Efficiency**<br>Achieve and protect energy efficient dwellings and residential buildings.<br>Ensure orientation and layout of development reduces fossil fuel energy use and makesappropriate use of daylight and solar energy. | ▪ Oriented to make appropriate use of solar energy. | ✓ **Complies** |
| | ▪ Sited and designed to ensure that the energy efficiency of existing dwellings onadjoining lots is not unreasonably reduced. | ✓ **Complies**<br><br>Overshadowing of abutting properties will be minimal |
| | ▪ If practical, living areas and private open space should be located on the north side of the development. | ✓ **Complies** |
| | ▪ Solar access to north-facing windows is maximised. | ✓ **Complies**<br><br>. |
| **B11**<br>**Open Space**<br>Integrate layout of development with any public and communal open space provided in or adjacent to the development. | ▪ If any public or communal open space is provided on site, it should:<br>– Be substantially fronted by dwellings, where appropriate.<br>– Provide outlook for as many dwellings as practicable.<br>– Be designed to protect any natural features on the site.<br>– Be accessible and useable. | - **NA** |
| **B12**<br>**Safety**<br>Ensure the layout of the development provides for the safety and security of residents and property. | ▪ Entrances to dwellings and residential buildings should not be obscured or isolated from the street and internal access ways. | ✓ **Complies** |
| | ▪ Planting which creates unsafe spaces along streets and access ways should be avoided. | ✓ **Complies** |
| | ▪ Developments should be designed to provide good lighting, visibility and surveillance ofcar parks and internal access ways. | ✓ **Complies** |
| | ▪ Private spaces within developments should be protected from inappropriate use as public thoroughfares. | ✓ **Complies** |
| **B13**<br>**Landscaping**<br>To provide appropriate landscaping and encourage development that<br>- Respects the landscape character of the neighbourhood.<br>- Maintains and enhances habitat for plants and animals in locations of habitat importance<br>- Encourages the retention of mature vegetation on the site**.** | ▪ The landscape layout and design should:<br>– Protect any predominant landscape features of the neighbourhood.<br>– Take into account the soil type and drainage patterns of the site.<br>– Allow for intended vegetation growth and structural protection of buildings.<br>– In locations of habitat importance, maintain existing habitat and provide for new habitatfor plants and animals.<br>– Provide a safe, attractive and functional environment for residents. | ✓ **Complies** |

| | | |
|---|---|---|
| | ▪ Development should:<br>– Provide for the retention or planting of trees, where these are part ofthe character of the neighbourhood.<br>– Provide for the replacement of any significant trees that have beenremoved in the 12 months prior to the application being made. | ✓ **Complies**<br><br>No significant tree requires to be removed.<br><br>Opportunities also exist for the planting of new small canopy trees on the townhouse frontage and at the rear of private open space |
| | ▪ Landscape design should specify landscape themes, vegetation (location and species), paving and lighting. | ✓ **Complies**<br><br>Indicative landscaping is illustrated on the submitted plan. Should a more detailed plan be required it is requested that a condition on the permit require one be prepared by a suitably qualified designer and submitted for endorsement with the development plans. |
| **B14**<br>**Access**<br>To ensure the number and design of vehicle crossovers respects the neighbourhoodcharacter. | ▪ The width of accessways or car spaces should not exceed:<br>– 33 % of the street frontage, or<br>– if the width of the street frontage is less than 20 metres, 40 % of the streetfrontage. | ✓ **Complies** |
| | ▪ No more than one single-width crossover should be provided for each dwelling fronting astreet. | ✓ **Complies** |
| | ▪ The location of crossovers should maximise the retention of on-street car parking spaces. | ✓ **Complies** |
| | ▪ The number of access points to a road in a Road Zone should be minimised. | - **NA** |
| | ▪ Developments must provide for access for service, emergency and delivery vehicles. | ✓ **Complies** |

| | | |
|---|---|---|
| **B15**<br>**Parking Location**<br>Provide convenient parking for resident and visitor vehicles and protect residents from vehicular noise within developments. | ▪ Car parking facilities should:<br>– Be reasonably close and convenient to dwellings and residential buildings.<br>– Be secure.<br>– Be well ventilated if enclosed. | ✓ **Complies**<br><br>Parking area is located within close proximity of the respective dwelling. |
| | ▪ Shared access ways or car parks of other dwellings and residential buildings should be located at least 1.5 metres from the windows of habitable rooms. This setback may bereduced to 1 metre where there is a fence at least 1.5 metres high or where window sills are at least 1.4 metres above the access way. | - **NA** |

## Amenity Impacts — Clause 55.04

| Title and Objective | Standard | Complies/Does not Comply/Variation Required |
|---|---|---|
| **B17**<br>**Side and Rear Setbacks**<br>Ensure that the height and setback of a building from a boundary respects the existing or preferred neighbourhood character and limits the impact on the amenity of existing dwellings. | ▪ A new building not on or within 200mm of a boundary should be set back from side or rear boundaries:<br>– At least the distance specified in a schedule to the zone, or<br>– If no distance is specified in a schedule to the zone, 1 metre, plus 0.3 metres for every metre of height over 3.6 metres up to 6.9 metres, plus 1 metre for every metre of height over 6.9 metres. | ✓ **Complies** |
| **B18**<br>**Walls on boundaries**<br>Ensure that the location, length and height of a wall on a boundary respects the existing or preferred neighbourhood character and limits the impact on the amenity of existing dwellings. | ▪ A new wall constructed on or within 200mm of a side or rear boundary of a lot or a carport constructed on or within 1 metre of a side or rear boundary of lot should not abut the boundary:<br>– For a length of more than the distance specified in a schedule to the zone; or<br>– If no distance is specified in a schedule to the zone, for a length of more than:<br>• 10 metres plus 25 per cent of the remaining length of the boundary of an adjoining lot, or<br>• Where there are existing or simultaneously constructed walls or carports abutting the boundary on an abutting lot, the length of the existing or simultaneously constructed walls or carports, whichever is the greater. | ✓ **Complies** |
| | ▪ A new wall or carport may fully abut a side or rear boundary where slope and retaining walls or fences would result in the effective height of the wall or carport being less than 2metres on the abutting property boundary.<br>▪ A building on a boundary includes a building set back up to 200mm from a boundary. | - **NA** |
| | ▪ The height of a new wall constructed on or within 200mm of a side or rear boundary or a carport constructed on or within 1 metre of a side or rear boundary should not exceed an average of 3.2 metres with no part higher than 3.6 metres unless abutting a higher existing or simultaneously constructed wall. | - **NA** |
| **B19**<br>**Daylight to existing windows**<br>Allow adequate daylight into existing habitable room windows. | ▪ Buildings opposite an existing habitable room window should provide for a light court to the existing window that has a minimum area of 3 square metres and minimum dimension of 1 metre clear to the sky. The calculation of the area may include land on the abutting lot. | ✓ **Complies** |

| | | |
|---|---|---|
| | ▪ Walls or carports more than 3 metres in height opposite an existing habitable room window should be set back from the window at least 50 per cent of the height of the new wall if the wall is within a 55 degree arc from the centre of the existing window. The arc may be swung to within 35 degrees of the plane of the wall containing the existing window. | |
| **B20**<br>**North facing windows**<br>Allow adequate solar access to existing north-facing habitable room windows. | ▪ If a north-facing habitable room window of an existing dwelling is within 3 metres of a boundary on an abutting lot, a building should be setback from the boundary 1 metre, plus 0.6 metres for every metre of height over 3.6 metres up to 6.9 metres, plus 1 metre for every metre of height over 6.9 metres, for a distance of 3 metres from the edge of each side of the window. A north facing window is a window with an axis perpendicular to its surface oriented north 20 degrees west to north 30 degrees east. | ✓ **Complies** |
| **B21**<br>**Overshadowing open space**<br>Ensure buildings do not significantly overshadow existing secluded private open space. | ▪ Where sunlight to the secluded private open space of an existing dwelling is reduced, at least 75 per cent, or 40 square metres with minimum dimension of 3 metres, whichever is the lesser area, of the secluded private open space should receive a minimum of five hours of sunlight between 9 am and 3 pm on 22 September. If existing sunlight to the secluded private open space of an existing dwelling is less than the requirements of this standard, the amount of sunlight should not be further reduced. | ✓ **Complies**<br><br>Overshadowing of abutting properties will be minimal and well within parameters established by the standard |
| **B22**<br>**Overlooking**<br>Limit views into existing secluded private open space and habitable room windows. | ▪ A habitable room window, balcony, terrace, deck or patio with a direct view into a habitable room window of existing dwelling within a horizontal distance of 9 metres (measured at ground level) of the window, balcony, terrace, deck or patio should be either:<br>– Offset a minimum of 1.5 metres from the edge of one window to the edge of the other.<br>– Have sill heights of at least 1.7 metres above floor level.<br>– Have fixed, obscure glazing in any part of the window below 1.7 metre above floor level.<br>– Have permanently fixed external screens to at least 1.7 metres above floor level and be no more than 25 per cent transparent. | ✓ **Complies** |
| | ▪ Obscure glazing in any part of the window below 1.7 metres above floor level may be openable provided that there are no direct views as specified in this standard. | ✓ **Complies** |

| | | |
|---|---|---|
| | ▪ Screens used to obscure a view should be:<br>– Perforated panels or trellis with a maximum of 25 per cent openings or solid translucent panels.<br>– Permanent, fixed and durable.<br>– Designed and coloured to blend in with the development. | - **NA** |
| **B23**<br>**Internal views**<br>Limit views into the secluded private open space and habitable room windows of dwellings and residential buildings within a development. | ▪ Windows and balconies should be designed to prevent overlooking of more than 50 per cent of the secluded private open space of a lower-level dwelling or residential building directly below and within the same development. | ✓ **Complies** |
| **B24**<br>**Noise Impacts**<br>Protect residents from external noise and contain noise sources in developments that may affect existing dwellings. | ▪ Noise sources, such as mechanical plant, should not be located near bedrooms of immediately adjacent existing dwellings. | ✓ **Complies** |
| | ▪ Noise sensitive rooms and secluded private open spaces of new dwellings and residential buildings should take account of noise sources on immediately adjacent properties. | ✓ **Complies** |
| | ▪ Dwellings and residential buildings close to busy roads, railway lines or industry should be designed to limit noise levels in habitable rooms. | ✓ **Complies** |

## On-site Amenity and Facilities — Clause 55.05

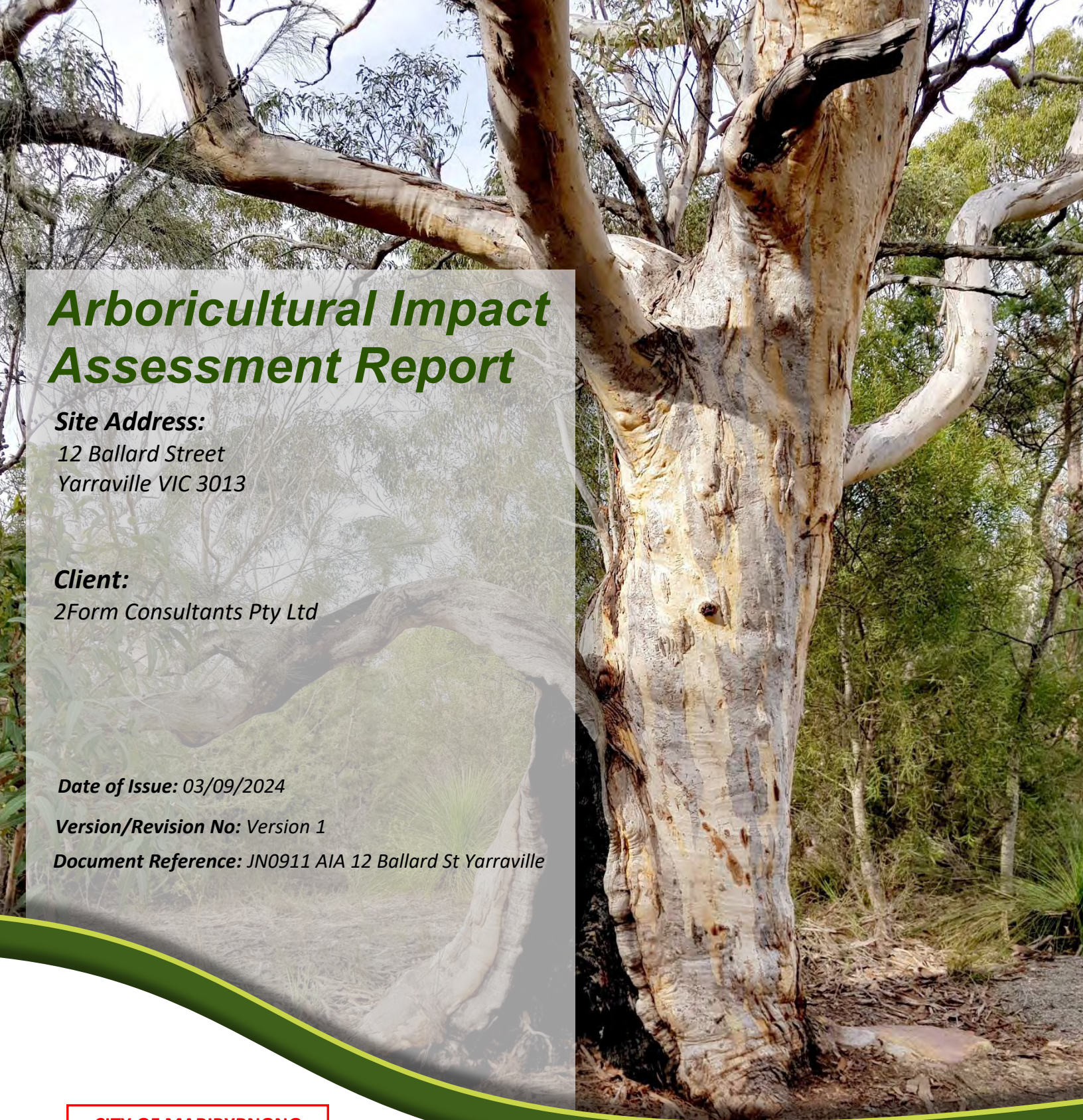
| Title and Objective | Standard | Complies/Does not Comply/Variation Required |
|---|---|---|
| **B25**<br>**Accessibility**<br>To encourage the consideration of the needs of people with limited mobility in the design of developments. | ▪ Dwelling entries of the ground floor of dwellings and residential buildings should be accessible or able to be easily made accessible to people with limited mobility. | ✓ **Complies** |
| **B26**<br>**Dwelling Entry**<br>Provide each dwelling or residential building with its own sense of identity. | ▪ Entry should be visible and easily identifiable from streets and other public areas. | ✓ **Complies**<br><br>Articulated entries will be provided. |
| | ▪ Provide shelter, a sense of personal address and a transitional space around the entry. | ✓ **Complies**<br><br>Porch areas of the dwelling will provide shelter and a traditional space |
| **B27**<br>**Daylight to new windows**<br>Allow adequate daylight into new habitable room windows. | ▪ A window in a habitable room should be located to face:<br>– An outdoor space clear to the sky or a light court with a minimum area of 3 square metres and minimum dimension of 1 metre clear to the sky, not including land on an abutting lot,<br>– A verandah provided it is open for at least one third of its perimeter, or<br>– A carport provided it has two or more open sides and is open for at least one third of its perimeter. | ✓ **Complies** |
| **B28**<br>**Private Open Space**<br>Provide adequate private open space for the reasonable recreation and service needs of residents. | ▪ If no area or dimensions are specified in a schedule to the zone, a dwelling or residential building should have private open space consisting of:<br>– An area of 40 square metres, with one part of the private open space to consist of secluded private open space at the side or rear of the dwelling or residential buildingwith a minimum area of 25 square metres, a minimum dimension of 3 metres and convenient access from a living room, or<br>– A balcony of 8 square metres with a minimum width of 1.6 metres and convenientaccess from a living room, or<br>– A roof-top area of 10 square metres with a minimum width of 2 metres and convenient access from a living room. | ✓ **Complies** |

| | | |
|---|---|---|
| **B29**<br>**Solar Access to Open Space**<br>Allow solar access into the secluded private open space of new dwellings and residential buildings. | ▪ The private open space should be located on the north side of the dwelling or residential building, if appropriate. | ✓ **Complies** |
| | ▪ The southern boundary of secluded private open space should be set back from any wall on the north of the space at least (2 + 0.9h) metres, where 'h' is the height of the wall. | ✓ **Complies** |
| **B30**<br>**Storage**<br>Provide adequate storage facilities for each dwelling | ▪ Each dwelling should have convenient access to at least 6 cubic metres of externally accessible, secure storage space. | ✓ **Complies** |

## Detailed Design — Clause 55.06

| Title and Objective | Standard | Complies/Does not Comply/Variation Required |
|---|---|---|
| **B31**<br>**Design detail**<br>Design detail that respects the existing or preferred neighbourhood character. | ▪ The design of buildings, including:<br>– Facade articulation and detailing,<br>– Window and door proportions,<br>– Roof form, and<br>– Verandahs, eaves and parapets,<br>should respect the existing or preferred neighbourhood character. | ✓ **Complies**<br><br>The dwellings will be provided with steel sheet roofing consistent with the character of the area. The modest door/window portions, porch areas above dwelling entrances and articulated form of the double stories dwelling are also consistent with development forms in the area. |
| | ▪ Garages and carports should be visually compatible with the development and the existing r preferred neighbourhood character. | ✓ **Complies** |
| **B32**<br>**Front Fences**<br>Encourage front fence design that respects the existing or preferred neighbourhood character. | ▪ The design of front fences should complement the design of the dwelling or residential building and any front fences on adjoining properties. | ✓ **Complies** |
| | ▪ A front fence within 3 metres of a street should not exceed:<br>– The maximum height specified in a schedule to the zone, or<br>– If no maximum height is specified in a schedule to the zone, the maximum height should not exceed:<br>• 2m if abutting a Road zone, Category 1<br>• 1.5m in any other streets | ✓ **Complies** |
| **B33**<br>**Common Property**<br>Ensure that communal open space, car parking, access areas and site facilities are practical, attractive and easily maintained.<br><br>Avoid future management difficulties in areas of common ownership. | ▪ Developments should clearly delineate public, communal and private areas. | ✓ **Complies** |
| | ▪ Common property, where provided, should be functional and capable of efficient management. | ✓ **Complies** |
| **B34**<br>**Site Services**<br>Ensure that site services can be installed and easily maintained | ▪ The design and layout of dwellings and residential buildings should provide sufficient space (including easements where required) and facilities for services to be installed and maintained efficiently and economically. | ✓ **Complies** |

| | | |
|---|---|---|
| and are accessible, adequate and attractive. | ▪ Bin and recycling enclosures, mailboxes and other site facilities should be adequate in size, durable, waterproof and blend in with the development. | ✓ **Complies** |
| | ▪ Bin and recycling enclosures should be located for convenient access by residents. | ✓ **Complies** |
| | ▪ Mailboxes should be provided and located for convenient access as required by Australia Post. | ✓ **Complies** |



# Arboricultural Impact Assessment Report

***Site Address:***
*12 Ballard Street*
*Yarraville VIC 3013*

***Client:***
*2Form Consultants Pty Ltd*

***Date of Issue:*** *03/09/2024*

***Version/Revision No:*** *Version 1*

***Document Reference:*** *JN0911 AIA 12 Ballard St Yarraville*

CITY OF MARIBYRNONG
**ADVERTISED PLAN**

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Arboriculture Consultants

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*I Ricky Howell of Howell Arboriculture Consultants Pty Ltd confirm that I have acquired the minimum qualifications required through training (Diploma of Arboriculture AQF5) for a person responsible for carrying out tree assessment, report preparation, consultation with designers, specifying tree protection measures, monitoring & certification in accordance with Section 1.4.4 of the Australian Standard 4970:2009 Protection of Trees on Development Sites & has the equivalent industry experience (17 years industry experience –7 Years as a Senior Arboricultural Consultant)*

***Report Commissioned By:***

*2Form Consultants*

## Document Control

| ***Item*** | ***Detail*** |
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| ***Site Assessment Conducted*** | *23/08/2024* |
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| ***Document Status*** | *Final* |
| ***Version/Revision No:*** | *1* |
| ***Document Format*** | *Portable Document Format (PDF) – Uncontrolled when printed* |

*Table 1 Document Control*

| Document Amendment History | Version/Revision No. | Revised | Date |
|---|---|---|---|
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*Table 2 Document Amendment History*

## Contents

## List of Figures



## List of Tables



## 1 Documents Reviewed

The following documents cited below have been reviewed throughout the preparation of this report. These documents may be referenced throughout this report. All Documents are assumed to be correct. where tree impact has been assessed this is based on the designs provided by the client or their representative.

- *Harris, Matheny, Clark, 2003, Arboriculture: Integrated Management of Landscape Trees, Shrubs, and Vines (4th Edition), Prentice Hall*
- *Matheny, Clark, 1998, Trees and development: a technical guide to preservation of trees during land development, International Society of Arboriculture*
- *Standards Australia 2009, AS 4970-2009 Protection of trees on development sites, Sydney*
- *Standards Australia 2007, AS4373-2007 Pruning of Amenity Trees, Sydney*
- *Standards Australian AS4454-1997 Composts, Soil Conditioners and Mulches.*
- *Council Arborist Victoria (CAV) Reporting Guidelines*
- *NEIGHBOURHOOD SITE DESCRIPTION*
- *DESIGN RESPONSE PLAN*
- *GROUND FLOOR PLAN*

## 2 Executive Summary

Howell Arboriculture Consultants Pty Ltd has been engaged to provide An Arboricultural Impact Assessment Report prepared by a suitably qualified Arborist (minimum Australian Qualification Framework Level 5 and/or equivalent experience) for One (1) Third Party Owned tree(s) located within the nature strip of the subject site and a further Two (2) specimens located within the property boundary of No.14 Ballard Street to further determine how they will be impacted by the proposed design in accordance with *Australian Standards AS4970:2009 Protection of Trees on Development Sites.*

This primary scope of this Arboricultural Assessment Report is to provide the following:

- *Undertake individual Visual Tree Assessments (VTA). pursuant to the Australian Standard AS4970:2009 Protection of Trees on Development Sites on each subject specimen.*
- *Provide individual tree assessment data relating to Health, Structure, Tree Maturity, Tree Dimensions (Height x Width), Trunk Dimensions (DBH & DAB), Useful Life Expectancy, Tree Significance & Tree Retention Value.*
- *Determine the Tree Protection and Structural Root Zones (TPZ & SRZ) in accordance with Australian Standard AS4970:2009 Protection of Trees on Development Sites.*
- *Provide an appropriate plan showing tree location with tree numbers, retention values and Tree Protection Zones (TPZ)*
- *Provide a Detailed Arboricultural Impact Assessment.*

This report has been prepared in accordance with *Australian Standard 4970:2009 Protection of Trees on Development Sites* and the reporting guidelines set out by *Council Arborist Victoria (CAV)*. It provides an assessment of the site specimens with regards to their health, structure and retention value within their current landscape and identifies the impact of the proposed design on the future longevity of the trees. This report may recommend design modifications and construction methods to minimise construction impacts on the site specimens where there may be intrusions into the respective Tree Protection Zones.

A total of Three (3) specimen was/were assessed in total forming this report. Of those specimens the following were observed to be:

- *Two (2) specimens was/were identified as Exotic specimens native outside of Australia.*
- *Zero (0) specimens was/were identified as Victorian Native specimens.*
- *One (1) specimen was/were identified as Australian Native specimens native outside of Victoria.*

It is recommended that all works (if any) associated with the recommendations within this report are conducted in accordance with the *Australian Standards AS4373-2007 Pruning of Amenity Trees* and are to be carried out by a suitably qualified arborist with a minimum qualification of *Certificate 3 in Arboriculture (AQF3).*

In accordance with the *Tree Significance - Assessment Criteria and Tree Retention Value* All specimens were attributed a Tree Retention Value which reflects the individual tree's general worthiness for retention, these are as follows:

| Retention Value (RV) | Tree ID | Total Trees |
|---|---|---|
| Third Party Owned Trees | 1,2,3 | 3 |
| High Retention Trees | | |
| Medium Retention Trees | | |
| Low Retention Trees | | |
| | | 3 |

*Table 3 Retention Value Overview*

The decision on which trees are to be removed should be based on sound arboricultural advice and guided by arboricultural ratings attributed to each individual tree which related to combined tree condition factors such as age, health, structure, useful life expectancy and retention value.

On the basis of future site safety and potential amenity, preference should be given to retaining trees primarily of High, & Moderate arboricultural value in built areas or areas of increased target potential.

The following table identifies the current impact subjected to the site trees, for further details see section 8 for Arboricultural Impact Assessment.

| Impact on Trees | Tree Retention Value | | | | Total Trees |
|---|---|---|---|---|---|
| | Third Party Owned | High | Medium | Low | |
| Major Impact – Not Retainable | | | | | |
| Design Modification or Further Investigation | | | | | |
| Major Impact – Retainable | | | | | |
| Minor Impact | 2 | | | | 2 |
| No Impact | 1 | | | | 1 |
| | | | | | 3 |

*Table 4 Summary of Tree Impact Table In Accordance with AS4970:2009*

Tree protection measures must be put in place prior to any development to protect all trees subjected for retention as well as any other trees that are intended to remain in the landscape.

A Project Arborist should be appointed to assist in the design and protection of trees warranting retention.

## 3 Arboricultural Report Assumptions and Limitations

It is assumed that any property/project is not in violation of any applicable codes, ordinances, statutes, or other government regulations.

All legal description provided to the consultant is assumed to be correct. Any titles and ownership of any property are assumed to be good. Howell Arboriculture Consultants Pty Ltd hold no responsibility for matters that are legal in character.

No Director nor employee of Howell Arboriculture Consultants Pty Ltd shall be required to give testimony or attend court by reason of this report unless subsequent contractual arrangements are made, including of an additional fee for such services required.

Loss or alterations of any form of this report invalidates the entire report.

Possessions of this report or a copy thereof does not imply right of publications or use for any purpose by anyone but the person to whom It is addressed or without written consent from the director of Howell Arboriculture Consultants Pty Ltd Ricky Howell.

Information contained within this report covers only the items that were examined and reflect the conditions of those items at the time of assessment.

The tree(s) discussed herein were inspected for physical appearance, visible biological function and aesthetic conditions. The inspection was undertaken in accordance with standard industry procedures which is a macro visual observation from ground level. Tree inspections, in this case, do not cover micro-biological examination, soil root excavation, internal cavities, internal structures or diseases with non-visible symptoms and the reporting herein reflects the overall visual appearance of the trees at the time of review.

The subsequent report findings are the culmination of research combined with the professional opinion of the author of this report. This report has not been produced to support a particular motive, produce a desired value or predict a desired occurrence. All findings within this reported are provided without bias towards certain parties or results.

Although all recommendations within this report are based on sound and accepted Arboricultural practices, neither the author nor Howell Arboriculture Consultants Pty Ltd have assumed responsibility for liability associated with the trees discussed within this report, their future demise and/or any damage which may result.

Howell Arboriculture Consultants Pty Ltd are qualified professionals that have acquired the minimum qualifications required through training (*Diploma of Arboriculture AQF5*) for a person responsible for carrying out tree assessment, report preparation, consultation with designers, specifying tree protection measures, monitoring & certification in accordance with Section 1.4.4 of the *Australian Standard 4970:2009 Protection of Trees on Development Sites*. Howell Arboriculture Consultants Pty Ltd take great care to provide information that is accurate, knowledgeable, and reliable. You hereby agree to the extent of the law that we will not be held responsible (regardless of liability theory) for occurrences or advice, due to direct, indirect or negligent actions (using professional opinions, experience, or information – including information from third parties) which lead to or are perceived to lead to: any loss or damage (monetary, or otherwise), perceived loss, perceived damage; injury; revenue changes; aesthetic changes; and/or lifestyle impacts. We do not provide warranties or guarantees.

*This disclaimer is governed by law in force in the state of Victoria, Australia*

## 4 Methodology

A ground based visual assessment was conducted on the 23rd of August 2024

The assessment was conducted of the external and above-ground tree parts in accordance with the principles of Visual Tree Assessment (VTA) and tree hazard assessment described in *Harris, Clark and Matheny (1999)* and *Mattheck and Breloer (1994*) by Ricky Howell (*Dip.Arb*).

The tree(s) were not climbed, no samples of the tree or site soil were taken. No subsurface root investigation were undertaken.

Tree locations & images were recorded on an Apple iPhone 13 Pro using Fulcrum data collection app on GPS location (generally +/- 1.0m accuracy).

Tree height(s) and canopy spread(s) were recorded using a digital laser range finder (Nikon Forestry Pro).

Trunk Diameter at Breast Height (DBH) & Diameter at Base (DAB) were measured individually using a specialized Yamayo Million Diameter Tape. Trees 2 & 3 were estimated from the Driveway of No.14 Ballard Street, access was not provided to either of the properties, no photos were able to be captured due to access

Tree(s) were not individually tagged as part of this report unless otherwise specified.

Observations were made of the assessed trees to determine the following.

- *Botanical Name*
- *Common Name*
- *Origin*
- *Health*
- *Structure*
- *Useful Life Expectancy (ULE)*
- *Age*
- *Retention Value*
- *Height (m)*
- *Canopy Width (m)*
- *Diameter at Breast Height (DBH)*
- *Diameter at Base (DAB)*
- *Tree Protection Zone (TPZ)*
- *Structural Root Zone (SRZ)*
- *Recommended Works*
- *Tree Significance*

Assessment details of individual trees are listed within Appendix (1) and a copy of the tree location plan can be observed in Appendix 2 Site Map. Characteristic Descriptors used in the assessment can be seen in Appendix 3.

Each tree assessed was attributed a ‘Tree Retention Value’ this value correlated the combination of tree health and structural rating with tree amenity value. Tree Retention Value matrix can be observed within Appendix 5 STARS Retention Matrix.

Each tree assessed has an allocated Tree Protection Zone (TPZ). The TPZ have been measured and allocated within accordance of *Australian Standard AS4970-2009 Protection of Trees of Development Sites*. Tree Protection Zone (TPZ) is measured as a radius, from the centre of the trunk at (or near) ground level.

To successfully retain suitable trees within or surrounding a development site, consideration must be given to protecting the trunk, crown and roots of each specimen. Tree Protection Zones (TPZ’s) are

used to provide adequate space for the preservation of sufficient roots to maintain tree health (particularly important for mature trees) whilst providing a buffer zone between construction activity and the tree trunk and crown.

The method for determining tree protection zones adopted in this report is the '*Australian Standard for Protection of trees on development sites*'. The TPZ area is determined by the trunk diameter measurement measured in metres at 1.4m (DBH) and multiplied by 12 and is a guide for planning purposes. The trunk of the tree is used as the centre point for the radial measurement.

## 5. Site Details

The subject site presented as a vacant residential allotment which contained One (1) single story dwelling

The property parcel is as follows:

12 BALLARD STREET YARRAVILLE 3013, AUS (463.59 metres squared)

The scope of assessment comprised of Three (3) individual specimens that may have the potential to be impacted by the proposed design.


*Figure 1 Aerial View of Subject Site (Vic map)*

### 5.1 Site Map

*A site map detailing tree locations has been provided in Appendix 3 Site Maps*

## 5.2 Construction

The proposed design will see the existing dwelling demolished with the construction of Two (2) double story side by side dwellings constructed as per the following figure 2.

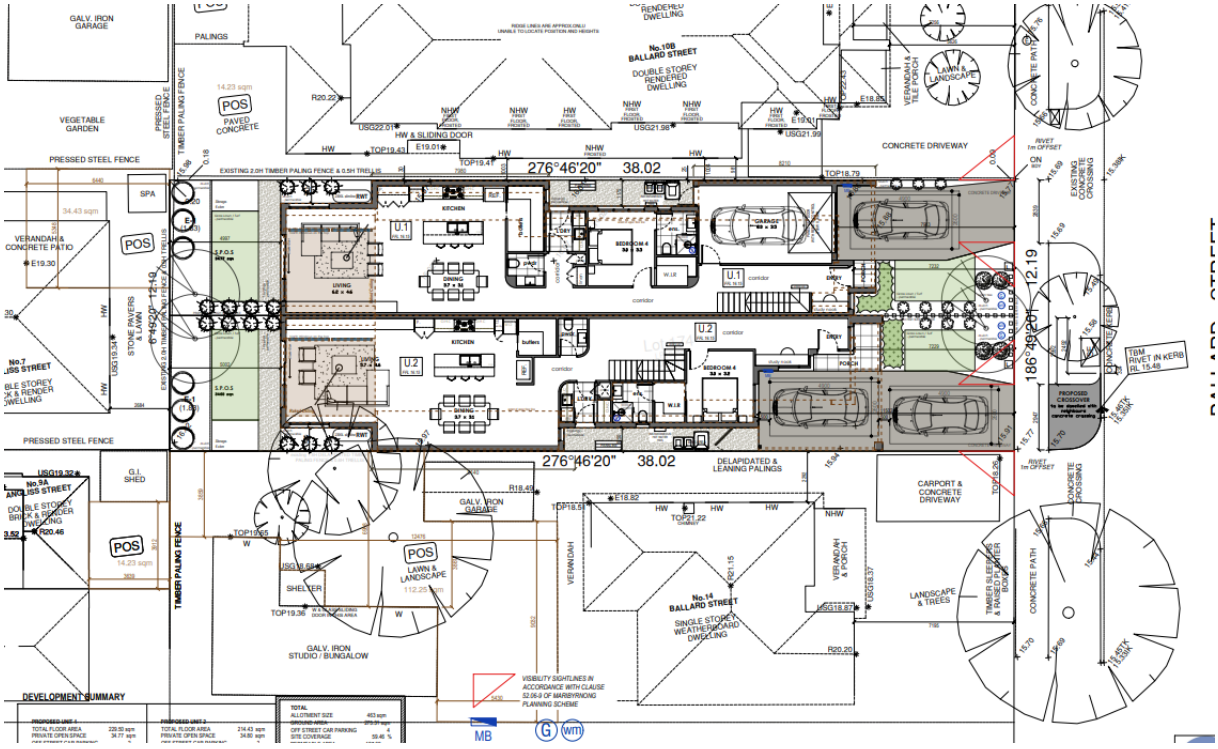



*Figure 2 Proposed Ground Floor Plan*

## 5.3 Planning & Policy Context

In accordance with Brimbank City Council & the Victorian Planning Provisions the following are the Planning Scheme Zones & Overlays subjected to the property parcel.

***Planning Scheme Zones***

- *GRZ GENERAL RESIDENTIAL ZONE*
- *GRZ1 GENERAL RESIDENTIAL ZONE - SCHEDULE 1*

***Planning Scheme Overlays***

- *DCPO DEVELOPMENT CONTRIBUTIONS PLAN OVERLAY*
- *DCPO2 DEVELOPMENT CONTRIBUTIONS PLAN OVERLAY - SCHEDULE 2*

The following table breaks down the trees in accordance with the permit requirements addressed above.

| Planning Control | Applicable to Site | Control | Trees Requiring Permit (Filtered by Tree ID) |
|---|---|---|---|
| Clause 52.17 Victorian Native Vegetation Permit | N/A<br>Less than 0.4 Hectares | Less than 0.4 Hectares | N/A |
| Vegetation Protection Overlay (VPO) | N/A | | N/A |
| Environmental Significance Overlay (ESO) | N/A | | N/A |
| Significant Landscape Overlay (SLO) | N/A | | 1 |
| Heritage Overlay (HO) | N/A | | N/A |
| Protection Under Local Law | N/A | Third Party Owned Tree Only | N/A |

*Table 5 Permit Requirements Table*

## 6 Discussion

Three (3) specimens was/were assessed in total within this report. These are as follows:

Full details of the specimens assessed have been provided in Appendix 1: Tree Data.

| Genus Species | Common Name | Origin | Count |
|---|---|---|---|
| *Pyrus calleryana 'Capital'* | Callery Pear | Exotic | 1 |
| *Callistemon citrinus x viminalis* | Kings Park Special | Aus. Native | 1 |
| *Coprosma repens* | Mirror Bush | Exotic | 1 |
| | | | 3 |

*Table 6 Count of Assessed Species*

## 6.1 Tree Retention Value

Trees that provide important environmental and/or aesthetic contribution to the area and are in good condition score a High or Medium retention value and conservation of these trees is encouraged. Trees identified as not suitable for retention or attained a low Tree Retention Rating, displayed one or *several* the following attributes:

a. *Provide limited environmental/aesthetic benefit,*
b. *Short lived species,*
c. *Represent a material risk to persons or property,*
d. *Identified as causing or threatening to cause substantial damage to a structure of value,*
e. *Limited Useful Life Expectancy.*
f. *Young and easily replaced.*

## 6.2 Third Party Owned Trees

As part of this assessment Three (3) specimens was/were determined to be **Third Party Owned**

These specimens were determined to be "Third Party Owned" as it was identified to be a tree located outside of the subject site and is owned by a third party. It may be owned by a private entity (Residential) or public body (Council). Third Party Owned trees must be protected from construction impact, unless a mutually acceptable outcome is negotiated with the tree owner and relevant authorities.

Third Party Owned Trees as Follows;

| ID | Botanical Name | Common Name | Tree Significance | Tree Retention | Address |
|---|---|---|---|---|---|
| 1 | *Pyrus calleryana 'Capital'* | Callery Pear | Medium | Third Party Owned | 12 Ballard St Yarraville VIC 3013 AU |
| 2 | *Callistemon citrinus x viminalis* | Kings Park Special | Medium | Third Party Owned | 14 Ballard St Yarraville VIC 3013 AU |
| 3 | *Coprosma repens* | Mirror Bush | Environmental Weed | Third Party Owned | 14 Ballard St Yarraville VIC 3013 AU |

*Table 7 Third Party Owned Trees*

## 6.3 High Retention Value Trees

As part of this assessment Zero (0) specimens was/were determined to have a **High Retention Value**.

High Retention Valued Trees are described as a tree of high quality in good to fair condition. Generally, a prominent landscape feature. Has the potential to be a medium to long-term landscape component were managed appropriately. Significant efforts should be made to retain these specimens.

## 6.4 Medium Retention Value Trees

As part of this assessment Zero (0) specimens was/were determined to have a **Medium Retention Value**.

Medium Retention Valued trees are described as trees of moderate quality in fair condition. Generally a modest landscape feature that may have a health or structural issue that can be resolved with arboricultural input, or may refer to a medium to small tree in good condition that has the potential to be a medium to long term landscape component where managed appropriately. Where practical, design modifications should be considered to retain and protect from construction.

## 6.5 Low Retention Value Trees

As part of this assessment Zero (0) specimens was/were determined to have a **Low Retention Value.**

Low Retention Value trees are described as trees generally of low quality in poor condition. Provides little amenity value. Unlikely to be a long- or medium-term landscape component. The tree may be considered a week species, structurally unsound, dead/dying/disease, nearing the end of its ULE or may not be suitable for the site. Or a small tree of good to fair condition which can be easily replaced in the landscape through advanced planting.

## 6.6 Tree Significance Rating

The landscape significance of a tree is an essential criterion to establish the importance that a particular tree may have on a site. However, rating the significance of a tree becomes subjective and difficult to ascertain in a consistent and repetitive fashion due to assessor bias. It is therefore necessary to have a rating system utilising structured qualitative criteria to assist in determining the retention value for a tree. To assist this process all definitions for terms used in the Tree Significance - Assessment Criteria and Tree Retention Value - Priority Matrix, are taken from the IACA Dictionary for Managing Trees in Urban Environments 2009. This rating system will assist in the planning processes for proposed works, above and below ground where trees are to be retained on site. The system uses a scale of High, Medium and Low significance in the landscape. Once the landscape significance of an individual tree has been defined, the retention value can be determined.

(If required) the following explains why the individual tree may have a reduced Tree Significance

Not Required

## 7 Tree Protection

*Australian Standard AS4970-2009 Protection of trees on development sites* prescribes the use of a Tree Protection Zone (TPZ) as the principle means of protecting trees throughout the development process. If encroachment is required within any TPZ, the Project Arborist should be consulted to identify impacts and recommend mitigation measures. The Tree Protection Zones should be used to inform any future development of the site, maintaining these areas as open space.

Below is a list of the Tree Protection Zones and Structural Zone for each tree. It is these measurements that should be considered during any planning. Each measurement is given in metres as a radius from the trunk centre. Trees recommended for removal are not included within this list.

Please note in accordance with *Australian Standard AS4970-2009 Protection of trees on development sites* – Section 3.2 Determining the TPZ "The TPZ of palms, other monocots, cycads and tree ferns should not be less than 1m outside the crown projection'. The SRZ formula is not calculated for palms.

As per *Australian Standard AS4970-2009 Protection of trees on development sites*, A TPZ should not be less than 2m. And for trees with a trunk diameter less than 0.15m will have the minimum SRZ of 1.5m.

Encroachment into the Tree Protection Zone (TPZ) is permissible under certain circumstances though this is dependent on both site conditions and tree characteristics. Minor encroachment, up to 10% of the Tree Protection Zone (TPZ), is generally permissible provided encroachment is compensated for by recruitment of an equal area contiguous with the TPZ and the crown of the tree will not require excessive pruning that would cause the tree to become unbalanced or disfigure.
Tree Protection Zones are as follows:

| ID | Botanical Name | Address | Retention Value | Multiple Trunk DBH (cm) | Total DBH (cm) | TPZ [m] | DAB (cm) | SRZ [m] |
|---|---|---|---|---|---|---|---|---|
| 1 | *Pyrus calleryana 'Capital'* | 12 Ballard St Yarraville VIC 3013 AU | Third Party Owned | | 13 | ***2.00** | 14 | ***1.50** |
| 2 | *Callistemon citrinus x viminalis* | 14 Ballard St Yarraville VIC 3013 AU | Third Party Owned | | 35 | 4.20 | 40 | 2.25 |
| 3 | *Coprosma repens* | 14 Ballard St Yarraville VIC 3013 AU | Third Party Owned | | 10 | ***2.00** | 11 | ***1.50** |

*Table 8 Tree Protection Zones*

****** Tree Protection Zone (TPZ) & Structural Root Zone (SRZ) in bold indicated the minimum tree protection measurements have been applied in accordance with the Australian Standard 4970:2009 Protection of Trees on Development Sites.***

## 8. Impact Assessment

**Preliminary Concerns.**

The following table details preliminary concerns relating to the subject site. This may include sensitive issues such as cultural, ecological, heritage or preliminary construction concerns

| Preliminary Concern Type | Comments |
|---|---|
| Ecological Concerns | No Concerns |
| Cultural Sensitivity Concerns | No Concerns |
| Heritage Concerns | No Concerns |
| Native Vegetation Concerns | No Native Vegetation Proposed for Removal |
| **Construction Concern** | **Comments** |
| Elevation Changes | Not Provided |
| Shadow Overcast | Not Provided |
| Crossover Design | No Concerns |

*Table 9 Preliminary Concerns*

**Tree Protection Zone Impact Assessment**

The following table details the percentage of encroachment caused by the proposed design on each individual tree. In accordance with the *Australian Standards AS4970:2009 Protection of Trees on Development Sites.*

Ideally;
All works should be excluded from the Structural Root Zone of any retained tree. It is within this area that those roots are responsible for anchoring the trees in the soil are likely to be found. Damage caused to these roots may cause the tree to become unstable.

New works within the Tree Protection Zone should be minimised. Any intrusion into a Tree Protection Zone of greater than 10% (measured in m2 of the total area of the radial Tree Protection Zone) is considered unacceptable in accordance with *AS 4970 – 2009 Protection of trees on development sites*. An intrusion of greater than 10% may be manageable but requires review by the Project Arborist to ascertain acceptability based on the specific conditions and any management criteria that may be applicable.

'Low' or 'No' retention valued trees are recommended for removal to facilitate the best possible tree related cost/benefit scenario throughout the works.

| *Tree Impact Legend* | | | | | | |
|---|---|---|---|---|---|---|
| *Major Impact – Not Retainable* | *Design Modification or Further Investigation* | *Major Impact – Retainable* | *Minor Impact* | *No Impact* | *Remove Tree Not Worthy of Assessment Low – No Retention Trees* | |
| *ID* | *Botanical Name* | *Retention Value* | *Encroachment %* | | *Recommendation* | |
| | | | *TPZ* | *SRZ* | | |
| *1* | *Pyrus calleryana 'Capital'* | Third Party Owned | *0%* | *0%* | No Direct Impact | |
| *2* | *Callistemon citrinus x viminalis* | Third Party Owned | *1.00%* | *0%* | Minor encroachment | |
| *3* | *Coprosma repens* | Third Party Owned | *2.00%* | *0%* | Environmental weed species, minor encroachment design illustrated mulch will be installed | |

*Table 10 Impact Assessment Table*

## 8.1 Mitigation Measures

Any encroachment within the respective Tree Protection Zone (TPZ) of trees to subjected for retention must be compensated with a range of mitigation measures to ensure that impacts to the subject tree(s) are as minimal as reasonably practicable. Mitigation must be increased relative to the level of encroachment within the Tree Protection Zone (TPZ) to ensure each subject tree will remain viable.

The table below outlines requirements set out in accordance with *AS 4970-2009 Protection of Trees on Development Sites*, and mitigation measures required within each category of encroachment. Mitigation measures only for trees subjected for retention.

| Encroachment | AS4970:2009 Requirements | Mitigation Measures |
|---|---|---|
| **No Direct Impact Retainable (0%)** | • No Action | • No Action |
| **Minor Encroachment (<10%) Retainable** | • If the proposed encroachment is less than 10% of the area of the TPZ and is outside the SRZ, the area lost to this encroachment should be compensated for elsewhere and contiguous with the TPZ.<br>• A detailed root investigation should not be required | • The area lost to this encroachment should be compensated for elsewhere, & contiguous with the TPZ.<br>• Tree protection measures must be installed |
| **Major Encroachment (>10%)** | • If the proposed encroachment is greater than 10% of the TPZ or inside the SRZ, the project arborist must demonstrate that the tree(s) will remain viable.<br>• The area lost to this encroachment should be compensated for elsewhere and contiguous with the TPZ.<br>• A root investigation by non-destructive measures may be required to determine how the tree(s) will be adversely impacted | • The project arborist must demonstrate the tree(s) would remain viable.<br>• The area lost to this encroachment should be compensated for elsewhere & contiguous with the TPZ.<br>• Non-destructive root investigation may be required for any trees proposed for retention.<br>• The project arborist is required to supervise all works within the TPZ.<br>• Tree protection measures must be installed. |
| **Total Encroachment (100%)** | | |

*Table 11 Mitigation Measures*

## 9. Conclusions

High Retention Value trees or Third Party Owned trees **must be included** in future site surveys for development of this site. Tree Protection Zones (TPZ) (see section 7) should be included and clearly displayed in site development building plans for submission to council.

**(Design Modification or Further Investigation)**

Not Applicable

**(Major Intrusion >10% Remove)**

Not Applicable

**(Major Intrusion >10% Can Be Retained**

Not Applicable

**(Minor Intrusion <10%)**

Trees 2 & 3 will be impacted by less than 10% the proposed design will not modify the N.G.L along the boundary fence and therefor both specimens will not adversely impacted.

**(No Impact)**

Tree 1 will not be directly impacted by the proposed design and therefor will remain as a viable streetscape component

(**Remove Tree Not Worthy of Assessment Low – No Retention Trees)**

Not Applicable

## 10. Recommendations

The Following recommendations are in accordance with industry best practices and with *Australian Standard AS4970-2009 Protection of Trees on Development Sites.*

The following amendments should be undertaken on the proposed site plans.

*None Required*

Appoint and consult with a Project Arborist to assist with all Arboricultural matters in relation to development of this site.

All works within the tree protection zones of trees subject for retention must be supervised by Project Arborist.

Ensure Tree Protection Measures are installed for trees subjected for retention in accordance with the *Australian standards AS4970:2009 Protection of Trees on Development Sites*

*Arboricultural Assessment report written by:*

*Ricky Howell*
*Director/Senior Consulting Arborist*
*Howell Arboriculture Consultants*
*Diploma of Arboriculture (AQF5)*
*Howellarboriculture@outlook.com.au*

*If you have any further questions in regard to this report or any other Arboricultural concerns, please do not hesitate to contact me.*

## Appendix 1. Individual Tree Data

| | |
|---|---|
| ***ID*** | *1* |
| ***Origin*** | *Exotic* |
| ***Botanical Name*** | *Pyrus calleryana 'Capital'* |
| ***Common Name*** | *Callery Pear* |
| ***Height (m)*** | *3.5* |
| ***Crown (m)*** | *3* |
| ***Diameter At Breast Height - DBH (cm)*** | *13* |
| ***Diameter At Base - DAB (cm)*** | *14* |
| ***Health*** | *Fair* |
| ***Structure*** | *Fair* |
| ***Age*** | *Semi Mature* |
| ***ULE*** | *15 - 40 Years* |
| ***Retention Value*** | *Third Party Owned* |
| ***Tree Significance*** | *Medium* |
| ***TPZ*** | *2.00* |
| ***SRZ*** | *1.50* |
| ***Comments / Recommendations*** | |


| | |
|---|---|
| ***Latitude*** | *-37.8136652112* |
| ***Longitude*** | *144.86798007* |

| | |
|---|---|
| ***ID*** | *2* |
| ***Origin*** | *Aus. Native* |
| ***Botanical Name*** | *Callistemon citrinus x viminalis* |
| ***Common Name*** | *Kings Park Special* |
| ***Height (m)*** | *6* |
| ***Crown (m)*** | *8* |
| ***Diameter At Breast Height - DBH (cm)*** | *E35* |
| ***Diameter At Base - DAB (cm)*** | *E40* |
| ***Health*** | *Fair* |
| ***Structure*** | *Fair* |
| ***Age*** | *Mature* |
| ***ULE*** | *15 - 40 Years* |
| ***Retention Value*** | *Third Party Owned* |
| ***Tree Significance*** | *Medium* |
| ***TPZ*** | *4.20* |
| ***SRZ*** | *2.25* |
| ***Comments / Recommendations*** | |

**No Image Captured due to access**

| | |
|---|---|
| ***Latitude*** | *-37.8137152718* |
| ***Longitude*** | *144.867623001* |

## Appendix 1. Individual Tree Data

| | |
|---|---|
| ***ID*** | *3* |
| ***Origin*** | *Exotic* |
| ***Botanical Name*** | *Coprosma repens* |
| ***Common Name*** | *Mirror Bush* |
| ***Height (m)*** | *3* |
| ***Crown (m)*** | *2* |
| ***Diameter At Breast Height - DBH (cm)*** | *E10* |
| ***Diameter At Base - DAB (cm)*** | *E11* |
| ***Health*** | *Fair* |
| ***Structure*** | *Fair* |
| ***Age*** | *Semi Mature* |
| ***ULE*** | *0 Years* |
| ***Retention Value*** | *Third Party Owned* |
| ***Tree Significance*** | *Environmental Weed Species* |
| ***TPZ*** | *0.00* |
| ***SRZ*** | *0.00* |
| ***Comments / Recommendations*** | |

**No Image Captured due to access**

| | |
|---|---|
| ***Latitude*** | *-37.8136856062* |
| ***Longitude*** | *144.86763373* |

## Appendix 2. Tree Data Table

*Not Required*


**Legend**

- Road Casements - Vicmap Property (ROAD_CASEMENT_POLYGON)
- Easements - Vicmap Property (EASEMENT)
- Parcel Map Polygons - Vicmap Property (PARCEL_MP)
- Structural Root Zone (SRZ)
- Tree Protection Zone (TPZ)

Tree Data Points
tree_retention_value
- Low
- Medium
- Third Party Owned
- <all other values>

*Scope Boundary:*

*12 Ballard Street*
*Yarraville VIC 3013*

*Document Reference:*
*JN911 AIA 12 Ballard St Yarraville*

*Commissioned By:*
*2Form Consultants Pty Ltd*

**Appendix 3 Site Maps**

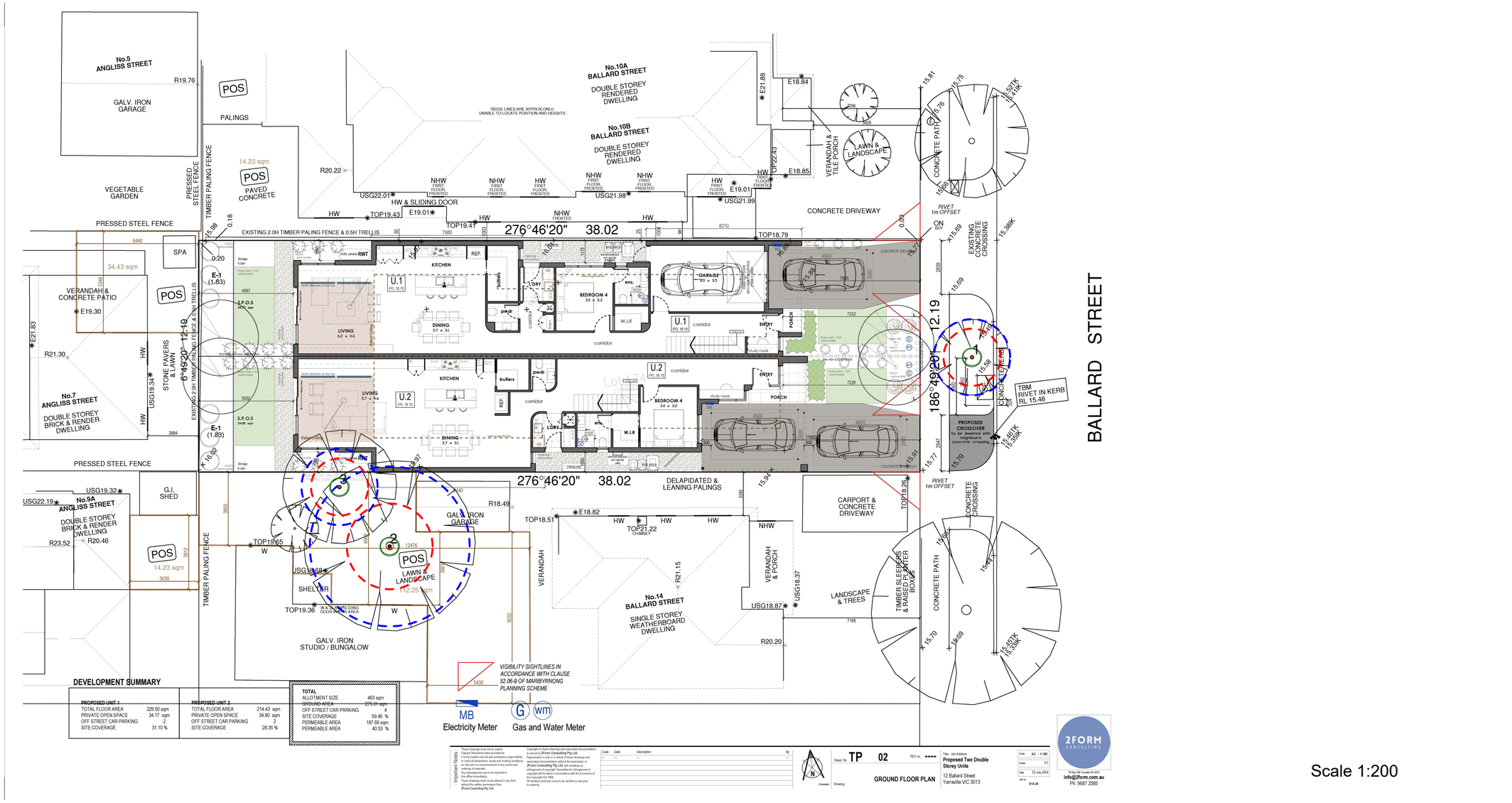
Drawn by: Ricky Howell

Scale: 1:100

N W E S

*Howell Arboriculture Consultants Pty Ltd*
*ABN 21 673 441 177*
*Email: Howellarboriculture@outlook.com.au*
*WEB: www.Howellarboriculturecconsultants.com.au*
Howell Arboriculture Consultants

Date Drawn: 3/09/2024 11:36 AM




Scale 1:200

# Appendix 4. Proposed Designs

Howell Arboriculture Consultants

## Legend

- Tree Protection Zone (TPZ)
- Structural Root Zone (SRZ)
- Proposed Tree Removal

Date Drawn: 03/09/2024

Document Source:

Client:

2Form Consultants Pty Ltd

Site Address:

12 Ballard Street

Yarraville VIC 3013

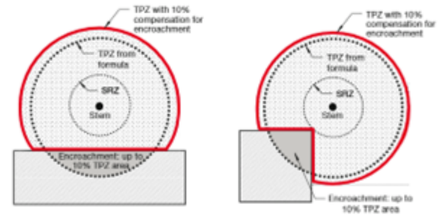
Document Reference:

JN911 AIA 12 Ballard St Yarraville

A2

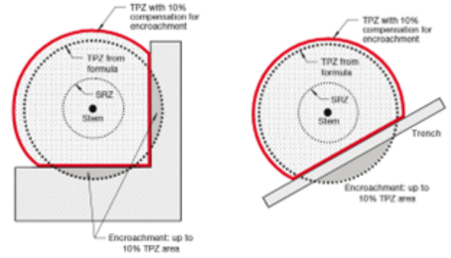

**Minor Encroachment**

If the proposed encroachment is less than 10% of the area of the TPZ and is outside the SRZ (see Clause 3.3.5), detailed root investigations should not be required. The area lost to this encroachment should be compensated for elsewhere and contiguous with the TPZ. Variations must be made by the project arborist considering relevant factors listed in Clause 3.3.4. The figures in Appendix D demonstrate some examples of possible. encroachment into the TPZ up to 10% of the area.




**Major Encroachment**

If the proposed encroachment is greater than 10% of the TPZ or inside the SRZ (see Clause 3.3.5), the project arborist must demonstrate that the tree(s) would remain viable. The area lost to this encroachment should be compensated for elsewhere and contiguous. with the TPZ. This may require root investigation by non-destructive methods and consideration of relevant factors listed in Clause 3.3.4.



## Appendix 5. Explanation of Tree Assessment Terms

**Tree Name:** Provides the botanic name, (Genus, species, sub-species, variety and cultivar where applicable) in accordance with the International Code of Botanical Nomenclature (ICBN), and an accepted common name.

**Origin:** The point of place where the plant is derived

| Category | Description |
|---|---|
| **Exotic** | A plant that originated outside of Australia |
| **Australian Native** | Originates within Australia but outside of Victoria |
| **Victorian Native** | Originates within Victoria but it's not localised |
| **Indigenous** | Originates within the local region |
| **Weed** | Recognised as an environmental weed species |

**Age:** Refers to the life cycle of the tree.

| Category | Description |
|---|---|
| **Young** | Newly planted tree not fully established may be capable of being transplanted or easily replaced. |
| **Juvenile** | Tree is small in terms of its potential physical size and has not reached its full reproductive ability. |
| **Semi-Mature** | Tree in active growth phase of life cycle and has not yet attained an expected maximum physical size for its species and/or its location. |
| **Mature** | Tree has reached an expected maximum physical size for the species and/or location and is showing a reduction in the rate of seasonal extension growth |
| **Senescent** | Tree is approaching the end of its life cycle and is exhibiting a reduction in vigour often evidenced by natural deterioration in health and structure. |

**Health:** Summarizes the health and vigour of the tree.

| Category | Description |
|---|---|
| **Excellent** | Canopy full with dense foliage coverage throughout, leaves are entire and are of an excellent size and colour for the species with no visible pathogen damage. Excellent growth indicators, e.g. seasonal extension growth. |
| **Good** | Canopy full with minor variations in foliage density throughout, leaves are entire and are of good size and colour for the species with minimal or no visible pathogen damage. Good growth indicators. |
| **Fair** | Canopy with moderate variations in foliage density throughout, leaves not entire with reduced size and/or atypical in colour, moderate pathogen damage. Reduced growth indicators, visible amounts of deadwood/dieback, and epicormic growth. |
| **Poor** | Canopy density significantly reduced throughout, leaves are not entire, are significantly reduced in size and/or are discoloured, significant pathogen damage. Significant amounts of deadwood and/or epicormic growth, noticeable dieback of branch tips, possibly extensive. |
| **Dead** | No live plant material observed throughout the canopy, bark may be visibly delaminating from the trunk and/or branches. |

**Structure:** Summarises the structure of the tree from roots to crown.

| Category | Description |
|---|---|
| **Good** | Good form and branching habit. Minor structural defects that are insignificant and typical or common within the species. e.g. included bark, co-dominant stems. No fungal pathogens present. No visible wounds to the trunk and/or root plate. |
| **Fair** | Moderate structural defects present that impact longevity e.g. apical leaders sharing common union(s). Minor damage to structural roots. Small wounds present where decay could begin. No fungal pathogens present. A fair representation of the species. |
| **Poor** | Significant structural defects present that have a significant impact on longevity and result in a poor representation of the species e.g. Branch/stems with included bark with failure likely within 0–5 years. Wounding evident with cavities and/or decay present. Damage to structural roots. |
| **Hazardous** | Serious structural defects with failure determined to be imminent e imminent (<12 months). Defects may include active splits and/or partial branch or root plate failures. Tree requires immediate arboricultural works to alleviate the associated risk. |

## Appendix 6. STARS© Retention Matrix

### Significance of a Tree, Assessment Rating System* (IACA 2010) – S.T.A.R.S. ©

The landscape significance of a tree is an essential criterion to establish the importance that a particular tree may have on a site. However, rating the significance of a tree becomes subjective and difficult to ascertain in a consistent and repetitive fashion due to assessor bias. It is therefore necessary to have a rating system utilising structured qualitative criteria to assist in determining the retention value for a tree. To assist this process all definitions for terms used in the Tree Significance - Assessment Criteria and Tree Retention Value - Priority Matrix, are taken from the IACA Dictionary for Managing Trees in Urban Environments 2009.

This rating system will assist in the planning processes for proposed works, above and below ground where trees are to be retained on or adjacent a development site. The system uses a scale of High, Medium and Low significance in the landscape. Once the landscape significance of an individual tree has been defined, the retention value can be determined. An example of its use in an Arboricultural report is shown as Appendix A.

### Tree Significance - Assessment Criteria

**High Significance in landscape**

- The tree is in Good condition and Good vigor;
- The tree has a form typical for the species;
- The tree is a remnant or is a planted locally indigenous specimen and/or is rare or uncommon in the local area or of botanical interest or of substantial age;
- The tree is listed as a Heritage Item, Threatened Species or part of an Endangered ecological community or listed on Councils significant Tree Register;
- The tree is visually prominent and visible from a considerable distance when viewed from most directions within the landscape due to its size and scale and makes a positive contribution to the local amenity;
- The tree supports social and cultural sentiments or spiritual associations, reflected by the broader population or community group or has commemorative values;
- The tree's growth is unrestricted by above and below ground influences, supporting its ability to reach dimensions typical for the taxa in situ - tree is appropriate to the site conditions.

**Medium Significance in landscape**

- The tree is in Fair-Good condition and Good or Low vigor;
- The tree has form typical or atypical of the species;
- The tree is a planted locally indigenous or a common species with its taxa commonly planted in the local area
- The tree is visible from surrounding properties, although not visually prominent as partially obstructed by other vegetation or buildings when viewed from the street,
- The tree provides a fair contribution to the visual character and amenity of the local area,
- The tree's growth is moderately restricted by above or below ground influences, reducing its ability to reach dimensions typical for the taxa in situ.

**Low Significance in landscape**

- The tree is in fair-poor condition and good or low vigor;
- The tree has form atypical of the species;
- The tree is not visible or is partly visible from surrounding properties as obstructed by other vegetation or buildings,
- The tree provides a minor contribution or has a negative impact on the visual character and amenity of the local area,
- The tree is a young specimen which may or may not have reached dimension to be protected by local Tree Preservation orders or similar protection mechanisms and can easily be replaced with a suitable specimen,
- The tree's growth is severely restricted by above or below ground influences, unlikely to reach dimensions typical for the taxa in situ - tree is inappropriate to the site conditions,
- The tree is listed as exempt under the provisions of the local Council Tree Preservation Order or similar protection mechanisms,

- The tree has a wound or defect that has potential to become structurally unsound.

**Environmental Pest / Noxious Weed Species**

- The tree is an Environmental Pest Species due to its invasiveness or poisonous/ allergenic properties,
- The tree is a declared noxious weed by legislation.

Hazardous/Irreversible Decline

- The tree is structurally unsound and/or unstable and is considered potentially dangerous,
- The tree is dead, or is in irreversible decline, or has the potential to fail or collapse in full or part in the immediate to short term.

**The tree is to have a minimum of three (3) criteria in a category to be classified in that group.**

Note: The assessment criteria are for individual trees only, however, can be applied to a monocultural stand in its entirety e.g. hedge.

Institute of Australian Consulting Arboriculturists (IACA 2010), IACA Significance of a Tree, Assessment Rating System (STARS), www.iaca.org.au

**Useful Life Expectancy:** The extent of time that a tree is expected to positively contribute to the landscape in which is set within, as determined by the arborist

| ***Category*** | ***Description*** |
|---|---|
| ***0 Years***<br>***Remove*** | Trees with a high level of risk that would need removing within the next 5 years.<br>Dead trees.<br>Trees that should be removed within the next 5 years.<br>Dying or suppressed or declining trees through disease or inhospitable conditions.<br>Dangerous trees through instability or recent loss of adjacent trees.<br>Dangerous trees through structural defects, including cavities, decay, included bark, wounds, or poor form.<br>Damaged trees that considered unsafe to retain.<br>Trees that could live for more than 5 years but may be removed to prevent interference with more suitable individuals or to provide space for new planting.<br>Trees that will become dangerous after removal of other trees for the reasons. |
| ***<1-15 Years***<br>***Short*** | Trees that appear to be retainable with an acceptable level of risk for 5-15 years.<br>Trees that may only live between 5 and 15 more years.<br>Trees that may live for more than 15 years but would be removed to allow the safe development of more suitable individuals.<br>Trees that may live for more than 15 years but would be removed during the course of normal management for safety or nuisance reasons.<br>Storm damaged or defective trees that require substantial remedial work to make safe and are only suitable for retention in the short term. |
| ***15 - 40 Years***<br>***Medium*** | Trees that appear to be retainable with an acceptable level of risk for 15-40 years.<br>Trees that may only live between 15 and 40 more years.<br>Trees that may live for more than 40 years but would be removed to allow the safe development of more suitable individuals.<br>Trees that may live for more than 40 years but would be removed during the course of normal management for safety or nuisance reasons.<br>Storm damaged or defective trees that require substantial remedial work to make safe and are only suitable for retention in the short term. |
| ***> 40 Years***<br>***Long*** | Trees that appear to be retainable with an acceptable level of risk for more than 40 years.<br>Structurally sound trees located in positions that can accommodate future growth.<br>Storm damaged or defective trees that could be made suitable for retention in the long term by remedial tree surgery.<br>Trees of special significance for historical, commemorative, or rarity reasons that would warrant extraordinary efforts to secure their long-term retention. |

| | | Tree Significance | | | | |
|---|---|---|---|---|---|---|
| | | 1. High | 2. Medium | 3. Low | | |
| | | Significance in Landscape | Significance in Landscape | Significance in Landscape | Environmental Pest/ Noxious Weed | Hazardous/ Irreversible Decline |
| Useful Life Expectancy | Long >40 Years | | | | | |
| | Medium 15 – 40 Years | | | | | |
| | Short <1-15 Years | | | | | |
| | Dead | | | | | |

| Legend for Matrix Assessment | |
|---|---|
| | **Priority for retention (High):** These trees are considered important for retention and should be retained and protected. Design modification or re-location of building/s should be considered to accommodate the setbacks as prescribed by the Australian Standard AS4970 Protection of trees on development sites. Tree sensitive construction measures must be implemented if works are to proceed within the Tree Protection Zone. |
| | **Consider for retention (Medium):** These trees may be retained and protected. These are considered less critical; however, their retention should remain priority with the removal considered only if adversely affecting the proposed building/works, and all other alternatives have been considered and exhausted. |
| | **Consider for removal (Low)**: These trees are not considered important for retention, nor require special works or design modification to be implemented for their retention. |
| | **Priority for removal (Low):** These trees are not considered important for retention, nor require special works or design modification to be implemented for their retention. |

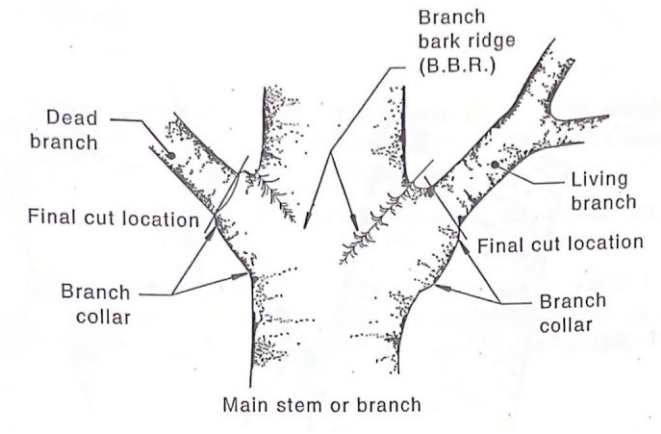
## Reference

*IACA, 2010, IACA Significance of a Tree, Assessment Rating System (STARS) Institute of Australian Consulting Arboriculturists Australia, www.iaca.org.au*

## Appendix 7. General Comments

### Appendix 7.1 Pruning of Amenity Trees

It is important that all pruning undertaken on trees subjected for retention as conducted in accordance with the *Australian Standard 4373:2007 Pruning of Amenity Trees* and carried out by a suitably qualified arborist with a minimum qualification of AQF3 in Arboriculture or equivalent. Under no circumstances must lopping take place and all pruning undertaken must be pruned to “natural target pruning” as defined with the *Australian Standard 4373:2009.*




### Appendix 7.2 Tree Assessment Descriptors

The following table details keywords that may be used throughout this report.

| ***Keyword*** | ***Description*** |
|---|---|
| Aerial Inspection | Where the subject tree is climbed by a professional tree worker or arborist specifically to inspect and<br>assess the upper stem and crown of the tree for signs or symptoms of defects, disease, etc. |
| Australian Qualification Framework (AQF) | A national framework for all educational and training purposed in Australia |
| Amenity | Amenity relates to the trees biological, functional and aesthetic characteristics within an urban<br>environment. (Hitchmough, 1994) |
| Arborist | A person with a training to a minimum AQF Level 3 in Arboriculture, or above, or equivalent recognized and relevant experience that enables the person to perform the tasks required by AS4373-2009 |
| Bark | All Tissues outside the vascular cambium |
| Branch | A lateral shoot on the main axis such as a trunk or another branch. A branch arising off a trunk is a first order branch. A branch arising off a first order branch is a second order branch and so on. Second and successive orders of branches may be referred to as ‘lateral branches’ |

| | |
|---|---|
| Branch Bark Ridge | Raised or furrowed bark in the branch union that indicates where the branch wood and trunk wood overlap. |
| Branch Collar | Overlapping trunk and branch tissue forming a swelling around the base of many branches and containing defensive chemicals |
| Co-dominant: | Refers to stems or branches equal in size and relative importance. |
| Compression wood: | Type of reaction wood produced by conifers on the underside of branches and leaning trunks. |
| Compartmentalization | Dynamic tree defence process involving protection features that resist the spread of pathogens and decay causing organisms |
| Condition: | Refers to the tree's form and growth habit, as modified by its environment (aspect, suppression by other trees, soils) and the state of the scaffold (i.e. trunk and major branches), including structural defects such as cavities, crooked trunks or weak trunk/branch junctions. These are not directly connected with health, and it is possible for a tree to be healthy but in poor condition. |
| Crown | Portion of the tree consisting of the branches and leaves and any part of the trunk from which branches arise |
| Crown Modification | Pruning that changes the form and habit of the tree |
| Crown Thinning or Weight Reduction Pruning | The selective removal of branches that does not alter the overall size of the tree but may help to alleviate weight distribution through the crown |
| Dead wood: | Refers to any whole limb that no longer contains living tissues (e.g. live leaves and/or bark). |
| Decay: | Process of degradation of woody tissues by fungi or bacteria through decomposition of cellulose and<br>lignin. There are numerous types of decay that affect different types of tissues, spread at different rates and have different effect on both the tree's health and structural integrity. |
| Decline | The response of the tree to a reduction of energy levels resulting from stress. Recovery from a decline is difficult and slow, and decline is usually irreversible. |

| | |
|---|---|
| Dieback | Death of growth tips/shoots and partial limbs, generally from tip to base. Die back is often an indicator of stress and tree health. |
| Diameter at Breast Height (DBH): | Refers to the tree trunk diameter at breast height (1.4 meters above ground level) |
| Epicormic Growth | Which arise from adventitious or latent buds. These shoots often have a weak point of attachment. They are often a response to stress in the tree. Epicormic growth/shoots are generally a survival mechanism, often indicating the presence of a current or past stress event such as fire, pruning, drought, etc. |
| Extruded Bark | Outwardly formed bark at the junction of branchers or codominant stems |
| Formative Pruning | The pruning of young and established trees with the general aim of directing plant growth and/or developing a sound structure |
| Hazard: | Refers to anything with the potential to harm health, life or property. |
| Hanging Branch | Unattached, cut or broken branches that are caught in the crown. |
| Health: | Refers to the tree's vigour as exhibited by the crown density, leaf colour, presence of epicormic shoots, ability to withstand disease invasion, and the degree of dieback. |
| Included bark: | Refers the pattern of development at branch or stem junctions where bark is turned inward rather than pushed out. This fault is located at the point where the stems/branches meet. This is normally a genetic fault and potentially a weak point of attachment as the bark obstructs healthy tissue from joining together to strengthen the joint. |
| Lateral | A branch arising from another branch |
| Lopping | The practice of cutting branches or stems between branch unions or internodes |
| Pathogen | A disease- causing organism |

| | |
|---|---|
| Pollarding | A specialized pruning technique that establishes branches ending in a pollard head of buds and vigorous shots. Pollarding is not synonymous with lopping and topping. |
| Reduction Pruning | The removal of the ends of branches to lower internal lateral branches or stems in order to reduce the height and/or spread of the tree. Also known as weight reduction pruning |
| Remedial Pruning or Restorative Pruning | The removal of damaged, diseased or lopped branches back to undamaged tissue in order to induce the production of shoots from latent or adventitious buds, from which a new crown will be established |
| Reactive Tissue | The formation of reaction tissue is a result of plant evolution and adaptation<br><br>Due to external factors, such as slopes, wind, site changes, tree failure and so one. originally upright tree trunks may become tilted or bent. To withstand external forces and avoid being overwhelmed, woody plants form a non-normal tissue called reaction wood |
| Stem Bark Ridge | The ridge of bark that forms in the unions between codominant stems |
| Suppressed: | In crown class, trees which have been overtopped and whose crown development is restricted from above. |
| Tension wood: | Type of reaction wood produced by broad-leaved tree species which forms on the upper side of branches, stems and leaning trunks. |
| Tree | Long lived woody perennial plant greater than (or usually greater than) 3m in height with one or relatively few main stems or trunks |
| Trunk | The main stem or stems |
| Wound | An opening that is created when the bark is cut, removed or injured. (Note: Pruning a live branch will always create a wound, even when the cut is properly undertaken) |

## Appendix 7.3 Tree Protection Zones

Tree Protection Zones (TPZ) are the principal means of protecting trees on development sites and are defined by *AS 4970-2009 Protection of trees on development sites (Standards Australia, 2009)*.

Provided below is an outline of how TPZs are defined, restrictions on activities within TPZs (see following section) and calculations to measure TPZs.

The TPZ is a combination of the root area and crown area requiring protection. It is an area isolated from construction disturbance, so that the tree remains viable. The TPZ incorporates the structural root zone (SRZ), described in section 2.2.2.
As defined in AS 4970-2009, the radius of the TPZ for an individual tree is calculated as follows:

TPZ = DBH x 12
Where DBH = trunk diameter, measured at 1.4m above ground level

A TPZ should not be less than 2m nor greater than 15m (except where crown protection is required). It may be possible to encroach into or make variations to the standard TPZ.
This is further outlined in section 3.3 of AS4970-2009 Protection of Trees on Development Sites

## Appendix 7.4 Structural Root Zones

The Structural Root Zone (SRZ) is an area considered essential for tree stability: loss of roots in this area are likely to cause the tree to become unstable in the ground.
As defined in *AS 4970-2009*, the radius of the SRZ for an individual tree is calculated as follows:
SRZ = (Dx50)0.42 x 0.64
Where D = trunk diameter in metres, measured above the root buttress

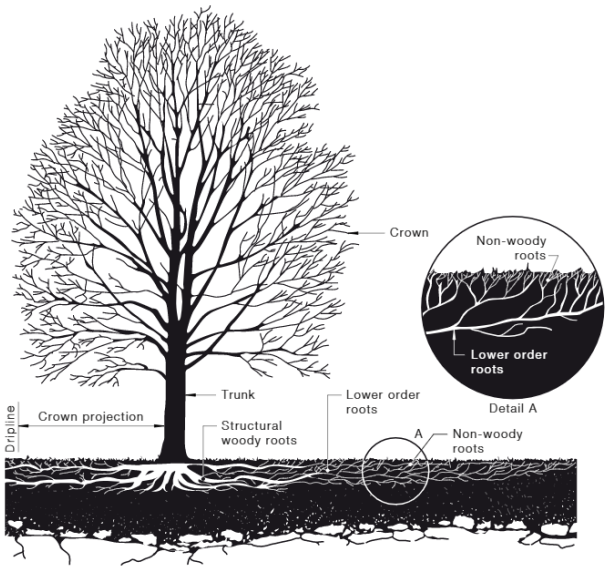
## Appendix 7.5 Common Damage Caused During Construction

The following table details common causes of tree death during construction. Where trees are damaged particularly the above ground tree parts these wounds have the potential to provide entry points for pest & disease. These entry points may cause long term decay or can lead to decline in health & in worst case tree death.

| ***Common Causes of Tree Death.*** | | |
|---|---|---|
| **Injury** | **Causes** | **Impact** |
| Root loss | - Excavation (even shallow depth)<br>- Perpetration of ground for paving or road surfacing<br>- Trenching for underground service installation<br>- Trenching for footings | - Tree decline or in severe cases death<br>- Partial root failure where a tree may fall to a lean<br>- in severe cases total tree failure |
| Lack of water and oxygen within the root zone | - Compaction for paving construction (to form a stable sub base)<br>- compaction through movement of vehicles and heavy machinery<br>- storing heavy items for long periods (i.e machinery parked in root zone) | - tree decline and in severe causes death |
| Damage to the canopy or trunk | - Poor pruning cuts (including access pruning)<br>- contact damage caused by machinery<br>- resting equipment on trunk<br>- attaching signage of equipment to the tree | - Rot/dieback<br>- Loss of foliage, leading to increased stress<br>- in severe cases, tree may require removal due to safety concerns |
| Poisoning/scorching | - Use of chemicals within the root zone<br>- Accidental impact as a result of nearby chemical use (i.e exhaust blowing up into canopy) | - Tree decline<br>- Dieback or rot as a result of wounding |

## Appendix 7.5 Roots & Construction

The main function of roots includes the uptake of water & nutrients, anchorage, storage of sugar reserves and the production of some plant hormones required by the shoots, in order for the roots to function, they must be supplied with oxygen from the soil. The root system of trees consists of several types of roots found in different parts of the soil and is generally much more extensive than commonly thought. Damage to the root system is a common cause of tree decline and death. Construction damage such as alteration of existing soil grades are like to have effect on the trees vitality and in worse cases tree stability. Altering soil grades or compaction of soil may not be evident during construction phases and can take several years to show symptoms which by then can become irreversible.



## Appendix 7.6 Restricted Activities with a Tree Protection Zone

Activities excluded from Tree Protection Zones (*AS 4970-2009*) include but are not limited to:

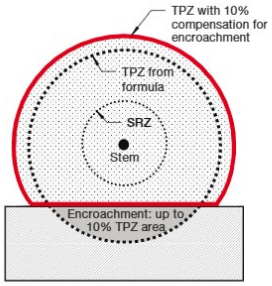
- *machine excavation including trenching (unless on approved plans)*
- *cultivation*
- *preparation of chemicals, including cement products*
- *refuelling*
- *wash down and cleaning of equipment.*
- *lighting of fires*
- *temporary or permanent installation of utilities and signs*
- *excavation for silt fencing*
- *storage*
- *parking of vehicles or plant*
- *dumping of waste*
- *placement of fill*
- *soil level changes*
- *physical damage to the trees.*

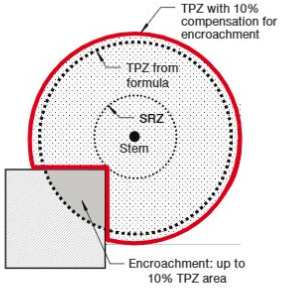
## Appendix 7.7 Tree Protection Encroachment

In accordance with the *Australian Standards 4970:2009 Protection of Trees on Development Sites* it may be possible to encroach into or make variations to the standard TPZ. Encroachment includes excavation, compacted fill and machine trenching.

**Minor Encroachment**

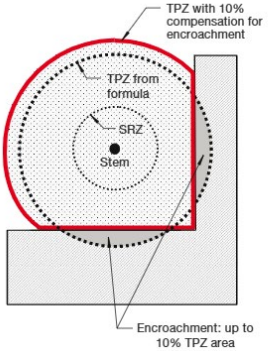
If the proposed encroachment is less than 10% of the area of the TPZ and is outside the SRZ (see Clause 3.3.5), detailed root investigations should not be required. The area lost to this encroachment should be compensated for elsewhere and contiguous with the TPZ. Variations must be made by the project arborist considering relevant factors listed in Clause 3.3.4. The figures in Appendix D demonstrate some examples of possible. encroachment into the TPZ up to 10% of the area.

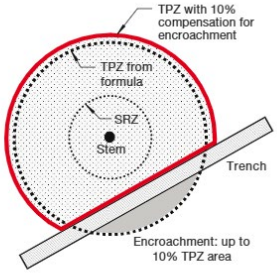



**Major Encroachment**

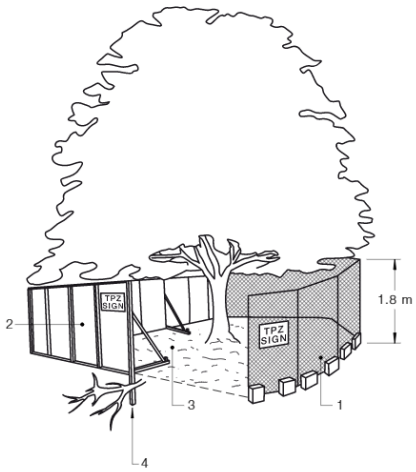
If the proposed encroachment is greater than 10% of the TPZ or inside the SRZ (see Clause 3.3.5), the project arborist must demonstrate that the tree(s) would remain viable. The area lost to this encroachment should be compensated for elsewhere and contiguous. with the TPZ. This may require root investigation by non-destructive methods and consideration of relevant factors listed in Clause 3.3.4.



## Appendix 7.8 Tree Protection Zone Fencing

Fencing should be erected before any machinery or materials are brought onto the site and before the commencement of works including demolition. Once erected, protective fencing must not be removed or altered without approval by the project arborist. The TPZ should be secured to restrict access. *AS 4687* specifies applicable fencing requirements. Shade cloth or similar should be attached to reduce the transport of dust, other particulate matter and liquids into the protected area. Fence posts and supports should have a diameter greater than 20 mm and be located clear of roots. Existing perimeter fencing and other structures may be suitable as part of the protective fencing.



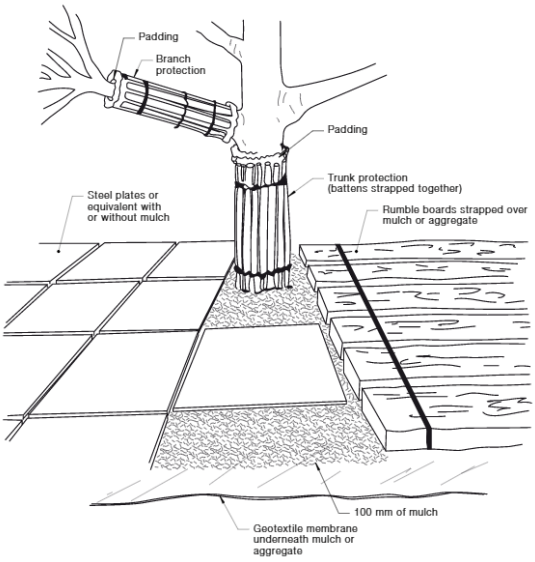

## Appendix 7.9 Tree Protection Signage

Signs identifying the Tree Protection Zone should be placed around the edge of the Tree Protection Zone at intervals so that it can be be visible from all angles within the development site. The lettering on the sign should comply with AS 1319 and clearly state “Tree Protection Zone” “No Access”. Signage should be greater than 600mm x 400mm in size and also label the project arborists contact details.


## Appendix 7.10 Alternative Protection Measures

Where necessary, install protection to the trunk and branches of trees as shown in Figure 4.
The materials and positioning of protection are to be specified by the project arborist. A minimum height of 2 m is recommended. Do not attach temporary powerlines, stays, guys and the like to the tree. Do not drive nails into the trunks or branches.

If temporary access for machinery is required within the TPZ ground protection measures will be required. The purpose of ground protection is to prevent root damage and soil compaction within the TPZ. Measures may include a permeable membrane such as geotextile fabric beneath a layer of mulch or crushed rock below rumble boards as per the adjacent figure. These measures may be applied to root zones beyond the TPZ.



## Appendix 7.11 Mulch

The area contained within the Tree Protection Zone should be mulched with good quality composted wood chip/leaf mulch that complies with *Australian Standards, AS 4454-2012, Composts, soil conditioners, and mulches*, and should be maintained at a depth of 150mm-200mm. Mulching around the base of the tree will provide nutrients and organic matter to the soil as it breaks down, improving and maintaining the overall health of the trees.

## Appendix 7.12 Irrigation

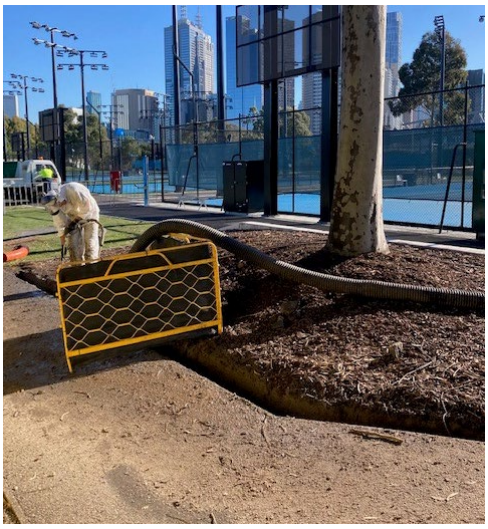
Where practical temporary irrigation should be set up in the Tree Protection Zone of all trees to be retained and should distribute water evenly throughout the area of the Tree Protection Zones. The irrigation should be used for at minimum one hour daily throughout all stages of the development. the base of the tree will provide nutrients and organic matter to the soil as it breaks down, improving and maintaining the overall health of the trees.

## Appendix 7.13 Design Modifications

Works should ordinarily be designed outside of tree protection zones of trees subjected for retention but unfortunately within the urban environment this sometimes can not be avoided below are some options that may help mitigate tree damage and facilitate proposals subjected within the tree protection zones.

### Non-Destructive Digging (NDD)

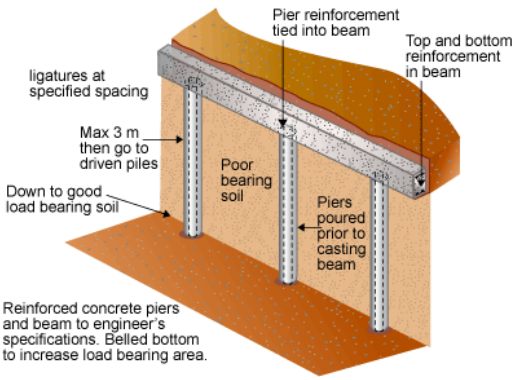
Non-Destructive Digging is described as any method of digging whether it be by hand, air or hydro that is non-invasive to plant tissue, Hydro or Air methods are used to dislodge soil within damaging large roots and can be used to better determine if trees subjected for retention will in fact be damaged by the proposed design.



In some cases hydro excavation can cause irreversible damage to vital root tissue due to high pressure water, therefor it is important that all non-destructive digging methods be supervised by a suitably qualified project arborist with a minimum qualification of AQF5 in Arboricultural or equivalent to ensure no unnecessary damage is caused trees subjected for retention.

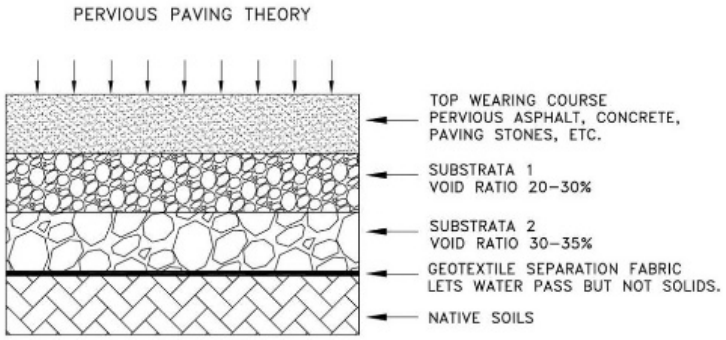
### Pier & Beam Construction

Bored pier footings with beams above ground level or cantilevered to support the floor of a building can be used to minimise encroachment into a TPZ and root damage. Consideration must be given to the soil type and lost catchment area beneath a raised structure. Footings should be positioned so as not to damage larger (>50mm diameter) roots.



**Permeable, Porous and Pervious Paving**

Permeable paving surfaces are made of either a porous material that enables stormwater to flow through it or nonporous blocks spaced so that water can flow between the gaps. Permeable paving can also include a variety of surfacing techniques for roads, parking lots, and pedestrian walkways. Permeable pavement surfaces may be composed of; pervious concrete, porous asphalt, paving stones, or interlocking pavers. Unlike traditional impervious paving materials such as concrete and asphalt, permeable paving systems allow stormwater to percolate and infiltrate through the pavement and into the aggregate layers and/or soil below. In addition to reducing surface runoff, permeable paving systems can trap suspended solids, thereby filtering pollutants from stormwater.

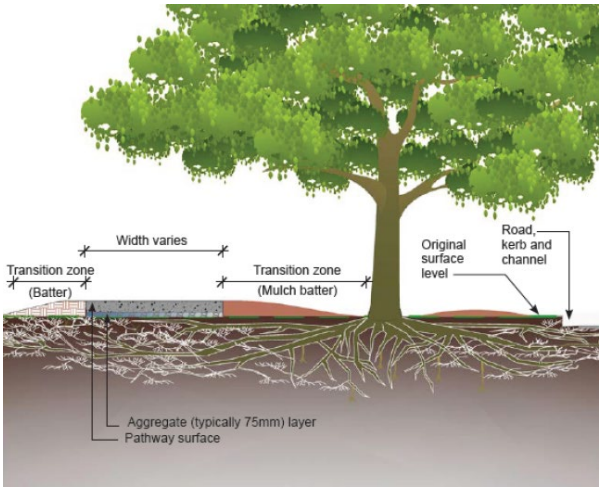



**Above Grade Pathway 'No Dig'**

Where elevated pathways/decks are considered cost prohibitive, above grade or 'No Dig' pathways are effective at reducing the extent of soil disturbance by avoiding creation of an excavated subbase.

Raised pathways prevent direct root loss by creating an above grade base for the pathway rather than a traditional below grade one which in return reduces soil compaction.

Generally, the treatment will only be required for the section of pathway directly adjacent to the tree in question there should also be enough length in the raised sections of pathway so that the ramps on either end comply with access requirements




**Drains and Underground Services**

Where underground services are intruding the Tree Protection Zone by greater than 10% or are present within the respective Structural Root Zone of trees proposed for retention, drains or services should be installed by non-destructive measures such as horizontal directional boring at a depth greater than 1100mm or undertaken using hydro excavation at low pressure to ensure roots remain intact.