**NOTICE OF AN APPLICATION FOR PLANNING PERMIT**

<table>
<thead>
<tr>
<th>THE LAND AFFECTED BY THE APPLICATION IS LOCATED AT:</th>
<th>1 Fraser Avenue, EDITHVALE VIC 3196</th>
</tr>
</thead>
<tbody>
<tr>
<td>THE APPLICATION IS FOR A PERMIT TO:</td>
<td>The development of two (2) double storey dwellings with rooftop decks</td>
</tr>
<tr>
<td>THE APPLICATION REFERENCE NUMBER IS:</td>
<td>KP-2018/1017</td>
</tr>
<tr>
<td>THE APPLICANT FOR THE PERMIT IS:</td>
<td>Arch10</td>
</tr>
</tbody>
</table>
| YOU MAY LOOK AT THE APPLICATION AND ANY DOCUMENTS THAT SUPPORT THE APPLICATION AT THE OFFICE OF THE RESPONSIBLE AUTHORITY: | City of Kingston Municipal Offices
Cheltenham Office: 1230 Nepean Highway, Cheltenham 3192
During office hours 8.30am - 5pm
-or-
|                                                    | This can be done during office hours and is free of charge |

Any person who may be affected by the granting of the permit may object or make other submissions to the responsible authority.

**An objection must:**
- be made to the Responsible Authority in writing,
- include the reasons for the objection, and
- state how the objector would be affected.

The responsible authority must make a copy of every objection available at its office for any person to inspect during office hours free of charge until the end of the period during which an application may be made for review of a decision on the application.

| THE RESPONSIBLE AUTHORITY WILL NOT DECIDE ON THE APPLICATION BEFORE: | 10-Jun-2019 |

If you object, the Responsible Authority will tell you of its decision.

Privacy Notification: The personal information provided in a submission/objection is collected for planning purposes in accordance with the Planning & Environment Act 1987 (the Act). The public may view an objection or submission in accordance with Section 57 of the Act whilst the planning application is current. In accordance with the “Improving Access to Planning Documents” Practice Note dated December, 1999, a copy of your submission will be made available on request. If you fail to provide contact details your objection may not be considered. For information regarding access to Planning documents please contact Council’s Planning Department on 1300 653 356.
Application for Planning Permit

Privacy notice - any material submitted with this application, including plans and personal information, will be made available for public viewing, including electronically, and copies may be made for interested parties for the purpose of enabling consideration and review as part of the planning process under the Planning and Environment Act 1987. If you have any concerns please contact Council’s Planning Department on 9581 4131.

Need Help? - If you need help to complete this form, read: How to complete the application for planning permit form available at www.kinston.vic.gov.au/planning

Questions marked with an asterisk (*) are mandatory and must be completed

1. Pre-application meeting

Has there been a pre-application meeting with a council planning officer?

[ ] No
[ ] Yes

If ‘yes’, with whom?

Ian Nice

Date: 16 Oct 2018

dd/mm/yyyy

2. The Land *

Address of the land. Complete the street address and one of the formal land descriptions.

Street Address *

Unit No.: St No.: 1 St Name: Fraser Ave

Suburb: Edithvale Postcode: 3196

Formal Land Description *

A Lot No.: 1

[ ] Lodged Plan [ ] Title Plan [ ] Plan of Subdivision No.: 544100

Complete either A or B.

OR

B Crown Allotment No.: Section No.:

Parish/Township Name:
3. Description of Land *

Describe how the land is used and development now

e.g. vacant, single dwelling, three dwellings, shop, factory, medical centre, with two practitioners, licensed restaurant with 80 seats.

4. Plan of the Land *

Attach a plan of the existing conditions. Photos are also helpful.

5. The Proposal *

You must give full details of your proposal and attach the information required to assess the application. Lack of detail, insufficient or unclear information will delay your application.

For what use, development or other matter do you require a permit?

two double storey dwellings on one allotment with associated landscaping, driveways and parking.

If you need help about the proposal, read: How to complete the application for planning permit form.

6. Additional Information

Attach additional information providing details of the proposal, including:

- [ ] Any information required by the planning scheme, requested by Council or outlined in a council planning permit checklist.
- [ ] Plans and elevations showing the layout and details of the proposal
- [ ] If required, a description of the likely effect of the proposal (e.g. traffic, noise, environmental impacts).

Note
Contact council or refer to council planning permit checklists for more information about council's requirements
7. Title Information *

- Attach a full, current copy of title information, not older than 90 days, for each individual parcel of land, forming the subject site.

**Encumbrances on title?**

- Is the land affected by an encumbrance such as a restrictive covenant, section 173 agreement or other obligation such as an easement or building envelope?
  - No, go to Question 8.
  - Yes, attach a copy of the document (instrument) specifying the details of the encumbrance.

**Does the proposal breach, in any way, the encumbrance on title?**

- No, go to Question 8.
- Yes, contact council for advice on how to proceed before continuing with this application.

**Note**

Council must not grant a permit that authorises anything that would result in a breach of a registered restrictive covenant (sections 61 (4) and 62 of the Planning and Environment Act 1987). Contact Council and/or an appropriately qualified person for advice.

8. Costs of Buildings and Works/permit fee *

All applications require a fee to be paid. Where development is proposed, the value of the development affects the fee. Contact Council to determine the appropriate fee.

- **Estimate cost of development for which the permit is required?**
  - Write 'Nil' if no development is proposed (e.g. Change of use, subdivision, removal of covenant, liquor licence)
  - Cost: $750000

**Note**

You may be required to verify this estimate

- Is a Metropolitan Planning Levy (MPL) certificate required? *
  - No, go to Question 9.
  - Yes, attach a valid copy of the MPL Certificate

**Note**

If a MPL is applicable, a planning application must be accompanied by the MPL certificate. This is a requirement of section 3 of the Planning and Environment Act 1987. For more information on the MPL visit www.sro.vic.gov.au
9. **Applicant and owner details** *

Provide details of the applicant and owner of the land.

**Applicant** *

The person or organisation who wants the permit.

**Contact** *

The person you want council to communicate with about the application.

**Contact information** *

Please provide at least one contact phone number and email address.

**Owner** *

The person or organisation who owns the land.

Where the owner is different from the applicant or contact provide the name of the person or organisation who owns the land.

10. **Declaration** *

This form must be signed by the applicant.

Remember it is against the law to provide false or misleading information, which could result in a heavy fine and cancellation of the permit.
11. Information checklist

<table>
<thead>
<tr>
<th>Have you:</th>
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<tbody>
<tr>
<td>V filled in the form completely?</td>
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<tr>
<td>V included the application fee? (Contact council to determine the</td>
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<tr>
<td>appropriate fee).</td>
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<tr>
<td>V provided all necessary supporting information and documents?</td>
</tr>
<tr>
<td>V provided a copy of full title, no older than 3 months, for each</td>
</tr>
<tr>
<td>individual parcel of land forming the subject site?</td>
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<tr>
<td>V provided a plan of existing site conditions?</td>
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<tr>
<td>V included plans showing the layout and details of the proposal?</td>
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<tr>
<td>V provided all information required by the planning scheme,</td>
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<tr>
<td>requested by Council or outlined in a council planning permit</td>
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<tr>
<td>checklist?</td>
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<tr>
<td>V where required, provided a description of the likely effect of the</td>
</tr>
<tr>
<td>proposal (e.g. traffic, noise, environmental impacts)?</td>
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<tr>
<td>V if applicable, included a current MPL Certificate. Note: a levy</td>
</tr>
<tr>
<td>certificate expires 90 days after the day on which it is issued</td>
</tr>
<tr>
<td>by the State Revenue Office. Once expired, the certificate becomes</td>
</tr>
<tr>
<td>invalid and cannot be used. Failure to comply means the application is</td>
</tr>
<tr>
<td>void.</td>
</tr>
<tr>
<td>V completed Kingston's relevant Council Planning Permit Checklist?</td>
</tr>
<tr>
<td>V signed the Declaration (section 10 of this form)?</td>
</tr>
</tbody>
</table>

12. Lodgement

Lodge the completed and signed form, the fee payment and all documents with:

**By Post**
City Development
Kingston City Council
PO Box 1000, Mentone, VIC 3194

**In Person**
Level 1, 1230 Nepean Highway, Cheltenham VIC 3194

**Contact Information**
T (03) 9581 4131
E info@kingston.vic.gov.au
18 December 2018

Ian Nice
Manager Statutory Planning
Kingston City Council
PO Box 1000
Mentone 3194

Dear Ian

Re: 1 Fraser Avenue, Edithvale
Proposal to construct two dwellings

Further to the pre-application meeting held at the Council offices between yourself, Tom Abbott the designer & me on 16 October 2018, please find herein the planning application seeking approval for 2 dwellings at No.1 Fraser Avenue, Edithvale.

Accompanying the application are the following documents:
- Plans of the existing conditions
- Detailed plans and elevations of the proposal
- Neighbourhood Description Plan
- Design Response Plan
- Planning Report assessing compliance with the relevant policies and general assessment of the relevant sections of Clause 55 of the planning scheme and the background
- Relevant title details
- Arborist report

If you have any queries, please do not hesitate to call me on 0407 864 689.

Yours faithfully

Spiro Neophitou
Director Planning Vision P/L

Encl.
PLANNING REPORT ASSESSING COMPLIANCE WITH EVERY STANDARD OF CLAUSE 55 OF THE KINGSTON PLANNING SCHEME & THE RELEVANT STATE & LOCAL PLANNING POLICIES

PROPERTY: 1 FRASER AVENUE, EDITHVALE
PROPOSAL: CONSTRUCT TWO (2) DWELLINGS

Prepared by:

Spiro Neofitou
Director Planning Vision P/L
IN RELATION TO THE NEIGHBOURHOOD

The following comments offer an explanation of the context of the neighbourhood:

- The pattern of subdivision is regular in shape with most lots being rectangular in shape.

- The pattern of development of the neighbourhood is predominantly residential. Existing developments are characterised by mixed setbacks; front yards are primarily lawns and shrubs.

- There is a mixture of housing types and styles in the area. Dwelling construction is predominantly brick veneer construction. Most dwellings have pitched tiled roofs with eaves.

- Most dwellings are of single-storey construction with some two-storey dwellings.
The Neighbourhood and Site Description plan shows how the subject site is currently developed and how the adjoining and surrounding properties are developed.
Architectural styles vary from dwellings. There is no one dominant style of dwelling.
Side boundary fencing essentially consists of paling fences to a height of 1.75m high.

IN RELATION TO THE SITE
The following comments offer an explanation of the site:
• The subject site is located on the north-east corner of Fraser Avenue & Station Street, Edithvale.
• The subject site is currently developed with a single-storey weatherboard dwelling which is proposed to be demolished.
• The use of surrounding buildings is residential.
• There have not been any significant trees removed in the last 12 months.
• There is no evidence that the site contains contaminated soils or any filled areas.
• Street frontage features such as poles, street trees and kerb crossovers are as indicated on the neighbourhood & site description plan.
• The subject site is in close proximity to the following services:

![Locality Plan Diagram]
Source: google maps – view looking north towards the subject site

Source: google maps – subject site and properties to the east of the site

Source: google maps – view opposite the site on south side of Fraser Avenue

Source: google maps – view opposite the site towards the railway line on west side of Station Street
Source: google maps – view looking south down Station Street from in front of the subject site

Source: google maps – view looking north down Station Street from in front of the subject site

Source: Google maps - view of subject site & adjoining property to the north
Proposal

The application submitted for consideration comprises the following:

- Removal of the existing dwelling.
- Construction of 2 new two-storey dwellings with a roof top terrace.
- The ground floor will have a living room and 2 bedrooms; the upper level will have one bedroom and the main living areas with a balcony located off the main living rooms. The balcony for Dwelling 1 will face Fraser Avenue and the balcony for Dwelling 2 will face Station Street.
- A roof top terrace is also proposed for both dwellings.
- Both dwellings will have a single garage built to the boundary and a second space in tandem.
- The dwellings are of contemporary design.
- The dwellings will also incorporate the use of different materials and colours as shown on the elevation plans.
- The dwellings have been designed to allow for adequate sunlight into the secluded private open space areas.
- Dwelling 1 will have access off Fraser Avenue and Dwelling 2 off Station Street.
PLANNING CONTROLS

The subject site and surrounding properties are zoned General Residential Zone Schedule 2 pursuant to the Kingston Planning Scheme.

Source: Landchecker

The listed purposes of this zone are:

To implement the State Planning Policy Framework and the Local Planning Policy Framework, including the Municipal Strategic Statement and local planning policies.
To encourage development that respects the neighbourhood character of the area.
To encourage a diversity of housing types and housing growth particularly in locations offering good access to services and transport.
To allow educational, recreational, religious, community and a limited range of other non-residential uses to serve local community needs in appropriate locations.
The schedule states:

### Requirements of Clause 54 and Clause 55

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Standard</th>
<th>Requirement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Minimum street setback</td>
<td>A3 and B6</td>
<td>None specified</td>
</tr>
<tr>
<td>Site coverage</td>
<td>A5 and B8</td>
<td>None specified</td>
</tr>
<tr>
<td>Permeability</td>
<td>A6 and B9</td>
<td>None specified</td>
</tr>
<tr>
<td>Landscaping</td>
<td>B13</td>
<td>None specified</td>
</tr>
<tr>
<td>Side and rear setbacks</td>
<td>A10 and B17</td>
<td>None specified</td>
</tr>
<tr>
<td>Walls on boundaries</td>
<td>A11 and B18</td>
<td>None specified</td>
</tr>
<tr>
<td>Private open space</td>
<td>A17</td>
<td>None specified</td>
</tr>
<tr>
<td></td>
<td>B28</td>
<td>None specified</td>
</tr>
<tr>
<td>Front fence height</td>
<td>A20 and B32</td>
<td>A front fence within 3 metres of a street should not exceed: 2 metres for streets in a Road Zone, Category 1 or 1.2 metres for other streets</td>
</tr>
</tbody>
</table>

There are no overlays that affect the site.
55.02 NEIGHBOURHOOD CHARACTER AND INFRASTRUCTURE

55.02-1 Neighbourhood character objectives
To ensure that the design respects the existing neighbourhood character or contributes to a preferred neighbourhood character.
To ensure that development responds to the features of the site and the surrounding area.

Standard B1
The design response must be appropriate to the neighbourhood and the site.
The proposed design must respect the existing or preferred neighbourhood character and respond to the features of the site.

Assessment
The development is respectful of the neighbourhood character. The existing neighbourhood character comprises of dwellings of different styles, form and proportions. The neighbourhood character predominantly consists of single-storey dwellings with numerous two-storey dwellings and a number of medium density developments as can be seen in the aerial photo below (source: nearmap).

Source: nearmap – view of subject site and developments in close proximity to the subject site

The proposed two-storey construction is complementary to the existing built form which includes a number of two-storey dwellings and medium density developments. There are also numerous medium density developments in the surrounding streets as can be seen in the aerial photo and photos provided above.
Medium density development will continue to occur within this area given the locational attributes of the site to public transport, shops and communal facilities as detailed above.

The form of development proposed under this application is also consistent with Clause 21.05 Residential Land Use, 22.11 Residential Development Policy and Council's Medium Density Housing Development Guidelines which will be discussed in detail below.

The upper levels of the dwellings are smaller than the respective lower levels providing for good articulation and modulation. The upper levels are also well setback from the respective side and rear boundaries. The only walls on the boundaries are those of the garage walls. Walls on the boundary for garages and outbuildings is a common characteristic found within this area as can be seen in the aerial photos provided above.

The use of different materials also assists in breaking up and detailing the proposed form. The proposal will enhance the existing neighbourhood character.

55.02-2 Residential policy objectives
To ensure that residential development is provided in accordance with any policy for housing in the State Planning Policy Framework and the Local Planning Policy Framework, including the Municipal Strategic Statement and local planning policies. To support medium densities in areas where development can take advantage of public transport and community infrastructure and services.

Standard B2
An application must be accompanied by a written statement to the satisfaction of the responsible authority that describes how the development is consistent with any relevant policy for housing in the State Planning Policy Framework and the Local Planning Policy Framework, including the Municipal Strategic Statement and local planning policies.

Assessment

State Planning Policy Framework (SPPF)
Clause 11 relates to Settlement, it states:
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 recognise the need for, and as far as practicable contribute towards:

- Health and safety.
- Diversity of choice.
- Adaptation in response to changing technology.
- Economic viability.
- A high standard of urban design and amenity.
- Energy efficiency.
- Prevention of pollution to land, water and air.
- Protection of environmentally sensitive areas and natural resources.
- Accessibility.
- Land use and transport integration.

Planning is to prevent environmental problems created by siting 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 relates to Built Environment and Heritage, it states:

Planning should ensure all new land use and development appropriately responds to its landscape, valued built form and cultural context, and protect 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.
Clause 11 & 15 are met for the following reasons:

- The proposal provides for a diversity of choice in housing types
- It provides for a high standard of urban design and amenity
- The dwellings will have a 6-star energy rating and will be energy efficient
- The proposal is well located in respect to social and physical infrastructure
- The proposal will contribute positively to the local urban character and sense of place
- The design response will enhance liveability, diversity, amenity and safety for the public realm
- The layout minimises detrimental impact on the adjoining properties

Clause 16 Housing

The listed objective of Clause 16.01-2 Location of residential development is (the bold is my emphasis):

"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.”

Clause 16.01-4 relates to Housing diversity. The listed objective and strategies are:

**Objective**

*To provide for a range of housing types to meet increasingly diverse needs.*

**Strategies**

*Ensure housing stock matches changing demand by widening housing choice, particularly in the middle and outer suburbs.*

*Encourage 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.

It is submitted that this proposal is consistent with the SPPF for the following reasons:

- The proposal is sympathetic to the character of the area and will assist in consolidating the urban area and make a positive contribution to the local urban character.
- The future subdivision of the development will achieve an efficient use of the land and is appropriately located to take advantage of the physical and community infrastructure.
- The proposal improves housing choice.
- The proposal takes advantage of existing infrastructure and places no additional financial burden or otherwise on its provision.
- The proposal is designed with energy efficiency in mind and is appropriately located to make good use of public transport.

**Local Planning Policy Framework (LPPF)**

The relevant sections of the MSS & LPPF are:

**Clause 21.05 Residential Land Use**

The policy identifies among other things:

"The changing demographics of the Kingston community are anticipated to create future demands for both greater diversity of housing types and additional dwelling numbers in Kingston.

Additionally, the changing demographics of the Kingston community are anticipated to generate demands for new forms of housing which are unlikely to be met by the current housing stock available in the municipality.

The MSS seeks to promote medium density housing in locations better suited to accommodating housing change, and to moderate the rate and type of housing change in other locations. The Residential Land Use Framework Plan identifies the range of housing outcomes sought across the City".

The subject site and surrounding properties have been identified as being within an area of Increased Housing Diversity within this policy.
The scheme states:

**Increased housing diversity areas**

The intention in these areas is that new medium density housing comprising a variety of housing types and layouts will be promoted responding to the established but evolving urban character. Because these are already established as residential areas, the design of new medium density housing proposals will need to display sensitivity to the existing residential context and amenity standards in these areas.

The key issues listed at Clause 21.05-2 are:

- **Impacts of a decreasing average household size and a general ageing of the population on the demand for additional dwellings.**
- **Impact of future changes in household structure on the demand for greater diversity of housing stock.**
- **Impact of future population changes on the supply of and demand for community and social facilities.**
- **Impact of new residential development in established urban areas on existing ageing infrastructure such as drains and roads.**
- **Loss of vegetation and historic buildings through the redevelopment process.**
- **Impact of new residential development on the character and amenity of existing residential areas.**
- **The need to understand the capacity of local areas to accommodate increased housing diversity.**
- **The need to promote quality and environmentally sustainable residential development.**
- **Management of the interfaces between residential areas and other sensitive/strategic land uses.**
- **Identification of households with specific housing needs within the Kingston community, including older people and people on low incomes.**

Clause 21.05-3 lists the objectives, strategies and Implementation. The following section will list all of the objectives, the relevant strategy/strategies and comment as to whether the proposal complies with the relevant objective:

**Objective 1**

To provide a range of housing types across the municipality to increase housing diversity and cater for the changing housing needs of current and future populations, taking account of the differential capacity of local areas in Kingston to accommodate different types and rates of housing change.
Strategies

- Encourage residential development within activity centres via shop-top housing and mixed use developments, and on transitional sites at the periphery of activity centres. The intensity and scale of such development will need to be in keeping with the scale of these centres.

- Promote a range of lot sizes and housing types, including medium density housing, on large residential opportunity sites, particularly where such sites have good access to public transport and other facilities.

- Promote increased housing diversity in residential areas that are within convenient walking distance of public transport and activity nodes (increased housing diversity areas). Such areas will accommodate a variety of medium density housing types and layouts at increased residential densities, responding to the established but evolving urban character.

Assessment

The above objective is met for the following reasons:

- The site is in walking distance to public transport, shops, reserves and community facilities.

- The proposal is for a variety of housing types allowing for an increased residential density responding to the evolving character and the objectives sought under this local policy.

- The site has good access to public transport and community facilities.

Objective 2

To ensure new residential development respects neighbourhood character and is site responsive, and that medium density dwellings are of the highest design quality.

Strategies

Strategies to achieve this objective include:

- Promote new residential development which is of a high standard, responds to the local context and positively contributes to the character and identity of the local neighbourhood.

- Promote new residential development which provides a high standard of amenity and quality of life for future occupants.

Assessment

The above objective is met as the proposal provides for a development that is of a high standard and positively contributes to the local neighbourhood. The proposed layout will provide for good internal amenity to the future occupants of the dwellings.
Objective 3
To preserve and enhance well landscaped/vegetated environments and protect identified significant vegetation.

Strategies
Strategies to achieve this objective include:

- Encourage the retention of existing vegetation wherever possible.
- Protect vegetation of identified significance.
- Improve landscape character by accommodating appropriate landscaping within new residential developments.

Assessment

The proposal does not involve the removal of any significant vegetation.

Objective 4
To promote more environmentally sustainable forms of residential development.

Strategies
Strategies to achieve this objective include:

- Ensure that the planning, design, siting and construction of new residential development responds to best practice environmental design guidelines for energy efficiency, waste and recycling, and stormwater management.
- Promote medium density housing development in close proximity to public transport facilities, particularly train stations.

Assessment

The proposed dwellings are well designed and considered to be energy efficient with a 6 star energy rating. The subject site is well located in respect to public transport including the Edithvale Train Station.

Objective 5
To manage the interface between residential development and adjoining or nearby sensitive/strategic land uses.

Strategies
Strategies to achieve this objective include:

- Ensure that where medium and higher density residential areas are proposed adjacent to lower density residential areas, the design of such development takes proper account of its potential amenity impacts.
**Assessment**

The design response will ensure there will be no detrimental loss of amenity to the future occupants.

**Objective 6**

To ensure residential development does not exceed known physical infrastructure capacities.

**Strategies**

Strategies to achieve this objective include:

**Drainage**
- Ensure that the siting and design of new residential development is consistent with Urban Stormwater Best Practice Environmental Management Guidelines.
- Ensure that new residential development contributes to the maintenance and upgrading of local drainage infrastructure as required, where such new development will impact on the capacity of such infrastructure.
- Manage development on land that is identified as being liable to flooding.

**Traffic / Car Parking.**
- Require the provision of carparking to satisfy the anticipated demand having regard to average car ownership levels in the area, the environmental capacity of the local street network and the proximity of public transport and nearby on and off street car parking.

**Open Space**
- Ensure that all new medium density housing provides adequate private open space that is appropriately landscaped.
- Ensure that large residential opportunity sites provide contributions towards the creation and/or enhancement of public open space within, or in reasonable proximity to, such sites.

**Assessment**

- Drainage is available to the site and the proposal will not put any strain on existing drainage services.
- Adequate on-site parking is provided for the proposed development meeting the requirements of Clause 52.06 Car parking of the Kingston Planning Scheme
- Adequate private open space has been provided for each dwelling with an adequate opportunity for landscaping.
Objective 7
To ensure all residential neighbourhoods in Kingston are provided with supporting social infrastructure adequate to the population's needs.

Strategies
Strategies to achieve this objective include:
- In areas experiencing rapid growth, ensure appropriate social infrastructure is provided in accordance with the anticipated needs of future residents.
- Ensure the development of large residential opportunity sites contributes to identified social infrastructure needs.
- Promote opportunities to improve the physical access of large residential opportunity sites to public transport.

Assessment
The subject site is well located to social infrastructure.

Clause 22.11 Residential Development Policy

This policy applies to among other things:
- Construction of two or more dwellings on a lot.

The policy basis states among other things (the bold is my emphasis):

"The purpose of this policy is to identify those locations where increased housing diversity, incremental housing change, minimal housing change and residential renewal will be encouraged and provide policy guidance on how development design should respond to meet the desired objectives. This policy is based on the principles outlined in the Kingston Residential Strategy — September 2000 and the Kingston Neighbourhood Character Guidelines — August 2007.

The Kingston Residential Strategy — September 2000 is premised upon a managed approach to housing change across the municipality. This approach recommends that new well-designed multi dwelling housing be developed in locations accessible to public transport and activity centres to achieve an increase in housing diversity in these locations. Residential locations in Kingston that do not have good access to public transport and activity centres should accommodate a gradual or incremental housing change, maintaining a predominantly single dwelling character with the equivalent of some dual occupancy development on average sized lots. Those locations which are influenced by physical or legal constraints are not planned to play a significantly expanded role in meeting future housing needs. Renovation and replacement of existing housing stock will be the focus of residential development activity in these areas, which are identified for minimal housing change. In areas where significant levels of older medium density housing already occur redevelopment will be encouraged (residential renewal)."
The Residential Strategy encourages new residential development to respect
neighbourhood character and medium density dwellings to be of the highest quality
in design and with minimal impact on off-site amenity.

The listed objectives under Clause 22.11-2 are:

- To promote a managed approach to housing change, taking account of the
differential capacity of local areas in Kingston to accommodate increased
housing diversity, incremental housing change, residential renewal or minimal
housing change, as identified within the MSS.
- To encourage new residential development to achieve architectural and urban
design outcomes that positively respond to neighbourhood character having
particular regard to that identified in the Kingston Neighbourhood Character
- To promote on-site car parking which is adequate to meet the anticipated needs
of future residents.
- To ensure that landscaping and trees remain a major element in the
appearance and character of the municipality’s residential environments.
- To limit the amount and impact of increased stormwater runoff on local
drainage systems.
- To ensure that the siting and design of new residential development takes
account of interfaces with sensitive and strategic land uses.

Clause 22.11-3 lists the policy.

Increased housing diversity areas

The intention in these areas is that new medium density housing comprising a variety
of housing types and layouts will be promoted responding to the established but evolving
urban character. Because these are already established as residential areas, the design of
new medium density housing proposals will need to display sensitivity to the existing
residential context and amenity standards in these areas.

Neighbourhood Character

- Apply the Kingston Neighbourhood Character Guidelines – February 2003 in
the consideration and assessment of local neighbourhood character in
Kingston.
- Ensure that new development is responsive to the character elements identified
in the Kingston Neighbourhood Character Guidelines – February 2003,
particularly those identified as making a major or critical contribution to
neighbourhood character.
- In the five areas of ‘special character’ (identified in the Kingston
Neighbourhood Character Study, February 2003), that is, areas 4, 13, 44, 80
and 84, give careful attention to ensuring that development proposals respond
to all identified major and critical elements in such a way that any new development does not detract from the special character of these areas.

- Encourage all new residential development to respond positively and creatively to neighbourhood character. Unless a preferred character is specified, the existing character is that which is to be considered.
- In areas where building placement makes a major contribution to neighbourhood character, design new development to reinforce the established rhythm of buildings in the street and retain the existing single dwelling character of the streetscape.
- Design duplex and side-by-side development to have a visual interconnection with the street rather than presenting merely as garages and front doors only. Staggered front building lines and variation in designs and materials should be used to avoid poor urban design impacts upon streetscapes.

The subject site is within the Character Area 68 under the Neighbourhood Character Guidelines.
**TYPICAL CHARACTERISTICS**

The characteristic curtilage of each residential building is as follows:

<table>
<thead>
<tr>
<th>Perceived lot pattern</th>
<th>Depth: 40-45m (130-146ft)</th>
<th>Frontage: 15-20m (48-64ft)</th>
</tr>
</thead>
</table>

**Building placement**

The characteristic distances between buildings and their front and side boundaries are as follows:

- Narrower side setback: 0-2m (0-6ft)
- Front setback: 5-10m (16-33ft)
- Wider side setback: 3-5m (10-16ft)

and the front of most garages is set back from the front wall of the house.

**Building footprint**

When viewed from the street, the footprint of most houses, or their outline on the ground, appears to be:

- Simple
- Modulated
- Varied

**Type and height of development**

Most houses are 1 storey high, orientated towards the street and:

- Semi-detached
- Terraced
- Courtyard

**Roof shape**

Most roofs are simple hipped and have an angle or pitch of 15-20°.

**Materials**

Most walls and roofs are clad as follows:

- Tiles of various colours
- White weatherboard or light brown brick

**Window shapes**

Most windows are shaped like:

- and

and have no gap between the top of the window and the eaves.

**Front boundary and garden**

Most front gardens are grassed and boundaries are:

- Open
- Landscaped
- Low wall or fence & landscape
- High wall or fence & landscape
- Varied

**Other building features**

Other building features commonly found in this area are:

- Verandahs
- Open

**Rear garden**

Rear garden characteristics cannot be identified for the area as a whole. However, garden size and vegetation must be included in the consideration of neighbourhood character, particularly in terms of boundary screen planting and trees visible from the street.
The proposal meets the relevant guidelines as follows:

- The area is characterised with varied footprints; this proposal will not be out of character with the mixed character of the area.
- The landscaping opportunities will add to the aesthetics of the area.
- Whilst most dwellings are of single-storey construction, the proposed height is not much higher than the single-storey dwellings that adjoin the site and of similar height to the two-storey dwellings that are in close proximity of the site and can be seen in the photos above.

55.02-3 Dwelling diversity objective
To encourage a range of dwelling sizes and types in developments of ten or more dwellings.

Standard B3
Developments of ten or more dwellings should provide a range of dwelling sizes and types, including:
Dwellings with a different number of bedrooms.
At least one dwelling that contains a kitchen, bath or shower, and a toilet and wash basin at ground floor level.

Assessment:
The proposal is for only 2 dwellings; this standard is not relevant.

55.02-4 Infrastructure objectives
To ensure development is provided with appropriate utility services and infrastructure.

To ensure development does not unreasonably overload the capacity of utility services and infrastructure.

Standard B4
Development should be connected to reticulated services, including reticulated sewerage, drainage, electricity and gas, if available.
Development should not unreasonably exceed the capacity of utility services and infrastructure, including reticulated services and roads.
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.

Assessment:
The surrounding area has been established for many years and will not require the provision of additional essential services to accommodate the proposal.
The proposed development takes advantage of existing physical and social infrastructure, i.e. shops, public transport and recreational parks. All services are available to the site and the design and layout provide sufficient space for services to be installed and maintained. An appropriate drainage system will be designed to suit the site.

55.02-5 Integration with the street objective
To integrate the layout of development with the street.

Standard B5
Developments should provide adequate vehicle and pedestrian links that maintain or enhance local accessibility.
Development should be oriented to front existing and proposed streets.
High fencing in front of dwellings should be avoided if practicable.
Development next to existing public open space should be laid out to complement the open space.

Assessment:
The layout of the development is such that it minimises the potential for any pedestrian and vehicular conflict.

The standard and objective are met.

55.03 SITE LAYOUT AND BUILDING MASSING

55.03-1 Street setback objective
To ensure that the setbacks of buildings from a street respect the existing or preferred neighbourhood character and make efficient use of the site.

Standard B6
Walls of buildings should be set back from streets:
At least the distance specified in the schedule to the zone, or
If no distance is specified in the schedule to the zone, the distance specified in Table B1.
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.

Assessment:
The dwellings adopt a setback which meets the prescriptive standard. The objective is also met.
**55.03-2 Building height objective**
To ensure that the height of buildings respects the existing or preferred neighbourhood character.

**Standard B7**
The maximum building height should not exceed the maximum height specified in the schedule to the zone.
*If no maximum height is specified in the schedule to the zone, 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 2.5 degrees or more, in which case the maximum building height should not exceed 10 metres.*

*Changes of building height between existing buildings and new buildings should be graduated.*

**Assessment:**
The height of the dwellings is below the standard and meets the objective.

---

**55.03-3 Site coverage objective**
To ensure that the site coverage respects the existing or preferred neighbourhood character and responds to the features of the site.

**Standard B8**
The site area covered by buildings should not exceed:
*The maximum site coverage specified in the schedule to the zone, or*
*If no maximum site coverage is specified in the schedule to the zone, 60 per cent.*

**Assessment:**
The standard specifies a maximum site coverage of 60% with 20% of the site to be permeable. The proposed site coverage of 52.83% complies with the prescriptive standard; the objective is also met.

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**55.03-4 Permeability objectives**
To reduce the impact of increased stormwater run-off on the drainage system.
To facilitate on-site stormwater infiltration.

**Standard B9**
*At least 20 per cent of the site should not be covered by impervious surfaces.*

**Assessment:**
The permeable area of 37.79% meets the standard. A proper drainage system will be designed for the development in accordance with the requirements of the Responsible Authority.
55.03-5 Energy efficiency objectives
To achieve and protect energy efficient dwellings and residential buildings.
To ensure the orientation and layout of development reduce fossil fuel energy use and make appropriate use of daylight and solar energy.

Standard B10
If an application is made on or after 1 March 2002 the development should be designed to achieve a four star energy rating, using the Sustainable Energy Authority of Victoria ‘FirstRate’ system or equivalent.

Buildings should be:
Oriented to make appropriate use of solar energy.
Sited and designed to ensure that the energy efficiency of existing dwellings on adjoining lots is not unreasonably reduced.
Living areas and private open space should be located on the north side of the development, if practicable.
Developments should be designed so that solar access to north-facing windows is maximised.

Assessment:
The dwellings are considered to be energy efficient; the use of party walls allows for an energy efficient design.

It is submitted that the objective is met.

55.03-6 Open space objective
To integrate the layout of development with any public and communal open space provided in or adjacent to the development.

Standard B11
If any public or communal open space is provided on site, it should:
Be substantially fronted by dwellings, where appropriate.
Provide outlook for as many dwellings as practicable.
Be designed to protect any natural features on the site.
Be accessible and useable.

Assessment:
There is no public open space proposed.
**55.03-7 Safety objective**
To ensure the layout of development provides for the safety and security of residents and property.

**Standard B12**
*Entrances to dwellings and residential buildings should not be obscured or isolated from the street and internal accessways.*

*Planting which creates unsafe spaces along streets and accessways should be avoided.*

*Developments should be designed to provide good lighting, visibility and surveillance of car parks and internal accessways.*

*Private spaces within developments should be protected from inappropriate use as public thoroughfares.*

**Assessment:**
The entry to both dwellings allows for good surveillance of the street meeting the objective of this standard.

---

**55.03-8 Landscaping objectives**
To encourage development that respects the landscape character of the neighbourhood.
To encourage development that maintains and enhances habitat for plants and animals in locations of habitat importance.
To provide appropriate landscaping.
To encourage the retention of mature vegetation on the site.

**Standard B13**
The landscape layout and design should:
*Protect any predominant landscape features of the neighbourhood.*
*Take into account the soil type and drainage patterns of the site.*
*Allow for intended vegetation growth and structural protection of buildings.*
*In locations of habitat importance, maintain existing habitat and provide for new habitat for plants and animals.*
*Provide a safe, attractive and functional environment for residents.*
*Development should provide for the retention or planting of trees, where these are part of the character of the neighbourhood.*
*Development should provide for the replacement of any significant trees that have been removed in the 12 months prior to the application being made.*
*The landscape design should specify landscape themes, vegetation (location and species), paving and lighting.*
Assessment:
Consideration of existing features and constraints of the site results in the development responding well to the surrounding environment. No trees have been removed over the last 12 months. The landscape opportunities allows for the planting of a number of canopy trees.

55.03-9 Access objectives
To ensure vehicle access to and from a development is safe, manageable and convenient.
To ensure the number and design of vehicle crossovers respects the neighbourhood character.

Standard B14
Accessways should:
Be designed to allow convenient, safe and efficient vehicle movements and connections within the development and to the street network.
Be designed to ensure vehicles can exit a development in a forwards direction if the accessway serves five or more car spaces, three or more dwellings, or connects to a road in a Road Zone.
Be at least 3 metres wide.
Have an internal radius of at least 4 metres at changes of direction.
Provide a passing area at the entrance that is at least 5 metres wide and 7 metres long if the accessway serves ten or more spaces and connects to a road in a Road Zone.
The width of accessways or car spaces should not exceed:
33 per cent of the street frontage, or
if the width of the street frontage is less than 20 metres, 40 per cent of the street frontage.
No more than one single-width crossover should be provided for each dwelling fronting a street.
The location of crossovers should maximise the retention of on-street car parking spaces.
The number of access points to a road in a Road Zone should be minimised.
Developments must provide for access for service, emergency and delivery vehicles.

Assessment:
The provision of 2 crossings will have no impact on Fraser Avenue or Station Street and meets the standard and objective.
55.03-10 Parking location objectives
To provide convenient parking for resident and visitor vehicles.
To avoid parking and traffic difficulties in the development and the
neighbourhood.
To protect residents from vehicular noise within developments.

Standard B15
Car parking facilities should:
Be reasonably close and convenient to dwellings and residential buildings.
Be secure.
Be designed to allow safe and efficient movements within the development.
Be well ventilated if enclosed.
Large parking areas should be broken up with trees, buildings or different surface
treatments.
Shared accessways 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
be reduced 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 accessway.

Assessment:
It is submitted that the objectives of this standard have been met. In particular, the car
parking spaces are:
- reasonably close and provide for convenient access to each respective dwelling;
  and
- are designed to allow for safe and efficient movements within the development.

Clause 52.06 Parking provision

The relevant standard specifies that dwellings containing 3 bedrooms or more should
provide for 2 car parking spaces.

The prescriptive requirements of this clause have been met with both dwellings having
a single garage and a second tandem car space.

The objective is met.
55.04 AMENITY IMPACTS

55.04-1 Side and rear setbacks objective
To 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.

Standard B17
A new building not on or within 150mm of a boundary should be set back from side or rear boundaries:
At least the distance specified in the schedule to the zone, or
If no distance is specified in the 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.
Sunblinds, verandahs, porches, eaves, fascias, gutters, masonry chimneys, flues, pipes, domestic fuel or water tanks, and heating or cooling equipment or other services may encroach not more than 0.5 metres into the setbacks of this standard.
Landings having an area of not more than 2 square metres and less than 1 metre high, stairways, ramps, pergolas, shade sails and carports may encroach into the setbacks of this standard.

Assessment:
Setbacks to side and rear boundaries have been adopted to respect the existing neighbourhood character and limit the impact on existing and adjoining residences. The proposed standard and objective is met.

55.04-2 Walls on boundaries objective
To 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.

Standard B18
A new wall constructed on or within 150mm 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 for a length of more than:
10 metres plus 25 per cent of the remaining length of the boundary of an adjoining lot, or
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.
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 2 metres on the abutting property boundary.
A building on a boundary includes a building set back up to 150mm from a boundary.
The height of a new wall constructed on or within 150mm 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 metres with no part higher than 3.6 metres unless abutting a higher existing or simultaneously constructed wall.

Assessment:
The only walls on the boundary is that of the walls of the garages. The length of wall meets the relevant standard; the objective is also met.

55.04-3 Daylight to existing windows objective
To allow adequate daylight into existing habitable room windows.

Standard B19
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.
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.
Where the existing window is above ground floor level, the wall height is measured from the floor level of the room containing the window.

Assessment:
The proposed development is considered to enable adequate light to be provided for all needs within the dwellings and is consistent with the objective for this standard. Daylight to existing habitable rooms will not be impaired as a result of the development.

55.04-4 North-facing windows objective
To allow adequate solar access to existing north-facing habitable room windows.

Standard B20
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.
Assessment:
The proposal meets this standard and objective.

55.04-5 Overshadowing open space objective
To ensure buildings do not significantly overshadow existing secluded private open space.

Standard B21
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.

Assessment:
The standard and objective are met.

55.04-6 Overlooking objective
To limit views into existing secluded private open space and habitable room windows.

Standard B22
A habitable room window, balcony, terrace, deck or patio should be located and designed to avoid direct views into the secluded private open space of an existing dwelling within a horizontal distance of 9 metres (measured at ground level) of the window, balcony, terrace, deck or patio. Views should be measured within a 45 degree angle from the plane of the window or perimeter of the balcony, terrace, deck or patio, and from a height of 1.7 metres above floor level.
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:
Offset a minimum of 1.5 metres from the edge of one window to the edge of the other.
Have sill heights of at least 1.7 metres above floor level.
Have fixed, obscure glazing in any part of the window below 1.7 metre above floor level.
Have permanently fixed external screens to at least 1.7 metres above floor level and be no more than 25 per cent transparent.
Obcure 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.
Screens used to obscure a view should be:  
Perforated panels or trellis with a maximum of 25 per cent openings or solid translucent panels.  
Permanent, fixed and durable.  
Designed and coloured to blend in with the development.  
This standard does not apply to a new habitable room window, balcony, terrace, deck or patio which faces a property boundary where there is a visual barrier at least 1.8 metres high and the floor level of the habitable room, balcony, terrace, deck or patio is less than 0.8 metres above ground level at the boundary.

Assessment:  
To achieve a satisfactory living environment it is recognised that there needs to be visual and acoustic privacy for residents and neighbours. The privacy and amenity issues to both the adjoining properties and future occupants of the dwellings have been considered in the design of the development.

Overlooking to the adjoining properties has been addressed with the screening of the windows.

55.04-7 Internal views objective  
To limit views into the secluded private open space and habitable room windows of dwellings and residential buildings within a development.

Standard B23  
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.

Assessment:  
Prevention of views into the secluded private open space and habitable room windows of adjoining dwellings and residences within the same development have been exercised in the design by carefully locating windows. It is submitted that the proposed design meets the objective of this standard.

55.04-8 Noise impacts objectives  
To contain noise sources in developments that may affect existing dwellings.  
To protect residents from external noise.

Standard B24  
Noise sources, such as mechanical plant, should not be located near bedrooms of immediately adjacent existing dwellings.
Noise sensitive rooms and secluded private open spaces of new dwellings and residential buildings should take account of noise sources on immediately adjacent properties. Dwellings and residential buildings close to busy roads, railway lines or industry should be designed to limit noise levels in habitable rooms.

Assessment:
The proposal meets both the standard and objective for this standard.

Care will be exercised in the location of any future air conditioning units and heating devices so that adjoining residents will not be affected.

55.05 ON-SITE AMENITY AND FACILITIES

55.05-1 Accessibility objective
To encourage the consideration of the needs of people with limited mobility in the design of developments.

Standard B25
The 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.

Assessment:
The floor level of the dwellings has been kept to a minimum.

55.05-2 Dwelling entry objective
To provide each dwelling or residential building with its own sense of identity.

Standard B26
Entries to dwellings and residential buildings should:
Be visible and easily identifiable from streets and other public areas.
Provide shelter, a sense of personal address and a transitional space around the entry.

Assessment:
The entry area for both dwellings is clearly identifiable from the 2 respective streetscapes.
55.05.3 Daylight to new windows objective
To allow adequate daylight into new habitable room windows.

Standard B27
A window in a habitable room should be located to face:
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, or
A verandah provided it is open for at least one third of its perimeter, or
A carport provided it has two or more open sides and is open for at least one third of its perimeter.

Assessment:
Adequate light is permissible for habitable rooms and meets the objective for this standard. The proposed dwellings have been designed in such a way that all habitable windows face an outdoor area large enough to provide sufficient daylight to these windows.

55.05.4 Private open space objective
To provide adequate private open space for the reasonable recreation and service needs of residents.

Standard B28
A dwelling or residential building should have private open space of an area and dimensions specified in the schedule to the zone.
If no area or dimensions are specified in the schedule to the zone, a dwelling or residential building should have private open space consisting of:

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 building with a minimum area of 25 square metres, a minimum dimension of 3 metres and convenient access from a living room, or
A balcony of 8 square metres with a minimum width of 1.6 metres and convenient access from a living room, or
A roof-top area of 10 square metres with a minimum width of 2 metres and convenient access from a living room.

Assessment:
In providing for private open space, special consideration was given to the outlook of the area, sunlight, relationship to the dwellings and living areas, dimensions to adjacent walls and fencing and its landscape treatment.
The private open spaces provided for in this development are both adequate in terms of area and functional in terms of amenity and privacy. The objective is met as the dwellings provide adequate private open space for the reasonable recreation and service needs of future residents. The development includes ground floor open space, balconies on the first floor with direct access off the living rooms and a roof top terrace.

The prescriptive standard is met; the objective is also met.

**55.05-5 Solar access to open space objective**
To allow solar access into the secluded private open space of new dwellings and residential buildings.

**Standard B29**
The private open space should be located on the north side of the dwelling or residential building, if appropriate.
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.

**Assessment:**
The secluded private open space area for both dwellings will receive adequate solar access. The objective is met.

**55.05-6 Storage objective**
To provide adequate storage facilities for each dwelling.

**Standard B30**
Each dwelling should have convenient access to at least 6 cubic metres of externally accessible, secure storage space.

**Assessment:**
A store has been provided for each dwelling in accordance with the standard.
55.06 DETAILED DESIGN

55.06-1 Design detail objective
To encourage design detail that respects the existing or preferred neighbourhood character.

Standard B31
The design of buildings, including:
Facade articulation and detailing,
Window and door proportions,
Roof form, and
Verandahs, eaves and parapets,
should respect the existing or preferred neighbourhood character.
Garages and carports should be visually compatible with the development and the existing or preferred neighbourhood character.

Assessment:
The design of the new dwellings is complementary to other forms of development in the area where the diversity is already such that there is no readily identifiable style or character. The design has endeavoured to compliment the existing mix of style of architecture within the area, rather than mimic the design of the prominent housing type.

The proposed dwellings have taken a sympathetic form of architecture with a combination of building materials. The style and form will be sensitive to the location of the site. Aspects of the diverse housing types within the area have been selected and combined together to produce a character that will blend comfortably into the existing neighbourhood whilst retaining a theme of its own and also meeting the preferred character for the area.

55.06-2 Front fences objective
To encourage front fence design that respects the existing or preferred neighbourhood character.

Standard B32
The design of front fences should complement the design of the dwelling or residential building and any front fences on adjoining properties.
A front fence within 3 metres of a street should not exceed:
The maximum height specified in the schedule to the zone, or
If no maximum height is specified in the schedule to the zone, the maximum height specified in Table B3.

Assessment:
A low level front fence is proposed.
55.06-3 Common property objectives
To ensure that communal open space, car parking, access areas and site facilities are practical, attractive and easily maintained.
To avoid future management difficulties in areas of common ownership.

Standard B33
Developments should clearly delineate public, communal and private areas.
Common property, where provided, should be functional and capable of efficient management.

Assessment:
No common property is proposed.

55.06-4 Site services objectives
To ensure that site services can be installed and easily maintained.
To ensure that site facilities are accessible, adequate and attractive.

Standard B34
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.
Bin and recycling enclosures, mailboxes and other site facilities should be adequate in size, durable, waterproof and blend in with the development.
Bin and recycling enclosures should be located for convenient access by residents.
Mailboxes should be provided and located for convenient access as required by Australia Post.

Assessment:
The mail boxes for the dwellings will be well designed and located in such a way as to provide convenient access for the residents and employees of Australia Post.
CONCLUSION

Overall, it is considered that the proposed development is appropriate for the site. Furthermore, it should be noted that:

- The design has due regard to the existing features of the area.
- The overall height of the dwellings is not much higher than the adjoining dwellings and of similar height to the two-storey dwellings within the area.
- The dwellings provide for a safe and secure environment for future residents, with good accessibility provided to all dwellings.
- There is minimal impact from the proposal on nearby residential properties by way of overlooking or overshadowing.
- The private open space areas are appropriate.

The proposal is one that is considered to be entirely appropriate to this locality, having regard to the overall strategic directions that are contained within the State and Local Planning Policies.

The development will introduce a viable and long-term use for the site and will add to the overall diversity of the area. The architectural design of the dwellings is one that will upgrade the existing building form to give a more modern appearance and will not result in a built form that is considered to be out of character with the area. The level of articulation of the built form, together with the vertical and horizontal components and varying types of materials, will add to the visual interest to the built form.

It is therefore submitted that the development represents an appropriate development for the area in support of State and Local Policies and complies with the general purpose of Clause 55 of the scheme. It is submitted that the proposal has considerable planning merit and is not one that is likely to impact on the surrounding development.
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Location of Land
Parish: LYNDHURST
Township:
Section:
Crown Allotment: 141 (PT)
Crown Portion:
Last Plan Reference:
Derived From: VOL 3800 FOL 851
Depth Limitation: NIL

Description of Land / Easement Information

All that piece of Land, delineated and coloured red on the map in the margin, being part of Crown Allotment One hundred and forty-one Parish of Lyndhurst County of Mornington Together with a right of carriage way over the road coloured brown on the said map

COLOUR CODE
R=RED
BR=BROWN

TABLE OF PARCEL IDENTIFIERS

WARNING: Where multiple parcels are referred to or shown on this Title Plan this does not imply separately disposable parcels under Section 8A of the Sale of Land Act 1962

PARCEL 1 = CA 141 (PT)

LENGTHS ARE IN FEET & INCHES

Metres = 0.3048 x Feet
Metres = 0.201168 x Links

Compiled: 27/06/2000
Verified: AK
REGISTER SEARCH STATEMENT (Title Search) Transfer of Land Act 1958

VOLUME 03800 FOLIO 851

LAND DESCRIPTION

Lot 1 on Title Plan 544100Y.
PARENT TITLE Volume 03476 Folio 196
Created by instrument 0747484 20/05/1914

REGISTERED PROPRIETOR

Estate Fee Simple
Sole Proprietor
FRASER AVENUE PTY LTD of UNIT 7 45-49 KENT ROAD SURREY HILLS VIC 3127
AR743728H 10/12/2018

ENCUMBRANCES, CAVEATS AND NOTICES

MORTGAGE AR743729F 10/12/2018
WESTPAC BANKING CORPORATION

Any encumbrances created by Section 98 Transfer of Land Act 1958 or Section 24 Subdivision Act 1988 and any other encumbrances shown or entered on the plan set out under DIAGRAM LOCATION below.

DIAGRAM LOCATION

SEE TP544100Y FOR FURTHER DETAILS AND BOUNDARIES

ACTIVITY IN THE LAST 125 DAYS

<table>
<thead>
<tr>
<th>NUMBER</th>
<th>DESCRIPTION</th>
<th>STATUS</th>
<th>DATE</th>
</tr>
</thead>
<tbody>
<tr>
<td>AR673030Q (E)</td>
<td>CONV PCT &amp; NOM ECT TO LC</td>
<td>Completed</td>
<td>20/11/2018</td>
</tr>
<tr>
<td>AR673180U (E)</td>
<td>REMOVAL OF NOMINATION</td>
<td>Completed</td>
<td>20/11/2018</td>
</tr>
<tr>
<td>AR674908N (E)</td>
<td>NOMINATION OF ECT TO LC</td>
<td>Completed</td>
<td>21/11/2018</td>
</tr>
<tr>
<td>AR674920Y (E)</td>
<td>TRANSMISSION APPLICATION</td>
<td>Registered</td>
<td>21/11/2018</td>
</tr>
<tr>
<td>AR743728H (E)</td>
<td>TRANSFER</td>
<td>Registered</td>
<td>10/12/2018</td>
</tr>
<tr>
<td>AR743729F (E)</td>
<td>MORTGAGE</td>
<td>Registered</td>
<td>10/12/2018</td>
</tr>
</tbody>
</table>

Additional information: (not part of the Register Search Statement)

Street Address: 1 FRASER AVENUE EDITHVALE VIC 3196

ADMINISTRATIVE NOTICES

NIL

ect Control 18440T MSA NATIONAL
Effective from 10/12/2018

DOCUMENT END
09 November 2018

Tom Abbott C/- LANDATA
2 Lonsdale Street Melbourne

Dear Tom Abbott C/- LANDATA,

**Proposal:** Flood level certificates  
**Site Location:** Lot No 1, 1 FRASER AVENUE, EDITHVALE 3196

**Melbourne Water reference:** MWA-1092012  
**Eflood reference number:** 30093410

**Date referred:** 09/11/2018

Flooding may be associated with the Melbourne Water regional drainage system and/or the local Council drainage systems. Information available at Melbourne Water indicates that the property is not subject to flooding from Melbourne Water's drainage system, based on a rainfall event which has a 1% Annual Exceedance Probability (AEP), that is, a 1% probability of being equalled or exceeded in any one year. To determine if a property is subject to flooding from the local Council drainage system you will need to contact the relevant Council for flood information.

For the purposes of the Building Code of Australia - Building in Flood Hazard Areas, there is no applicable flow rate velocity associated with the above property. Melbourne Water does not have any information in relation to flow velocities associated with the local Council drainage system.

**Important to note:**

Melbourne Water provides flood advice under Section 202(2) of the Water Act 1989.

This letter does not constitute approval for any proposed development for planning or building.

To obtain more information or Melbourne Water's requirements for any proposed development, please contact our Customer Service Centre on 131 722 or make an application here.

The property may be affected by flooding from lesser and more frequent flood events or from the local drainage system. To determine if your property is affected by the local drainage system, please consult your local council.

The flood level advice provided is based on the most accurate information currently...
available. This estimated flood information may change and is valid for 3 months from the date of this letter. If you are proposing to develop this land after such time, it is recommended that new advice be obtained from Melbourne Water.

For more information in relation to flooding or additional services that Melbourne Water can provide please visit our website.

For general development enquiries contact our Customer Service Centre on 131 722.

Regards,

Melbourne Water Corporation
Customer Service Centre
Dear Tom,

RE: 1 Fraser Avenue Edithvale

I refer to my recent engagement to undertake an arboricultural assessment and report for the above-mentioned property.

Enclosed for your perusal is my assessment and report concerning the trees and vegetation on and abutting the subject property, based on the terms of reference advised.

The report is a detailed assessment and is set out in 9 parts.

1. Executive Summary - A summary of what the report investigates and covers;
2. Terms of Reference - What we have been asked to do;
3. Procedure; The steps taken and the information to be collected;
4. Features and Observations; The results of the assessment;
5. Aerial Photographs and Plans; A high resolution Nearmap photograph with trees numbered as in the report.
6. Discussion; Providing a background on the assessment criteria and of the Australian Standard for the Protection of Trees on Development Sites (AS4970-2009) with a background on Tree Protection and other pertinent matters particular to your terms of reference including risk management. Any Planning Scheme exemptions that may apply are also included;
7. Conclusions; A summary of all the pertinent matters in relation to the tree and vegetation assessed;
8. Recommendations; Suggested maintenance and management requirements of the trees and vegetation assessed.
9. References; Referenced documents and online resources

This is a comprehensive document and the essential parts include section number 1, 7 and 8.

Appendices include;

1. Glossary of Arboricultural terms;
2. Disclaimer and Limiting Conditions Document;
3. Consultants qualifications and experience.

Attachments included are based on the individual requirements of this project as indicated where applicable.

<table>
<thead>
<tr>
<th></th>
<th>1. Tree Protection and Management Plan</th>
<th>If your project impacts retention trees on and/or abutting your property a tree management plan will be required or is included.</th>
</tr>
</thead>
<tbody>
<tr>
<td>X</td>
<td>2. Resource Document</td>
<td>The Resource Document is a compilation of Arboricultural information accumulated over many years referencing many field experts. It explains in further detail tree protection, construction and landscape techniques to ensure trees that need to be or are retained are looked after as much as possible. It relates directly back to the Tree Management Plan where one is required</td>
</tr>
<tr>
<td>X</td>
<td>3. [Other Documents as Specified]</td>
<td></td>
</tr>
</tbody>
</table>

We can advise on contractors to engage to carry out maintenance works and project manage any of the works and recommendations we make.
We have found that the level of detail is required because Councils who may assess your application have demanded it. With all the required information they can properly assess applications presented to them. Importantly, the detail in the Arborist report may be utilised by others involved in the Planning process, including your Architect, Town Planner and Builder.

We ask that you read these sections carefully to ensure that you understand their implications and to advise us of any amendments which we will gladly make.

Should there be any queries in relation to this report or its recommendations, please do not hesitate to contact me on 0407 915 561

for and on behalf of,
Arborist Reports Australia
Tree Management & Arboricultural Consulting

Otto Leenstra
Principal Consultant Arborist
Arboricultural Assessment & Report

1 Fraser Avenue
Edithvale

REPORT & ASSESSMENT PREPARED BY

Otto Leenstra
Principal Consultant Arborist

REPORT AUTHORISED BY

Tom Abbott
ArchTen Pty Ltd
Ground Floor
160 A Drummond Street
Oakleigh

FOR

Fraser Investment Trust
Level 6, 10 Queen Street
Melbourne

16th April 2019
1. EXECUTIVE SUMMARY
Otto Leenstra, Consultant Arborist for Arborist Reports Australia, has been engaged by ArchTen to provide an Arboricultural assessment and report with regard to the trees and vegetation located on and abutting the property of 1 Fraser Avenue Edithvale.

The subject land includes an established garden and an existing residence with a number of planted non-native and native shrubs. All the shrub onsite are undersize minor vegetation and not subject to the City of Kingston local law covering the protection of Significant Trees. Tree #1 a senescing Monterey Cypress is located near the southeast corner of the subject site. This tree has had substantial development and construction around it including the construction of a new driveway within the Structural and optimal Tree Protection Zone of this tree. This tree is showing evidence of decline and is not proposed for retention with the intended development of the subject site. The approximate total site area of 1 Fraser Avenue at 365 m² (ref Nearmap).

There is no vegetation proposed to be retained on the subject site. The only tree to consider in terms of its protection and retention is a young Drooping She-Oak located on the Station Street boundary of the subject site. The Australian Standard for the Protection of Trees on Development Sites AS4970-2009 covers the requirements to establish the various tree protection requirements. A Tree Management Plan is presented with regard to the protection of this small tree.

2. TERMS OF REFERENCE
To satisfy the requirement of this report the terms of reference are as follows:

a) Inspect the subject trees located and detailed on the Aerial photograph in section 5 of this report and included in the Relocation plan prepared by Mac Survey and Mapping in section 5 of this report.

b) Inspect the health, structure significance and ethnicity of the subject trees and other arboricultural features where appropriate and as required.

c) To make management recommendations in relation to the retention or removal of the subject trees and vegetation as required.

3. PROCEDURE
a) An onsite Arboricultural inspection was undertaken on the 5th of April 2019

b) The subject trees and vegetation was visually assessed from the ground and observations of the surrounding environment were made.

c) Arboricultural features were collected, Height ranges were estimated, Average canopy widths were taken in east west and north south planes and diameters measured at 1.4 metres above the ground and above the root buttress of the tree in accordance with Australian Standard For The Protection Of Trees On Development Sites As4970-2009.

d) From the Arboricultural assessment relevant features and observations were collected and recorded for the purpose of the preparation of this report, and are presented in Features and Observations section see table 4.1 of this report.

e) The subject trees are numbered in table 4.1 correspond to the aerial photography and the proposed conditions plan in section 5 of this report. The suffix ‘-1fr’ denoting 1 Fraser Avenue is shown in tables 4.1, 6.2.1 and 8.1 and on the aerial photographs are deleted in the body text of this report.

f) A Tree Protection and Management Plan was prepared with regard to the protection of the naturestrip tree.

g) The Features and Observations table includes the results of all the inspection criteria associated with the site assessment. Table 4.1 the Features and Observations table follows;
<table>
<thead>
<tr>
<th>Tree No.</th>
<th>Botanical/Common Name</th>
<th>Latitude</th>
<th>Longitude</th>
<th>Height (m)</th>
<th>Spread (m)</th>
<th>Trunk Diam. (cm)</th>
<th>Health</th>
<th>Age</th>
<th>Structure</th>
<th>ULE*</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-1fr</td>
<td>Cupressus macrocarpa/Monterey Cypress</td>
<td>145.11036157608</td>
<td>-38.04044230932</td>
<td>5 to 7 m</td>
<td>11 to 14 m</td>
<td>89</td>
<td>Poor</td>
<td>Mature</td>
<td>Fair</td>
<td>5-10 years</td>
</tr>
<tr>
<td>2-1fr</td>
<td>Allocasuarina verticillata/Drooping Sheoak</td>
<td>145.110126882792</td>
<td>-38.0403018317007</td>
<td>less than 5 m</td>
<td>less than 3 m</td>
<td>20</td>
<td>Fair</td>
<td>Juvenile</td>
<td>Fair-poor</td>
<td>5-10 years</td>
</tr>
<tr>
<td>3-1fr</td>
<td>Acca sellowiana/Feijoa</td>
<td>145.110223442316</td>
<td>-38.040391610663</td>
<td>less than 3 m</td>
<td>less than 3 m</td>
<td>15</td>
<td>Fair</td>
<td>Mature</td>
<td>Fair-poor</td>
<td>5-10 years</td>
</tr>
<tr>
<td>4-1fr</td>
<td>Coprosma repens/New Zealand Mirror Bush</td>
<td>145.110200643539</td>
<td>-38.0403520023111</td>
<td>less than 3 m</td>
<td>less than 3 m</td>
<td>20</td>
<td>Fair</td>
<td>Mature</td>
<td>Fair-poor</td>
<td>5-10 years</td>
</tr>
<tr>
<td>5-1fr</td>
<td>Prunus lusitanica/Portuguese Laurel</td>
<td>145.110163763165</td>
<td>-38.0402838758949</td>
<td>less than 3 m</td>
<td>less than 3 m</td>
<td>20</td>
<td>Fair</td>
<td>Semi-Mature</td>
<td>Fair-poor</td>
<td>5-10 years</td>
</tr>
<tr>
<td>6-1fr</td>
<td>Callistemon viminalis/Weeping Bottlebrush</td>
<td>145.110142305493</td>
<td>-38.0402389863613</td>
<td>less than 3 m</td>
<td>less than 3 m</td>
<td>20</td>
<td>Poor</td>
<td>Mature</td>
<td>Poor</td>
<td>less than 5 years</td>
</tr>
</tbody>
</table>

Note suffix (x-?? etc) tree number field not shown in plans or body text of report

*ULE-Useful Life Expectancy

Tuesday, 16 April 2019
6. DISCUSSION

6.1 Significance Ratings and Definitions

Each tree is assigned a 'Significance' or ‘Retention Rating' based on the assessment. The Significance or Retention Ratings are as follows;

<table>
<thead>
<tr>
<th>Rating</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>High</td>
<td>A worthy tree deserving of protection and retention.</td>
</tr>
<tr>
<td>Moderate</td>
<td>A significant, noteworthy or important asset.</td>
</tr>
<tr>
<td>Low</td>
<td>Has not yet attained a degree of significance</td>
</tr>
<tr>
<td>None</td>
<td>Of little or no significance</td>
</tr>
<tr>
<td>Habitat</td>
<td>Natural home of an animal or plant.</td>
</tr>
</tbody>
</table>

The Arboricultural significance needs to be considered with the 'Reason For Significance' criteria also recorded in table 4.1. These descriptors confirm the trees ethnicity (Whether the tree is Indigenous, native, or exotic (non-native) and a comment on its significance status. The status may refer to whether the tree may be considered to be a Landscape Feature or an Environmental weed.

The Recommendation selection criteria are as follows;

<table>
<thead>
<tr>
<th>Recommended Outcome</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Remove</td>
<td>Defective tree that presents an unacceptable risk</td>
</tr>
<tr>
<td>Or removal</td>
<td></td>
</tr>
<tr>
<td>Reasonable to Remove</td>
<td>Defective tree that does not present a risk</td>
</tr>
<tr>
<td>Retained but reasonable to remove</td>
<td>Intention to retain a tree however the arboricultural inspection reveals a defective tree.</td>
</tr>
<tr>
<td>Not Retained</td>
<td>Intention to remove</td>
</tr>
<tr>
<td>Retainable</td>
<td>A tree (defective or other) that may be Retainable subject to a tree management plan that may include some remedial maintenance action or tree protection.</td>
</tr>
<tr>
<td>Retained</td>
<td>A tree where provision has been made to retain subject to a tree management plan</td>
</tr>
</tbody>
</table>

6.2 Existing Conditions

In terms of the tree population on this site the following considerations apply

i. The ethnicity of the tree, shrub or area of vegetation - Its origin is important in determining what planning controls might apply to it. The ethnicity of the tree is also coupled with other statements of the status of the tree other than its overall arboricultural significance. This might include its status as a landscape feature an environmental or a noxious weed or its status as not significant or a transient species.

ii. Its arboricultural significance as described in table 6.2.1. Its arboricultural significance determines the potential retention value of the tree.

The following tables must be considered with table 4.1 Features and Observations and the planning controls that apply to the property and the trees vegetation within the subject site.
<table>
<thead>
<tr>
<th>Tree No.</th>
<th>Botanical/Common Name</th>
<th>Significance</th>
<th>Reason</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-1fr</td>
<td>Cupressus macrocarpa/Monterey Cypress</td>
<td>Low</td>
<td>Non-native;</td>
<td>Foliage - Transitions. Growing environment - Restrictive, Telstra 80cm east, new driveway 1.3m east, pavement left with existing driveway 1m west of tree.</td>
</tr>
<tr>
<td>2-1fr</td>
<td>Allocasuarina verticillata/Drooping Sheoak</td>
<td>Low</td>
<td>Native; Not Significant</td>
<td>Foliage - Live crown ratio within normal limits; Observations - Developing tree less than 10 years old.</td>
</tr>
<tr>
<td>3-1fr</td>
<td>Acca sellowiana/Feijoa</td>
<td>Low</td>
<td>Non-native; Not Significant</td>
<td>Foliage - Live crown ratio within normal limits; Observations - Shrub like.</td>
</tr>
<tr>
<td>4-1fr</td>
<td>Coprosma repens/New Zealand Mirror Bush</td>
<td>Low</td>
<td>Non-native; Not Significant</td>
<td>Foliage - Live crown ratio within normal limits; Observations - Shrub like.</td>
</tr>
<tr>
<td>5-1fr</td>
<td>Prunus luctianica/Portuguese Laurel</td>
<td>Low</td>
<td>Non-native; Not Significant</td>
<td>Foliage - Live crown ratio within normal limits; Observations - Shrub like.</td>
</tr>
<tr>
<td>6-1fr</td>
<td>Callistemon viminalis/Weeping Bottlebrush</td>
<td>Low</td>
<td>Native; Not Significant</td>
<td>Foliage - Live crown ratio indicating decline; Health - Dieback apparent.</td>
</tr>
</tbody>
</table>
DISCUSSION continued...

6.3 Retention trees Tree Preservation Zones (TPZ) General

Attention to the protection of the root zone is an important consideration where TPZs are recommended. Any tree located outside the extent of construction or excavation where separation distances equal to the Optimal Tree Preservation Zone (TPZ) can be retained or is retainable without the need to consider the location of any tree roots. Where these distances are compromised or reduced there is a requirement to consider the impact of the construction or excavation to the location of retention trees. The closer one moves toward the trunk of the tree the larger the diameter of the roots. The point where the roots taper quickly is called the zone of rapid taper and between this radius and the centre of the trunk of the tree is the Structural Root Zone (SRZ).

The Australian Standard for the Protection of Trees on Development Sites AS 4970-2009 uses a mathematical formula to determine the extent of tree root zones as a measure of the radius from the centre of the trunk of the tree based on the trunk diameter above the buttress. The diagram in figure 6.5 sets out these regions and the mathematical formulas that have been applied to calculate the optimum TPZ and SRZ in table 8.1 of this report. The actual extent of the TPZ may vary considerably and is dependent on environmental conditions and site constraints.

**Figure 6.3 SRZ and Optimum TPZ diagram**

These calculations when applied to young or narrow diameter trees can deliver results less than 2 metres (Refer to Recommendations table 8.1). 2 metres is the minimum TPZ radius in accordance with the standard AS4970-2009 and applies where the calculation delivers a lesser result. Also in accordance with the standard Palms and Cycads have a TPZ equivalent to the canopy projection. This is also the case with young trees. Any deviations from these minimums needs to be addressed in a Tree Management and Protection plan.

Tree protection requirements associated with any development apply to retention trees and trees within close proximity to the boundary on abutting properties and are presented in the Tree Management and Protection plan in Attachment 1 of this report.
CONCLUSIONS

7.1 Trees Proposed for Removal or Retention

Tree #1 is a senescing Monterey Cypress. There have been significant encroachments into the Tree Protection Zone of this tree not supported in AS4970-2009 The Protection of Trees on Development Sites. As a result of these encroachments the tree shows significant internal dieback with a proliferation of minor internal deadwood. A larger lower canopy branch has died on the northern side of the tree. The tree shows a distinct lack of vigour. While it may survive its amenity as a landscape specimen has been compromised.

There are a number of services close to the trunk of this tree including a Telstra pit in the footpath 80 cm to the south and a Sewer pit 2m and driveway within the subject site, 1 metre to the west of the subject tree. A new driveway has been constructed 1.3 metres to the east of the tree. There is evidence of the displacement of the Telstra and Sewer pit associated with the tree as well as the brick pavement associated with the tree within the subject site.

The potential for continued and worsening displacement is possible associated with continuing decline of this tree. Based on these observations the removal of this tree is supported. All other vegetation on the site is of low significance and undersize in terms of the City of Kingston Local Law governing Tree Protection of significant trees. Based on the low significance of all the vegetation on the subject site including the Monterey Cypress removal is supported and not opposed.

The tree management plan applies to the retention of a developing naturestrip tree in Station Street to the west. This tree is tree #2 a developing Dropping She-Oak. There is no planned construction in the vicinity of this tree however its protection is required to ensure that it is not inadvertently damaged as a result of the proposed development. This is achieved by establishing a Tree Protection Zone as presented in the Tree Protection and Management Plan in Attachment 1 of this report.

8. RECOMMENDATIONS

8.1 Tree Management

- A Tree Management and Protection plan applies to the naturestrip tree to the west.
- A Tree Protection and Management Plan has been prepared for this site. (See Attachment 1).
- The trees to which the trees and vegetation refers are presented in Section A of the Tree Management Plan. This section includes the radius of the Structural and Optimal Tree Protection Zones (SRZ and TPZ) where applicable and as stated in table 8.1.
- The minimum TPZ of 2 applies to the protection of this young tree. However the tree is already growing in an environment where pavements fall within the 2 metre radius. Therefore the Tree Protection Zone may be reduced to protect the trunk and canopy projection as far as possible, without obstructing the bus-stop to the south roadway to the west and footpath to the east.

8.1.2 Landscaping and Revegetation

- A complete summary of the removal and retention of the vegetation on and abutting this site is shown in table 8.1 of this report which lists the Recommendations with regard to the arboricultural assessment of this site.
- No formal landscape requirements have been identified. The site does offer a number of opportunities to establish suitable landscape opportunities to complement the proposed development.
- The tree protection and management plan in Attachment 1 nominates Tree Management considerations to adopt. Table 8.1 is as follows;
### Table 8.1 Recommendations

<table>
<thead>
<tr>
<th>Tree Number</th>
<th>Botanical Common Name</th>
<th>No of Trees</th>
<th>Diam (cm)</th>
<th>Circ (mm)</th>
<th>Root Preservation Zone (m)</th>
<th>Maintenance</th>
<th>Structural Tree Diam (cm)</th>
<th>Root Circ (mm)</th>
<th>Structural Tree Preservation Zone (m)</th>
<th>Maintenance Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-1fr</td>
<td>Cupressus macrocarpa/Monterey Cypress</td>
<td>1</td>
<td>89</td>
<td>2796</td>
<td></td>
<td>Not retained</td>
<td>3.2</td>
<td>10.68</td>
<td></td>
<td>Removal - Reasonable to remove subject to appropriate landscape response, inappropriate location</td>
</tr>
<tr>
<td>2-1fr</td>
<td>Allocasuarina verticillata/Drooping Sheoak</td>
<td>1</td>
<td>20</td>
<td>628</td>
<td></td>
<td>Retained</td>
<td>2</td>
<td>2.4 (2)</td>
<td></td>
<td>Environment - Tree preservation zone to be established</td>
</tr>
<tr>
<td>3-1fr</td>
<td>Acca sellowiana/Feijoa</td>
<td>1</td>
<td>15</td>
<td>471</td>
<td></td>
<td>Not retained</td>
<td>1.5</td>
<td>1.8</td>
<td></td>
<td>Removal - Reasonable to remove low significance</td>
</tr>
<tr>
<td>4-1fr</td>
<td>Coprosma repens/New Zealand Mirror Bush</td>
<td>1</td>
<td>20</td>
<td>628</td>
<td></td>
<td>Not retained</td>
<td>1.7</td>
<td>2.4</td>
<td></td>
<td>Removal - Reasonable to remove low significance</td>
</tr>
<tr>
<td>5-1fr</td>
<td>Prunus lucitiana/Portuguese Laurel</td>
<td>1</td>
<td>20</td>
<td>628</td>
<td></td>
<td>Not retained</td>
<td>1.7</td>
<td>2.4</td>
<td></td>
<td>Removal - Reasonable to remove low significance</td>
</tr>
<tr>
<td>6-1fr</td>
<td>Callistemon viminalis/Weeping Bottlebrush</td>
<td>1</td>
<td>20</td>
<td>628</td>
<td></td>
<td>Not retained</td>
<td>1.7</td>
<td>2.4</td>
<td></td>
<td>Removal - Reasonable to remove low significance</td>
</tr>
</tbody>
</table>

**Note suffix (x-?? tree number field not shown in plans or body test of report)**  **Note- TPZ (adopted TPZ)  **

**Tuesday, 16 April 2019**
9. REFERENCES

- (G.W. Carr, J. V. Yugovic and K. E. Robinson Environmental Weed Invasions in Victoria, 2001)
- Coder, Kim (1996) Construction Damage Assessments Trees and Sites University of Georgia, USA
- Australian Standard Protection of Trees on Development Sites AS4970-2009
- Shigo Alex, (1991), Modern Arboriculture Touch Trees
- Burnley College (October 2005) Proceedings Tree Assessment Workshop
- Australian Plant Society Maroondah Flora of Melbourne 2001
- Land Victoria Web Site (Basic and Planning Property Assessments and Bushfire Prone Assessment)

for and on behalf of,

Arborist Reports Australia
Tree Management & Arboricultural Consulting

Otto Leenstra
Principal Consultant Arborist
Glossary of Arboricultural Terms
## Glossary of Arboricultural Terms

<table>
<thead>
<tr>
<th>Category</th>
<th>Feature</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arboricultural Features</td>
<td>Botanical Name (Common Name)</td>
<td>Latin and Common Name to which tree is referred.</td>
</tr>
<tr>
<td>Age Categories</td>
<td>Young</td>
<td>A newly planted tree of less than 1.5 metres in height and less than 3 years in age.</td>
</tr>
<tr>
<td></td>
<td>Juvenile</td>
<td>A young establishing tree greater than 1.5 metres in height and between 3-12 years in age.</td>
</tr>
<tr>
<td></td>
<td>Semi-Mature</td>
<td>An established tree of greater than 50-60% mass of its mature equivalent.</td>
</tr>
<tr>
<td></td>
<td>Mature</td>
<td>A tree, which has reached the adult mass of other trees growing in similar environments. A mature tree is characterised by an advanced branching system consisting of lower and upper scaffold branches. Small branch hollows may begin to form.</td>
</tr>
<tr>
<td></td>
<td>Senescent</td>
<td>A tree, which has past maturity and is beginning to decline towards eventual death. These trees consist of a greater degree of deadwood, mature branch hollows areas of decay and canopy dieback.</td>
</tr>
<tr>
<td>Biodiversity</td>
<td>Biodiversity</td>
<td>the variety of plant and animal life in the world or in a particular habitat, a high level of which is usually considered to be important and desirable.</td>
</tr>
<tr>
<td></td>
<td>EVC</td>
<td>Ecological Vegetation Class based on vegetation assessment criteria developed by Victorian Government department, Department of Environment Water Land and Planning (DEWLP)</td>
</tr>
<tr>
<td></td>
<td>Life Form</td>
<td>Refers to the type of vegetation whether that is a Canopy Tree or Tall or medium shrub, grass or rambler. (Refer to definitions under Tree Category)</td>
</tr>
<tr>
<td>Condition</td>
<td>Good</td>
<td>Full tree crown balanced foliage with good colour and excellent to good growth indicators.</td>
</tr>
<tr>
<td></td>
<td>Fair</td>
<td>Less than 30% deadwood, mostly good foliage colour with some discolouration, canopy may be unbalanced and the tree may have a minor pathogen infestation.</td>
</tr>
<tr>
<td></td>
<td>Fair-Poor</td>
<td>Less than 30% deadwood; discoloured or distorted leaves pathogens present leading to tree decline and death.</td>
</tr>
<tr>
<td></td>
<td>Poor</td>
<td>Greater than 30% deadwood, discoloured or distorted leaves pathogens present leading to tree decline and death.</td>
</tr>
<tr>
<td></td>
<td>Very Poor</td>
<td>Approaching death</td>
</tr>
<tr>
<td>Dimensions</td>
<td>DBH</td>
<td>Diameter at Breast Height. Usually 1.2-1.3m from base of the trunk or above buttress.</td>
</tr>
<tr>
<td></td>
<td>Height (m)</td>
<td>Height of tree from the ground to apex.</td>
</tr>
<tr>
<td></td>
<td>Canopy Spread (m)</td>
<td>Canopy diameter at widest point from edge of dripline to edge of dripline.</td>
</tr>
<tr>
<td></td>
<td>Trunk Diameter (cm)</td>
<td>The diameter of a tree measured at the most appropriate area based on the inherent structure of the tree as determined by a qualified Arborist.</td>
</tr>
<tr>
<td></td>
<td>SRZ (m)</td>
<td>The region of larger diameter structural roots between the centre of the trunk and the Zone of rapid taper. Refer AS 4970-2009</td>
</tr>
<tr>
<td></td>
<td>TPZ (m)</td>
<td>Tree Preservation Zone erected at zone of rapid taper, or at dripline or ten-twelve the times diameter of tree trunk. Refer AS4970-2009</td>
</tr>
<tr>
<td>Form</td>
<td>Good</td>
<td>Balanced and typical of species</td>
</tr>
<tr>
<td></td>
<td>Fair</td>
<td>Generally balanced or slightly asymmetric</td>
</tr>
<tr>
<td></td>
<td>Poor</td>
<td>Unbalanced, excessive trunk lean not typical of the species multi-stemmed specimen co-dominant leaders over-extended branches.</td>
</tr>
<tr>
<td></td>
<td>Asymmetric Canopy</td>
<td>Canopy growth unbalanced with more vigorous growth on one side</td>
</tr>
<tr>
<td>Form</td>
<td>Trunk Lean</td>
<td>Tree Trunk is not perpendicular to the ground by a visible degree.</td>
</tr>
<tr>
<td></td>
<td>Multi-trunked</td>
<td>More than one trunk associated with the tree originating from ground level</td>
</tr>
<tr>
<td></td>
<td>Co-dominant Leaders</td>
<td>Two leaders originating from a single trunk of near equal or comparable in size and age</td>
</tr>
<tr>
<td></td>
<td>Overextended</td>
<td>Branches that extend out further than the canopy line of the tree, making</td>
</tr>
</tbody>
</table>

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Glossary of Arboricultural Terms
# Glossary of Arboricultural Terms

<table>
<thead>
<tr>
<th>Category</th>
<th>Feature</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Branches</td>
<td>them prone to wind throw</td>
<td>Overweighted branches where there is little or no reaction wood growth to support weight.</td>
</tr>
<tr>
<td>End-weight</td>
<td></td>
<td>General term describes the presence of animal, fungal or bacterial agents that are detrimental to tree health.</td>
</tr>
<tr>
<td>Pathogens</td>
<td></td>
<td>A term that describes a tree’s contribution to the environment from a perspective of visual appeal, or its contribution to the landscape for other reasons such as the provision of shade or shelter.</td>
</tr>
<tr>
<td>Amenity</td>
<td></td>
<td>A defect where movement between two or more stems is detected.</td>
</tr>
<tr>
<td>Other Terms</td>
<td></td>
<td>Supporting structure of a tree. Also called a limb. A scaffold branch is the major supporting branch or branches. A leader is a directional branch that supports the canopy in part of the tree eg southern leader.</td>
</tr>
<tr>
<td>Branch</td>
<td></td>
<td>A method of construction that dramatically reduces impacts on tree health if carried out correctly. Such a method encompasses the retention of soil oxygen and the root majority when constructing near trees. This results in a much higher percentage of successfully retained trees.</td>
</tr>
<tr>
<td>Tree Friendly Construction</td>
<td></td>
<td>Refers to the time one could maintain a tree in an urban situation. By far the most important long-term consideration is the length of time a tree can be maintained as a useful amenity and not a liability. ULE is contingent on a number of obvious management assumptions and the fundamental principles of public safety and usefulness in the landscape. The actual life expectancy up until the total death of a tree may be considerably longer.</td>
</tr>
<tr>
<td>Vigour</td>
<td></td>
<td>A measure of the health of a tree indicated by its extension growth and foliage colour and size.</td>
</tr>
<tr>
<td>Pathogens</td>
<td>Decay</td>
<td>Breakdown of wood due to fungal and bacterial decay pathogens weakening lignin.</td>
</tr>
<tr>
<td></td>
<td>Fungal bodies</td>
<td>Fruiting bodies of various fungal pathogens indicating activity and potential associated decay.</td>
</tr>
<tr>
<td></td>
<td>Scales, Lerps &amp; Psyllids</td>
<td>Leaf insects that in plague proportions can have a significant effect on tree health causing defoliation.</td>
</tr>
<tr>
<td></td>
<td>Elm Leaf Beetle</td>
<td>A Serious insect pest associated with the genus Ulmus that affects visual amenity and causes defoliation.</td>
</tr>
<tr>
<td></td>
<td>Oak leaf Miner</td>
<td>An insect pest of the genus Quercus that causes blistering and defoliation.</td>
</tr>
<tr>
<td></td>
<td>Termites</td>
<td>An insect that causes structural degradation of heart wood.</td>
</tr>
<tr>
<td></td>
<td>Fusarium Wilt</td>
<td>Bacterial pathogen that causes foliar wilt and tree death. Quarantine necessary.</td>
</tr>
<tr>
<td></td>
<td>Phytophthora spp</td>
<td>Bacterial pathogen in the soil that causes tree death. Quarantine necessary.</td>
</tr>
<tr>
<td></td>
<td>Armillari spp</td>
<td>Fungal pathogen in the soil that causes tree death. Quarantine necessary.</td>
</tr>
<tr>
<td>Significance</td>
<td>High</td>
<td>A worthy tree deserving of protection and retention.</td>
</tr>
<tr>
<td>Category</td>
<td>Feature</td>
<td>Definition</td>
</tr>
<tr>
<td>------------------</td>
<td>-----------------------</td>
<td>---------------------------------------------------------------------------</td>
</tr>
<tr>
<td>(Arboricultural)</td>
<td>Low</td>
<td>Has not yet attained a degree of significance</td>
</tr>
<tr>
<td></td>
<td>None</td>
<td>Of little or no significance</td>
</tr>
<tr>
<td>Habitat</td>
<td>Developing</td>
<td>Natural home of an animal or plant.</td>
</tr>
<tr>
<td>Landscape Specimen</td>
<td></td>
<td>A tree that has the potential to become a viable landscape specimen</td>
</tr>
<tr>
<td>Environmental Weed</td>
<td></td>
<td>An environmental weed is a plant species that has the capacity to invade natural ecosystems and bushland and disrupt the natural balance. Environmental weeds successfully compete for nutrients space and light reducing or preventing the normal growth of native species. They are often garden escapees and seeds may be carried to natural bushland as waterborne in streams and waterways, air borne and distributed by wind patterns. Animals including humans also spread weeds. Human activity including planting and cultivating weed species in the garden creates a seed source. Commonly birds that feed on flowers or seeds will carry these seeds to bushland areas.</td>
</tr>
<tr>
<td>Native to Victoria</td>
<td></td>
<td>Indigenous tree to Victoria</td>
</tr>
<tr>
<td>Native</td>
<td></td>
<td>Native to another state of Australia</td>
</tr>
<tr>
<td>Non-native</td>
<td></td>
<td>Native to another country</td>
</tr>
<tr>
<td>Exotic</td>
<td></td>
<td>Cultivated in and native to another country</td>
</tr>
<tr>
<td>Transient</td>
<td></td>
<td>A species that may have been planted as a timber crop</td>
</tr>
<tr>
<td>Good</td>
<td></td>
<td>No visible structural defects identified in the tree</td>
</tr>
<tr>
<td>Fair</td>
<td></td>
<td>Mature branch defects with distinct branch collar formation and production of major deadwood in older or shade lower scaffold branches.</td>
</tr>
<tr>
<td>Typical</td>
<td></td>
<td>Structure, which is normal for a particular species.</td>
</tr>
<tr>
<td>Fair-Poor</td>
<td></td>
<td>Senescing branch defects with distinct branch collar formation and major deadwood in older or shaded lower scaffold branches. Defects such as bifurcated or suspect branch attachment may be present but not yet showing signs of instability.</td>
</tr>
<tr>
<td>Poor</td>
<td></td>
<td>Senescing branch defects with distinct branch collar formation, kino exudation and major deadwood throughout the tree. Defects such as bifurcated or suspect branch attachment are apparent and action to mitigate any potential risk should be initiated.</td>
</tr>
<tr>
<td>Very Poor</td>
<td></td>
<td>Senescing branch defects with distinct branch collar, kino exudation and developed cankers and evidence of decay and major deadwood throughout the tree. Defects such as bifurcated or suspect branch attachment are obvious. Branch attachment and action to mitigate any potential risk must be initiated immediately.</td>
</tr>
<tr>
<td>Form</td>
<td>Form</td>
<td>The shape which a tree has adopted in response to its growing environment and situation.</td>
</tr>
<tr>
<td>Canopy Tree</td>
<td></td>
<td>Tallest tree in an EVC</td>
</tr>
<tr>
<td>Sub-canopy tree</td>
<td></td>
<td>Understorey tree underneath canopy tree</td>
</tr>
<tr>
<td>Shrub</td>
<td></td>
<td>Tall or medium depending on height</td>
</tr>
<tr>
<td>Graminoid/Grass</td>
<td></td>
<td>Grass or grass-like plant, including grasses (Poaceae), sedges (Cyperaceae), rushes (Juncaceae), arrow-grasses (Juncaginaceae), and quillworts (Isoetes). Applies to vascular plants only.</td>
</tr>
<tr>
<td>Rambler</td>
<td></td>
<td>Climbing plant</td>
</tr>
<tr>
<td>Vigour</td>
<td>Low</td>
<td>Low Vigour affecting growth</td>
</tr>
<tr>
<td></td>
<td>Normal</td>
<td>Normal growth</td>
</tr>
</tbody>
</table>

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Glossary of Arboricultural Terms
Disclaimer and Limiting Conditions

Visual Tree Assessment
The Arboricultural Visual Tree Assessment and any further resultant reports and advice on the visual assessment of trees, in accordance with the terms of reference advised.

Trees are living systems and therefore there always remains a degree of risk and hazard potential.

At the time of inspection;
1. The consultant shall exercise all professional efforts as a Duty of Care including safety and hazard potential.
2. The consultant shall advise of reasonable steps to maintain the tree in good condition and limit or prevent injury from falling branches, or hazardous situations.
3. The recipient of this report is expected to authorise and implement the recommendations described herein, to the satisfaction of the consultant.
4. The consultant cannot be liable for any changes to the status of the tree, or its health, as a result of damage caused to the tree by environmental factors or other damage after the inspection.
5. The consultant shall not be held responsible for any structural failure of the tree or trees that may lead to property damage, injury or death arising from the failure of, or interaction with, any part of the tree.

Arboricultural Reports
1. Any legal description provided to the consultant is assumed to be correct. Any titles and ownership of any property are assumed to be accurate. No responsibility is assumed for matters legal in character.
2. It is assumed that any property/project is not in violation of any applicable codes, ordinances, statutes or other government regulations.
3. Care has been taken to obtain all information from reliable sources. All data has been verified in so far as possible, however, the consultant can neither guarantee nor be responsible for the accuracy of the information provided by others.
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10. Sketches, diagrams, graphs and photographs in this report, being intended as visual aids, are not necessarily to scale and should not be construed as engineering or architectural reports or surveys unless expressed otherwise.
11. Information contained in this report covers only those items that were examined and reflect the condition of those items at the time of inspection.
12. Inspection is limited to visual examination of accessible components without dissection, excavation or probing. There is no warranty or guarantee expressed or implied that the problems or deficiencies of the plants or property in question may not arise in the future.
Qualifications and Experience

1. **Name and address of the expert**
   Otto Leenstra
   Otto Leenstra and Associates TAS Arborist Reports Australia
   Tree Management and Arboricultural Consultancy
   371 Browns Road RYE 3941

2. **Qualifications and experience**

   **Qualifications**
   - 2012 Certificate 5 Diploma of Arboriculture (Arbortrim Training)
   - 2008-Diploma of Management (Ballarat University)
   - 1993-Advanced Certificate of Arboriculture (Burnley)
   - 1988 Certificate of Recreational Turf Management (Burnley)
   - 1986 Certificate of Parks and Recreation Supervision (TAFE)
   - 1984 Trade Certificate in Gardening (TAFE)
   - 1982-Advanced Certificate of Horticulture (Burnley)

   **Work Experience**
   - 2014-2015 - Regional Senior Arborist Victoria & Tasmania Defence Maintenance Contracts
   - 2004-2015 Senior Arborist and Arboricultural Supervisor of Tree Management Transfield Services Mornington Peninsula Shire Parks and Roadsides Contract and practicing Consultant Arborist
   - 1999-2004 Senior Consultant Arborist ArborCo Pty Ltd
   - 1989-1995: Arboricultural Officer (Tree Specialist), Shire of Flinders
   - 1987-1989: Greenkeeper, Morning Golf Club & Mornington Racing Club
   - 1986-1988: Landscape Gardener, Self Employed
   - 1981-1986: Parks Foreperson, City of Frankston

3. **Area of expertise**

   Otto Leenstra has over 30 years experience in all aspects horticulture and arboriculture. These roles incorporate experience in both private and public corporations as outlined above. He has worked on tree assessments for private clients and tree assessments for development projects. He has also represented a number of clients at the Victorian Civil and Administrative Tribunal (VCAT). Specific projects undertaken include the retention and protection of trees on development sites and the development of comprehensive tree management programs.

   Otto Leenstra is a passionate supporter of the arboricultural industry in which he has taken an active role for the past 25 years and has professional affiliations with the Australian Arboricultural Association (AAA). He regularly addresses residents, business and community groups on arboricultural issues, and have extensive expertise in local government and private practice.
Tree Protection and Management Plan
1 Fraser Avenue
Edithvale
The Tree Protection Plan is as follows. **Internal circles (Yellow)** are to scale and represent the SRZ. **Outer circles (Orange)** around retention trees represent optimal Tree Protection Zones. Trees in **red** represent trees where ‘Retention is not advised’. Trees in **green** are retainable or retained, in accordance with table 8.1 and the Tree Management Plan which follows the Tree Protection Plan;

<table>
<thead>
<tr>
<th>Tree ID</th>
<th>Botanical/Common Name</th>
<th>SRZ (Radius m)</th>
<th>TPZ (Radius m)</th>
<th>(Radius m-10% as determined by Project Arborist)</th>
</tr>
</thead>
<tbody>
<tr>
<td>#2</td>
<td>Drooping She-Oak Allocasuarina verticillata</td>
<td>2</td>
<td>2</td>
<td>NA</td>
</tr>
<tr>
<td>Activity</td>
<td>Requirement</td>
<td>Additional or Alternative</td>
<td>Requirement</td>
<td>Compliance</td>
</tr>
<tr>
<td>----------</td>
<td>-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
<td>---------------------------</td>
<td>-------------</td>
<td>------------</td>
</tr>
<tr>
<td>i.</td>
<td>Show Tree Protection Zones (SRZ and Optimal TPZ radius) or refer to Arborist report, separation distances to construction and excavation areas must be shown on the a relevant plan associated with the proposed construction for this project or this TMP must form part of construction documentation. Refer Section I and Appendices in this document.</td>
<td>☒</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>ii.</td>
<td>TMP has been approved by Responsible Authority and meets the requirements of any Permits and conditions.</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>iii.</td>
<td>Impacts of tree(s) roots (eg soil drying, root heave) on adjacent and nearby constructions including driveways and building footprints have been considered in terms of adequacy of design.</td>
<td>☐</td>
<td>☐</td>
<td>☒</td>
</tr>
<tr>
<td>iv.</td>
<td>All contractors engaged in this project must be briefed on the requirements of the Tree Management Plan and are expected to comply and adopt this document.</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>v.</td>
<td>Prior to the commencement of construction, demolition or approved tree removal in accordance with the permit, tree Protection Fences must be erected to the radius of the nominated TPZ in accordance with the Arborist report and this plan. Refer Section I and Appendices in this document.</td>
<td>☐</td>
<td>☐</td>
<td>☒</td>
</tr>
<tr>
<td>vi.</td>
<td>The tree protection fence ☐must ☒may utilise cyclone construction panels or as a minimum utilise capped star pickets at 2.1 metre spacings with a top bottom wire and wire or netting and/or plastic reflective netting. The fence must be at least 1.8 m in height in accordance with the standard. Refer Section I and Appendices in this document.</td>
<td>☐</td>
<td>☐</td>
<td>☒</td>
</tr>
<tr>
<td>vii.</td>
<td>The tree protection fence may utilise a flagged rope barrier as long as it is appropriately signed to signify the purpose of the fence in accordance with section 4.5 Other Protection Measures of AS4970-2009. Restrictions and requirements are detailed in this plan. Refer Section I and Appendices in this document.</td>
<td>☐</td>
<td>☐</td>
<td>☒</td>
</tr>
<tr>
<td>viii.</td>
<td>Where Critical Root Zones associated with optimal TPZs extend beyond the TPZ radius ,approved construction applies in accordance with the plan. This may include pavement treatments, root exploration and root pruning.</td>
<td>☐</td>
<td>☐</td>
<td>☒</td>
</tr>
<tr>
<td>Activity</td>
<td>Part C Tree Protection Zones - Applies to Tree #</td>
<td>Applies to trees in section A</td>
<td>Additional or Alternative</td>
<td>Requirement</td>
</tr>
<tr>
<td>----------</td>
<td>-----------------------------------------------</td>
<td>------------------------------</td>
<td>--------------------------</td>
<td>-------------</td>
</tr>
<tr>
<td>Item</td>
<td>Requirement</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>i.</td>
<td>i. Apply compost or mulch to improve soil structure and moisture retention</td>
<td>and</td>
<td></td>
<td>YES</td>
</tr>
<tr>
<td></td>
<td>ii. Approved specialised construction is allowed within the TPZ</td>
<td></td>
<td></td>
<td>YES</td>
</tr>
<tr>
<td></td>
<td>iii. Install low pressure irrigation system to maintain soil moisture in the absence of natural precipitation. (Review and potentially adopt later)</td>
<td>and</td>
<td>or</td>
<td>YES</td>
</tr>
<tr>
<td></td>
<td>iv. Apply liquid fertiliser Seasol® at the recommended rate (Review and potentially adopt later)</td>
<td>and</td>
<td>or</td>
<td>YES</td>
</tr>
<tr>
<td>Activity</td>
<td>Part D Root Location/Avoidance - Roots to be located prior to pruning applies to Tree #</td>
<td>Does not apply</td>
<td>Additional or Alternative</td>
<td>Requirement</td>
</tr>
<tr>
<td>v.</td>
<td>v. Apply granular fertiliser Osmocote® at the recommended rate (Review and potentially adopt later)</td>
<td>and</td>
<td>or</td>
<td>YES</td>
</tr>
<tr>
<td>i.</td>
<td>i. Hydro-excavation to a depth of mm</td>
<td>and</td>
<td>or</td>
<td>YES</td>
</tr>
<tr>
<td>ii.</td>
<td>ii. Ground Penetrating Radar</td>
<td>and</td>
<td>or</td>
<td>YES</td>
</tr>
<tr>
<td>iii.</td>
<td>iii. Hand-digging</td>
<td>and</td>
<td>or</td>
<td>YES</td>
</tr>
<tr>
<td>iv.</td>
<td>iv. Air knife</td>
<td>and</td>
<td>or</td>
<td>YES</td>
</tr>
<tr>
<td>v.</td>
<td>v. Open trench excavation</td>
<td>and</td>
<td>or</td>
<td>YES</td>
</tr>
<tr>
<td>vi.</td>
<td>vi. Prune roots using a Dyna Diggr®</td>
<td>and</td>
<td>or</td>
<td>YES</td>
</tr>
<tr>
<td>vii.</td>
<td>vii. Underground Boring</td>
<td>and</td>
<td>or</td>
<td>YES</td>
</tr>
<tr>
<td>Activity</td>
<td>Part E Root Pruning - Applies to Tree #</td>
<td>Does not apply</td>
<td>Additional or Alternative</td>
<td>Requirement</td>
</tr>
<tr>
<td>Item</td>
<td>Requirement</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>i.</td>
<td>i. Project or Authorised Arborist to follow up root pruning using an appropriate tool for the diameter of the root</td>
<td>and</td>
<td>or</td>
<td>YES</td>
</tr>
<tr>
<td>ii.</td>
<td>ii. Apply Root Hormone Auxonone® to cut roots</td>
<td>and</td>
<td>or</td>
<td>YES</td>
</tr>
<tr>
<td>iii.</td>
<td>iii. Cover roots to prevent drying and lateral penetration with approved fabric</td>
<td>and</td>
<td>or</td>
<td>YES</td>
</tr>
<tr>
<td>iv.</td>
<td>iv. Install approved root barrier to prevent lateral penetration</td>
<td>and</td>
<td>or</td>
<td>YES</td>
</tr>
</tbody>
</table>
### Tree Protection and Management Plan 1 Fraser Avenue Edithvale

#### Activity: Part F Tree

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Additional or Alternative</th>
<th>Requirement Hold Point</th>
<th>Compliance</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Item</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>i.</td>
<td>Pruning/Removal 1 Removal</td>
<td>Applies to Trees in accordance with the approved plans</td>
<td>And</td>
</tr>
<tr>
<td>ii.</td>
<td>Pruning/Removal 2 Not required</td>
<td>Applies to Tree# Does not apply</td>
<td>And</td>
</tr>
<tr>
<td>iii.</td>
<td>Pruning/Removal 3 Not required</td>
<td>Applies to Tree# Does not apply</td>
<td>And</td>
</tr>
<tr>
<td>iv.</td>
<td>Pruning/Removal 4 Not required</td>
<td>Applies to Tree# Does not apply</td>
<td>And</td>
</tr>
<tr>
<td>v.</td>
<td>Remove competitive weeds</td>
<td>Does not apply</td>
<td>And</td>
</tr>
</tbody>
</table>

#### Activity: Part G Construction Methods and Concepts to Apply

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Additional or Alternative</th>
<th>Requirement Hold Point</th>
<th>Compliance</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Item</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>i.</td>
<td>Suspended sub-floor using stump bearer and joist construction</td>
<td>(Note minimum TPZ must not be compromised)</td>
<td>And</td>
</tr>
<tr>
<td>ii.</td>
<td>Pad and pier construction up to TBA metres in diameter</td>
<td></td>
<td>And</td>
</tr>
<tr>
<td>iii.</td>
<td>Vertical piers supporting an edge beam (Pier and beam) Pier diam</td>
<td></td>
<td>And</td>
</tr>
<tr>
<td>iv.</td>
<td>Screw piers</td>
<td></td>
<td>And</td>
</tr>
<tr>
<td>v.</td>
<td>Cantilever to increase separation distance</td>
<td></td>
<td>And</td>
</tr>
<tr>
<td>vi.</td>
<td>Core-drilling</td>
<td></td>
<td>And</td>
</tr>
<tr>
<td>vii.</td>
<td>Structural soil Angular rock mm to mm diameter</td>
<td>Not specified</td>
<td>And</td>
</tr>
<tr>
<td>viii.</td>
<td>Brick paved driveway as per Standard Drawing</td>
<td></td>
<td>And</td>
</tr>
<tr>
<td>ix.</td>
<td>Waffle Slab</td>
<td></td>
<td>And</td>
</tr>
<tr>
<td>x.</td>
<td>Strip footing</td>
<td></td>
<td>And</td>
</tr>
</tbody>
</table>
## Activity

**Part H Pavement Construction Methods and Concepts to Apply** - Applies to tree # Trees in section A

<table>
<thead>
<tr>
<th>Item</th>
<th>Requirement</th>
<th>Additional or Alternative</th>
<th>Requirement Hold Fast</th>
<th>Compliance</th>
</tr>
</thead>
<tbody>
<tr>
<td>i.</td>
<td>Concrete or hard pavement construction</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ii.</td>
<td>Bodpave or similar Refer to Arborist report</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>iii.</td>
<td>Standard Driveway Construction, compacted subgrade, asphalt or concrete Not specified</td>
<td>and</td>
<td>or</td>
<td></td>
</tr>
<tr>
<td>iv.</td>
<td>Permeable concrete, resin based permeable products Not specified</td>
<td>and</td>
<td>or</td>
<td></td>
</tr>
<tr>
<td>v.</td>
<td>Granitic compacted up-to 40mm including fines Not specified and Not specified</td>
<td>and</td>
<td>or</td>
<td></td>
</tr>
<tr>
<td>vi.</td>
<td>Screenings, scoria, quartz or similar no fines and Not specified and Not specified</td>
<td>and</td>
<td>or</td>
<td></td>
</tr>
<tr>
<td>vii.</td>
<td>Mulches Not specified</td>
<td>and</td>
<td>or</td>
<td></td>
</tr>
<tr>
<td>viii.</td>
<td>Structural soil Angular rock mm to mm diameter Not specified</td>
<td>and</td>
<td>or</td>
<td></td>
</tr>
<tr>
<td>ix.</td>
<td>Geo-tech fabrics (Separation of materials) Not specified and Not specified</td>
<td>and</td>
<td>or</td>
<td></td>
</tr>
<tr>
<td>x.</td>
<td>Weed mats (Separation of materials) Not specified and Not specified</td>
<td>and</td>
<td>or</td>
<td></td>
</tr>
<tr>
<td>xi.</td>
<td>Water sensitive urban design, swales and drains Not specified</td>
<td>and</td>
<td>or</td>
<td></td>
</tr>
<tr>
<td>xii.</td>
<td>De-compaction of compacted surfaces</td>
<td>and</td>
<td>or</td>
<td></td>
</tr>
</tbody>
</table>
Part I NOTES

• **Part A Details** Determines the trees covered by this plan who is responsible for this plan and what trees this plan refers to. SRZ and optimal TPZ stated in accordance with calculation based on diameter and conditions onsite which may vary root spread.

• **Part B Background Tree Protection** Tree Protection protocols must be established. This plan must form part of the Construction protocols to be established on the site. Tree Protection - the following statements in general terms apply in accordance with the AS4970-2009.

  NO UNAUTHORISED ENTRY TO TREE PROTECTION ZONE

  i. No vehicular or pedestrian access associated with the development construction works,

  ii. The existing soil level must not be altered either by fill or excavation;

  iii. The soil must not be compacted or the soil’s drainage changed;

  iv. No open trenching to lay underground services, e.g.: drainage, water, gas, etc;

  v. No storage of equipment, machinery or material is to occur;

  vi. No fuels, oils, chemicals, poisons, rubbish or other materials harmful to trees are to be disposed of or stored; Note: Enforced as part as of 'No unauthorised entry signage'

  vii. Nothing whatsoever, including temporary services wires, nails, screws or any other fixing device, is to be attached to any tree Note: Enforced as part as of 'No unauthorised entry signage'

  viii. No building or any other structure is to be erected; Note: Generally enforced as part as of 'No unauthorised entry signage' except where supervised construction to establish pavements in accordance with the plan.

  ix. The roots of trees and shrubs must not be severed or injured. Note: Enforced as part as of 'No unauthorised entry signage' No excavation within the Tree Protection Zones is proposed.

• **Part C Tree Protection Zones** Erection of Tree Protection Zone must not block footpath or roadway and be erected to protect the canopy projection of this young tree. A minimum TPZ radius of 2 metres applies to trees in section A. There is no proposed construction in the vicinity of retention trees. Therefore the TPZ may be capped star pickets with a top and bottom wire compliant with part 4.5 of AS4970-2009.

• **Part D Managing Tree Roots-Location and Avoidance** Does not apply as no construction is proposed in the vicinity of retention trees.

• **Part E Root Pruning** Does not apply as no construction is proposed in the vicinity of retention trees

• **Part F Canopy Pruning Support hardware concepts including Tree Removal** Does not apply

• **Part G Construction Methods and Concepts** Does not apply

• **Part H Pavement Construction Methods and Concepts** Does not apply
# Tree Protection and Management Plan 1 Fraser Avenue Edithvale

<table>
<thead>
<tr>
<th>Activity</th>
<th>Part j Tree Management Plan Certification Compliance Resolution</th>
</tr>
</thead>
<tbody>
<tr>
<td>To ensure that this tree management plan is implemented and that the trees remain viable throughout the construction process. It is essential that the Project Arborist inspect the trees at least once every three (3) months and/or at key milestones throughout the construction.</td>
<td>Yes</td>
</tr>
<tr>
<td>The site was inspected prior to the commencement of the project to ensure that tree protection measures were in place</td>
<td>□</td>
</tr>
<tr>
<td>This site was inspected on the Insert Date and the project was compliant in accordance with the tree management plan</td>
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<tr>
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</tr>
<tr>
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<td>□</td>
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</tbody>
</table>
**Tree Protection and Management Plan 1 Fraser Avenue Edithvale**

<table>
<thead>
<tr>
<th>Date</th>
<th>Non-Compliance Items</th>
<th>YES</th>
<th>Compliance Measures</th>
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</tbody>
</table>

*This is to certify that Project Arborist has inspected all stages of the project as defined by the Tree Management Plan. Any instances of non-compliance have been rectified as per Part j.*

<table>
<thead>
<tr>
<th>Date of Final Certification:</th>
<th>Insert Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Photographs Taken If Yes See Attachment</td>
<td></td>
</tr>
<tr>
<td>Final Certification Approved?</td>
<td></td>
</tr>
<tr>
<td>Date of Final Certification:</td>
<td>Insert Date</td>
</tr>
</tbody>
</table>

*The concepts associated with this Tree Protection and Management Plan are detailed in the accompanying Resource Document in Appendix 2 of this report.*
Resource Document

Introduction

Tree Management Plans

The concepts discussed in the Arborist report for this location involve the integration of disciplines such as architecture, building and engineering to bring about a solution to the protection of retention trees in the urban landscape. The Resource Document is a reference document that explains many of the concepts that need to be incorporated in order to protect retention trees. The next step is the application of these concepts on the ground so that trees may remain viable.

Where these concepts need to be specifically implemented specific Recommendations and/or an associated Tree Management Plan are provided as part of the report.

If a Tree Management Plan is required for a project it means that the project has the potential to impact a tree’s viability. It means that the delivery of the project may require a need to excavate and or construct close to or within the optimal Tree Preservation Zones of the retention trees.

The Tree Management Plan is an advisory as well as a working document. For each tree to which the plan refers, there are requirements that apply or don’t apply. These requirements are specific to each development or project involving trees.

The tree management plan associated with any project where it is called for needs to consider the Arborist report. The Recommendations set out individual guidelines that must be followed for each tree to which the plan applies. The Resource Document is set out as parts A to Parts J as set out in this introduction so that the concepts in this document are easily referenced to the Arborist report and Tree Management plan.

These parts are as follows;

Part A Details and Background

This part includes;

- The client, architect and builders detail, the site or location address, the reference documentation, such as
- Architectural and/or Engineering plans and drawings,
- The Arborists report,
- Planning permit and permit conditions issued by the responsible municipal authority usually and/or sometimes state government department and
- the landscape plan

Part B Tree Protection General

- Includes most of the pre-requisites to establishing tree protection prior to construction including to detail on associated construction drawing and advising all stake holders of their requirements and responsibilities

Part C Tree Protection Zones Establishment

- Includes the required aspects to establish a tree protection zone including the erection of fencing and barriers and the inclusion of requirements to maintain or improve a trees growing environment so that the tree is in the best place possible to withstand the impact of development

Part D Managing Tree Roots Location Avoidance of roots

- This lists the methods available and that may apply to the location of tree roots. It is required when deemed necessary to determine the location of tree roots. It can deliver a degree of certainty as to the protection of a tree during development.

Part E Root pruning and minimising construction impacts

- Trees respond better if their roots are pruned cleanly. Once roots are exposed there is invariably a need to prune and prepare their roots for the pending development and construction.

Part F Tree Canopy Pruning and Canopy support hardware and construction

- Development may impact canopy overhang. Pruning may be required to establish scaffolding or accommodate the development. Pruning if done by a professional Arborist may retain a trees previous amenity prior to pruning.
Part G Construction Methods and Concepts

- There are various construction methods set out in this section that are less injurious to trees and also allow tree roots to re-establish without any detriment to a development.

Part H Pavement Construction Methods and Concepts

- There are various pavement construction methods set out in this section that are less injurious to trees and also allow tree roots to re-establish without any detriment to a development. Pavement options that are favourable to trees are often permeable allowing moisture and oxygen exchange.

Part I Tree Management Plans Specific Requirement Notes

The last part of the tree management plan is a page where specific instructions and requirements can be conveyed.

Part J Recording Non-conformances

- This document is a planning as well as a working document and it is important also to record non-conformance items so that they may be rectified in order to protect the tree.
Part A Details and Background

Part A Details And Background

It is important to record the details of all stakeholders and parties to the plan. The tree management plan must contain as much detail about who is involved in the whole development process in which tree protection is but one component. Successful tree protection requires the integration of many disciplines. The following details are included in this.

The client, architect and builders detail, the site or location address, the reference documentation, such as:

- The Arborists report,
- Construction plans
- Bushfire management plan
- Architectural and/or Engineering plans and drawings,
- The landscape plan
- Planning permit and permit conditions (issued by the governing authority)
- Other statutory documents and requirements

Part B Tree Protection

1.1 Background

The Australian Standard for the Protection of Trees on Development Sites was released in 2009. It has been widely adopted as the 'yard stick' to determine how close one might build to mature established trees. Regardless of this standard major incursions into the root zones of established trees continue to occur. In many cases there is no apparent impact to the tree, sometimes impacts appear but they are short-lived and other times impacts are major and trees do not survive. There are two parts to a Tree Protection Zone the Structural Root Zone (SRZ) and Optimal Tree Protection Zone (TPZ) in accordance with the Australian Standard for the Protection of Trees on Development Sites (AS4970-2009). Trees may be impacted where building and driveway envelopes and service easements fall within the TPZ of them. In this regard the impact to trees will require review to determine whether the impact to the tree can be mitigated by a tree management plan or whether the tree or vegetation needs to be removed.

1.2 Retention trees Tree Preservation Zones (TPZ) General

The following sections outline AS4970-2009 the Protection of Trees on Development sites, the importance and relevance of this standard and how it would apply to the subject trees and vegetation in this report.

Attention to the protection of the root zone is an important consideration where TPZs are recommended. Where these distances are reduced there is a requirement to consider the impact of the construction or excavation and come up with an engineering solution where possible to retain the trees. Root loss and root damage needs to be kept to a minimum if a tree is to survive during building construction. The root zone refers to the underground components of the tree system.

The primary responsibilities of tree roots are structural support and the transport of moisture and nutrients to the above ground components- the trunk, branches and leaves that make up the tree.

Tree roots are necessary for the stability and health of the tree. The adequate provision and maintenance of conditions necessary for root growth, is essential in preserving a tree.

Depending on prevailing conditions such as compaction, the availability of nutrients and moisture, tree roots will generally occupy the top 600 millimetres to 1 metre of a soil profile.

They will tend to occupy areas where the essential elements of moisture, oxygen and nutrients for growth occur and are accessible.

Although factors such as drought and disease can result in tree death, root damage affecting a proportion of the total root volume of a tree may present as crown dieback, reduced health and vigour or the shedding of branches. Trees may also enter into early autumnal senescence and loose foliage prematurely only to return to health the following year. Wind throw or complete collapse may also occur due to instability if major excavation occurs within SRZ of a tree.
1.2 Retention trees Tree Preservation Zones (TPZ) General

Table 4.1 and 8.1 of the accompanying Arborist report has assigned a SRZ and optimal TPZ in accordance with the Australian Standard for The Protection of Trees on Development Site AS4970-2009. This measurement has been determined from the trunk diameter of the subject trees.

1.3 Structural Root Zones (SRZ)

The SRZ encapsulates what is termed the “Zone of Rapid Taper’. The Zone of Rapid Taper is where the load bearing roots taper from the base of the trunk of the tree (the Buttress) down to the small feeder roots.

To ensure these trees remain viable prior, during and post construction, the TPZ must ultimately protect the Critical or optimal Tree Protection Zone Root Zone within its borders through maintaining enough of the root system for the health and structural stability of this tree.

Additional factors to determine the extent of individual trees TPZ requirements include prevailing tree health and the age and tolerance of the species to root damage as determined by a qualified Arborist. The subject tree is in good health and has normal growth and vigour.

1.4 Calculating Tree Preservation Zones

a) Single Stemmed Trees

In accordance AS 4970-2009 Protection of Trees on Development Sites with the root zone calculations to protect the structural root zone of retention trees as outlined in table 8.1 of this report is as follows;

- **Structural Root Zone (SRZ)**
  
  \[(\text{Diameter} \times 0.5)^{0.42} \times 0.64 = \text{Radius of TPZ in metres} \ (\text{Mattheck})\]

- **Tree Preservation Zone (TPZ)**
  
  \[\text{(DIAMETER (CM))} \times 12/100 = \text{Radius Of TPZ In metres}.\]

Structural and Optimal TPZs are calculated by the Project Arborist using these formulas. The trunk are measured above the root flare at the base of the trunk.

b) Multiple Stemmed Trees

Multi-stemmed trees are considered as single stems from the diameter above the flair as determined by the Project Arborist.

Where a tree has more than one stem a calculation is used to relate it back to a single trunked tree so that a TPZ may be determined. This calculation is as follows;

\[= \sqrt{((\text{Stem1})^2 + (\text{Stem2})^2 + (\text{Stem3})^2 + (\text{Stem4})^2 ) \text{ etc}}\]

Modified building construction that protects the Structural Root Zone and considers the potential location of tree roots will ensure the protection of retention trees. Construction and landscape guidelines that limit root damage are outlined later in this report.
1.1 Tree Protection Zone Construction
To ensure that tree preservation zone setbacks are observed, tree protection fencing is erected at the extent of the tree preservation zones. The fence must be suitably constructed so as to deter unauthorised entry during building construction. Usual construction comprises star pickets at 2 - 3 metre intervals with wire mesh. Cyclone wire construction temporary fencing panels are also appropriate.

The following photographs are example of what a tree preservation zone may look like:

Tree protection zones may be less of a barrier to define the extent of the root zone but allow access and some agreed works in accordance with the Tree Management Plan. An advisory signage may include the following information outlining the purpose of the TPZ and what can and cannot occur within a TPZ as defined by the Tree Management Plan:

- No unauthorised entry.
- No fuel, oil dumps or chemicals shall be allowed in or stored in this area.
- No washing of tools and equipment in the vicinity of this area.
- No storage of material and equipment.

Tree Protection Zone Construction
Figure 1.1 Tree Protection and Construction Regions Plan view. Typical scenario trees abutting boundaries.

As tree protection zones can add significantly to the cost of some projects the use of flagged polypropylene rope with appropriate signage maybe appropriate. A TMP always underlines and specifies requirements. The TPZ should always be appropriately signed.
Part D-Managing Tree Roots Location Avoidance of roots

1.1 Directional Boring

Excavation is an inevitable outcome and will be a requirement of any potential development. Alternatives to open trench excavation may need to be implemented when excavating in the vicinity of trees. Horizontal boring is a viable and alternative to open trench excavation. Boring should commence outside the TPZs nominated for each tree or group of trees and should be a minimum of 750 millimetres beneath the natural surface. This is because as previously stated most tree roots are confined to the top 300-1000 millimetres of a soil profile and any roots below 700 millimetres are less common. Further arboricultural investigation is recommended if the option of horizontal boring is considered. Open trench excavation can continue when outside the TPZs of retention trees.

1.2 Air knife

The arboriculturally recognised method of structural tree root exposure is with the use of an Air Knife. An Air Knife directs a concentrated stream of compressed air at the ground, ‘cutting’ the overlying soil away and exposing the tree roots. The disadvantage of this method is the potential for the air to damage the tree roots and the creation of flying particles and dust. The air-knife can be used to expose roots as part of a pre-treatment program when excavating in the vicinity of retention trees.

1.3 Ground Penetrating Radar

A more recent technology in identifying the location of tree roots is the use of Ground Penetrating Radar (GPR). Ground penetrating radar can accurately map and image roots under the ground so that they may be measured and if necessary avoided during construction. GPR uses radio waves to locate tree roots. The depth size and location can then be mapped allowing a very accurate location of tree roots.

1.4 Hand Digging

Careful hand digging may also be considered where proposed excavations are shallow and the proposed location of the excavation is well outside the structural root zone. Care must be taken not to sever any major roots. A combination of these methods may be required to gain an accurate picture of a trees root system.

1.5 Hydro-Excavation

Another method of exposing tree roots is the use of Hydro-excavation. This technique uses high-pressure water with an oscillating or spinning head with a narrow nozzle to concentrate water to cut through the soil. An associated suction line is used to remove the mud between the exposed roots that accumulates at the base of the trench. Like the air-knife hydro-excavation can be used to expose roots as part of a pre-treatment program when excavating in the vicinity of retention trees.

Photo 1 A trench is dug using a turbo head pressurised wand. The slush is removed and pumped into a truck for future disposal.
Roots may be located and root concentrations determined by a non-invasive method of excavation. Decisions may then be made by a Qualified Arborist with regard to the potential impact to retention trees.
1.1 Hand Pruning

Hand pruning involves clean cutting roots at a 90 degree angle to create the smallest wound possible to promote root healing and regrowth. It requires the use of sharp tools, secateurs, branch lopping tools, and pruning saws to deliver a clean fine cut. The use of chainsaws may be considered if roots are large and woody.

Hand pruning is followed up with an application of a root hormone such as Auxonone and the burying of the root end with the natural soil as soon as possible. Roots may be covered with fabrics such as a geotech fabric, weedmats or hessian that is in turn wetted to prevent roots from drying out. These applications are appropriate where roots are terminated behind retaining walls or foundation beams of where roots are exposed for a roadway or footpath.

1.2 Mechanical Root Pruning

Mechanical pruning involves the use of a variety of excavation machinery to expose tree roots. The width of the trench determines the extent of tree root damage. The more of the root that stays in contact undisturbed in the surrounding soil means less injury to the tree root and a better outcome for the tree. Mechanical root pruning must be carried out in accordance with the tree management plan under the direction of a qualified Arborist engaged in the project at hand.

a. Open trenching Ditch Witch

The ditch-witch uses a mechanically driven digging chain on a hydraulic arm to excavate a trench of up-to 150 mm (100mm to 150mm) in width. The maximum depth is usually up to 1 metre. The ditch-witch is a good method of excavation as it creates a narrow open trench. The chain cuts through the roots rather than lifting them toward the trunk of the tree. A number of companies specialising in root cutting have adopted the ditch-witch as the machine of choice. Exposure of tree roots using a ditch-witch is followed up with hand pruning and protection as previously described.

b. Open trenching Excavation

Open trench excavation uses a variety of plant and equipment such as backhoes and excavators of varying sizes to create trenches ranging in width from 300mm to 1.2 metres or more. Depths can be any depth and most of the equipment is designed to dig deep excavations of greater then a metre, which is under the root zones of most trees. Open trenching can damage tree roots and impact the viability of trees easily. Machinery is heavy and machines operating within the Tree Protection Zone radius’s of trees can also lead to compaction of the soil which can also damage trees. To minimise the impact of open trenching it is important the machinery operate outside the optimal tree protection zone radius specified by the Arborist. Roots may be pruned prior to open trenching by exposing tree roots using methods described in part C of this document (Part D Tree Root Location and Avoidance). To minimise the possibility of hooking under roots with the bucket of the excavator and unnecessarily disturbing them by pulling them up toward the trunk of the tree, the bucket excavator can first cut the roots by working 180 degrees to the tree trunk, before excavating 90 degrees to the trunk.
Part E Root pruning and minimising construction impacts

PART E Root Pruning and Management

c. Dynadiggr® Root cutting

Otto Leenstra and Associates has purchased a Dynadiggr® specifically for tree root pruning and the preparation of trees for transplanting. The Dynadiggr® machine is a hydraulic shovel which can excavate a vertical spade thickness cut to a depth of up to 750mm. This machine is predominately used for tree transplanting small trees but is also effective in pruning roots of trees with larger root balls. It is used by the operator in association with larger machinery when transplanting larger trees. As a hand operated machine the operator can quickly ascertain the presence or absence of larger roots as the Dynadiggr® won’t cut through larger roots. As distinct from an Air-knife or Hydro-excavation the advantage is that roots are pruned cleanly and the roots remain in contact with the surrounding soil. There is no damage to the outer root sheath. Resistance felt by the operator of the Dynadiggr® may be associated with larger roots which may be in turn be located using Ground Penetrating radar or exposed using non-invasive technology such as hand-digging where appropriate using Hydro-excavation as previously described Part D-Managing Tree Roots - Location and Avoidance of roots.
1.1 Tree Pruning

Tree canopy pruning may be recommended for trees to encourage new growth associated with tree root pruning and to remove defects in the tree or to provide necessary statutory clearances over roadways, between properties or from utility services such as powerlines.

It is important to maintain the root-shoot ratio (Shigo Alex, (1991), Modern Arboriculture Touch Trees). A certain amount of tree root volume is required to sustain the canopy of a tree. When tree roots are pruned then sometimes it is appropriate to also consider pruning the canopy of the tree as specified by the Arborist in accordance with the tree management plan. Canopy pruning must be undertaken in accordance with the Australian Standard (AS4373-2007) adopting target pruning techniques that minimise the size of pruning cuts and maintain the branch collar for wound-wood development and healing. Pruning must be undertaken by a qualified Arborist familiar with these techniques and in accordance with the tree management plan. The following diagram illustrates the target pruning technique.

Correct Pruning Cut is from A to D. Do not put a pruning tool behind the branch bark ridge where it protrudes in the crotch C. Point D is where the collar joins the trunk. Point E is the lower end of the branch bark ridge. Always stub cut the branch first (F). These targets can be seen on most branches but not all. targets A and B may require adjusting on Some branches (©1991 Shigo Alex, Modern Arboriculture Touch Trees)
1.2 Tree Attachment and Support

The support of weighted limbs has been a feature of Arboriculture for a number of decades. The use of supporting cables and other hardware are often carried out in order to find an engineering solution for the support of structures of nature. Depending on how these are applied can assist or be detrimental to the tree. Cables attachments were often drilled through the trunk or strong scaffold branches of trees with one end of the cable and associated branch attachment supporting the target branch at the other end. This concept has been replaced by products such as Yale ® and Cobra ® bracing which uses purpose designed synthetic fibres of different breaking strains (2,4 and 8 tonne) dependent on the application to dynamically support limbs. The development of these systems has reduced the injury associated with the use of cables. These materials are better able to allow the tree to continue to grow and the materials can be adjusted as a tree grows.

It is the ability to adjust and alter the dynamic of these products in response to tree growth that is the greatest asset of these products and their popularity with Arborists.

A more recent innovation is the utilisation of trees in ropes and adventure courses. The construction of these courses has largely been associated with the popularity of these courses overseas. These courses are based on the following standards.

- European Standards for Ropes Courses: NF EN 15567 - 1. Construction & Safety
- European Standards for Ropes Courses: NF EN 15567 - 2. Operation Requirements

These standards are currently considered the most comprehensive standard for this type of activity.

These adventure courses are gaining popularity in Australia and the best practice to adopt is to minimise the impact of any attachment to the tree. From an Arboricultural perspective the mode of construction are that the fixtures remain temporary so they can be released from the tree seasonally to allow the tree to grow naturally. Using this principal and platform attached to a tree is attached with a minimum of purchase using prescribed low-torque ratings for each bolt. This passive attachment ensures that there will be no definitive or lasting damage to the tree.

The following series of photographs were taken from the Glen Harrow Adventure Park in Belgrave in Victoria and illustrate how a platform might be attached to a tree with minimal impact.
These photographs illustrate the attachment of a series of platforms and cables in a tree and how this can be achieved with minimum impact to the tree.
Part G Construction Methods and Concepts

1.1 General

The impact of any construction including future building construction must be considered in terms of the context of the future development of this site. Significant advances have been made in relation to building and construction methods to where the preservation of trees is a consideration. The following sections outline various construction methods, which are suitable in closer proximity to trees and describes the reasons why some construction methods less appropriate.

1.2 Unsatisfactory Construction Methods.

Any construction method, which involves the severance of tree roots through open excavation within the specified Tree Preservation Zone too close to a tree as determined by a qualified Arborist, is not a recommended form of construction.

1.3 Urban Design Considerations

   a) Kerb and Channel

Wherever possible major excavation such as the installation of drainage pits, kerb and channel and pavements must consider the specified TPZ of retention trees. Where excavation is considered, the extent of tree root development into these areas needs to be confirmed by exploratory excavation (Using Air-knife, Hydro-excavation Ground Penetrating Radar). Alternatives to the use of rolled over concrete curb and channel is the use of asphalt curbing laid on the asphalt pavement. Kerbing can direct water shed from the road pavement to Drainage Pits located along the road pavement or in nature-strip areas outside the TPZs of trees to be retained.

   b) Water Sensitive Urban Design (WSUD)

Significant advances have been made in terms of urban design, which can assist with the preservation of retention trees. Water Sensitive Urban Design Principles should be considered where practicable in the vicinity of retention trees. The principle design uses water runoff from road pavements and channels surface water runoff to landscape areas in the vicinity of retention trees. Drainage is incorporated to shed excess water not utilised by retention trees. Drainage pits are strategically located so that watershed can be directed onto landscape areas to catch and direct any excess water accumulation. The follow diagram shows a cross section example of a WSUD.
Part G Construction Methods and Concepts

1.4 Impacts of Construction Near Trees

Damage to trees as a result of root loss is commonly caused by inappropriate construction in the vicinity of the trees on construction sites. Excavations such as strip footings, as well as footings that are too close, negatively impact trees effecting their viability. When constructed in a tree’s TPZ, they create substantial root disturbance. Such footings continue for the length of the building and cut all roots that they come into contact with. Strip footing also disrupts the movement of water through the soil profile.

Changes in soil level can also impact tree health. Fill deposited over tree roots can lead to tree death reducing or preventing the gaseous exchange between roots and the air as well as reducing moisture penetration and evaporation all essential for tree health.

Construction will invariably result in some damage to a trees root system. The following methods of construction should be used in conjunction with a Tree Management Plan which is prepared by a qualified Arborist and which will outline a step by step process for approved construction to take place within or close to the TPZ of retention trees.

1.5 Construction Methods to Reduce Tree Impact.

The use of Pier and beam construction may be utilised in the construction of a number of features in the vicinity of the tree this includes Boundary fences and decking areas. Supported decks constructed in the vicinity of trees are good in maintaining soil permeability. They are often utilised in bushland areas to minimise compaction.

Pier, Suspended Beam and Joist Sub-Floor construction must involve the following concepts to keep any impact on the subject tree to an absolute minimum:

- Potential pier stump holes must be explored by a qualified Arborist using non-root destructive technology (See section 2.3 Hydro-excavation or Ground Penetrating Radar or Hand Digging) to a depth of 600 mm prior to firm determination of pier or stump holes to ensure no significant roots are severed.

- Based on Section 8 Recommendations of the accompanying report, a minimum distance equivalent to the SRZ (greater where possible) must be maintained between the tree base and the nearest excavation for trees that border construction involving excavation. 2 metres is the minimum TPZ for any tree unless the tree is young or lateral root growth is restricted or prevented.

- A minimum safe concentration of supporting stumps or vertical piers must be used to support the bearers within the trees nominated TPZ as detailed in section 8.

- The construction may be cantilevered near to the tree to further increase distances between trunk and nearest soil disturbance for pier or stump installation.

- All components of the bearer and joist sub-floor construction must be elevated above ground level by a minimum of at least 100 millimetres or greater if clearance for suspended services is required.

- Piers or stumps must not be placed directly opposite buttress roots where possible, again making further use of a cantilever system and maintaining the minimum TPZ.

- Minimum diameter stumps, piers and pads must be used, usually 100-125mm, unless through non-invasive means it is shown that roots are absent, small or in low concentration.

- Excavation for stump holes must be of minimum diameter and vertically bored to reduce root trauma. Bucket excavators must not be used for excavating stump holes.

- Ditch-witches are less injurious than bucket excavations and severed roots can be follow up pruned by the project Arborist.

- Any building constructed in the vicinity of a tree must be done so in a manner that protects from the impact of roots or potential soil drying.

- All modified building related recommendations in this report require verification and recommendation by suitably qualified Architects and Structural Engineers as to their adequacy and design.
1.6 Stump, Bearer and Joist Sub-Floor

This construction is a sub-floor construction that consists of concrete, timber or metal stumps dug vertically into the soil with the load-bearing beams or bearers being placed directly on top of the footings. This greatly reduces the amount of excavation and subsequent root loss. Much more of a tree’s root system can be retained using stump, bearer and joist sub-floor construction.

If undertaken in association with a tree management plan, the installation of the stump, bearer and joist sub-floor will reduce trauma associated with root damage. A degree of care and flexibility must be allowed with respect to stump or pile placement.

A qualified Arborist must be present when the stumps or piles are installed to ensure that no major roots are cut, and to ensure that the minor roots are cut cleanly with a sharp saw.

Construction within Tree Preservation Zones can be further avoided when walls are constructed on beams that cantilever on supporting stumps to further increase the distance between an excavation and the tree.

1.7 Pier & Beam Construction

Pier and beam construction as a variation to stump, bearer and joist sub-floor construction, may be required where brickwork is to be constructed or where a stump, bearer and joist sub-floor is not sufficient.

The adequacy and the use of footing particular to a project need to be determined by architects and engineers.

The use of 80-100 millimetre metal screw piers to support a beam is advisable to minimise root damage. The beam may be formed out of reinforced concrete or may be a steel beam or lintel to support the brickwork.

The Arborist must check the concentration and depth of the tree roots to determine the allowable depth of excavation when installing a beam or lintel. A beam must be installed above the ground, where tree roots are prolific and greater than 50 millimetres in diameter where determined by the Arborist.

The placement of a pier and beam construction on an end wall or similar assumes that there is a cavity below the floor beyond the pier and beam, as with previously outlined construction methods such as stump bearer and joist construction.
1.8 Slab Construction

To avoid root severance with a slab construction, ideally requires a design suspended over the TPZ’s of retention trees. An air space allows roots to contact the air through the soil profile.

A floating or raft slab or a waffle slab constructed directly on the ground may be appropriate if there are no restrictions to root development elsewhere and where the tree is not a surface rooting variety, or if a tree has a degree of tolerance to de-oxygenated soils. Root zones underneath slabs can also be an irrigated or vented to ensure that the water and oxygen regime remains within satisfactory limits.
1.9 Low Impact Foundation Solutions

Screw piles are an effective and low impact way to construct in the vicinity of retention trees. They can be either hand or machine screwed. Refer to manufacturing and engineering requirements with regard to loads and installation.

1.10 Service Installation

Installation of services is sometimes overlooked, but can seriously damage root systems. Service installation needs to have due regard for the protection and preservation of the critical or specified tree protection zone root zone of a tree.

There are options to essential service installation where excavation is required such as connections to a legal point of discharge (Sewer or storm water). Boring under a tree or a trees root system will often prevent the need for open trench excavation and preserve tree roots within the specified critical or specified tree protection zone root zone of a tree. No root severance can occur as a result of the installation for plumbing and electrical connections within the specified Tree Preservation Zone of any tree. Services under slabs or sub floors can also be clipped or suspended or excavated outside TPZ's. All processes to protect a Tree are to be detailed in a Tree Management Plan.

1.11 Landscaping Construction General

The principles that apply to building construction also apply to landscape construction. Any construction method, which involves the severance of tree roots through open excavation within the specified tree preservation zone, is not a recommended form of construction and alternative methods must be sought to minimise negative impacts. The methods to adopt must be approved by a qualified Arborist.

Landscape construction includes construction of surrounding pavement surfaces, construction of retaining walls and the shaping of soil in the vicinity of trees. These additional constructions must also aim to minimise of any damage to the tree root zones.
1.1 Unsatisfactory Construction Methods.

Hard landscaping is the use of all hard materials within a garden area such as hard pavement surfaces, concrete, or the erection of structures such as wooden pergolas, retaining walls and barbecues etc. This is opposed to soft landscaping which generally involves the amelioration of a garden through the use of plants and trees and surface cultivation of the soil. Hard landscaping can be harmful to existing trees and should be avoided within specified critical or specified tree protection zones root zones.

Hard non-porous pavement surfaces such as concrete are inflexible and subject to displacement by tree roots. Associated excavation required to prepare the base under a concrete pavement, can reduce the ability of tree roots to exchange oxygen and water if steps to prevent this occurring are not taken. Root severances may also result in tree decline and destabilisation.

Concrete pavement surfaces are inflexible and reduce water penetration to the root-zones of trees. The use of concrete pavement surfaces can result in a moisture zone between the underside of the concrete pavement and the compacted sub-grade on which the concrete is poured. This area is where moisture tends to accumulate and tree roots will seek out this moisture often resulting in the displacement of the concrete pavement. As with service installation associated with building construction, installation of irrigation systems and garden lighting should have due regard for the location of tree roots within the critical or specified tree protection zones root zones of tree.

1.2 Pavement Sub-grades Structural soil

There are many commercially available pavements, which can be utilised around trees, which are permeable to a sufficient degree to allow the circulation of air and water necessary for continued tree root health. Associated with any adopted pavement system it is important to use a sub-grade material that can support the weight of a vehicle without causing undue compaction to the tree root system. In the past crushed rock with a high degree of fines has been used to support pavements. The use of these materials are usually still permeable to water, but are less permeable to air.

The development of structural soils as an alternative to traditional pavement sub-grades is a significant advance in the development of a system that allows for tree root development while lessening the propensity for roots to displace pavements. Pavements, curbs and Avenues use base materials that are solid and compact. The particles that make up the base material must be able to be compacted to meet engineering standards for load bearing pavements.

Soils for proper tree growth contain: 50% solids which provide tree nutrition, 25% micropores which hold soil water and 25% macropores which provide space for air and allow the water to drain. Severe compaction results in the loss of the macropores so water does not drain and tree roots all die.

Roots cannot penetrate severely compacted soil. Structural Soil is simply angular crushed rock varying in size mixed with a good quality topsoil. The rock easily compresses and in between the rock are large pores. These pores are filled with soil for the roots. The combination of rock soil and smaller particle creates a conglomerate of particles of varying size conducive to root growth but also compactable.
1.2 Pavement Sub-grades Structural soil

The stone bears the load and the roots penetrate the voids for soil, water and air. The percentage of soil versus stone is critical to prevent the pores from being filled completely with soil and no benefit for the trees can occur. A 5:1 ratio of angular crushed rock and soil is considered suitable for under pavement use. A geo-technical engineer must check compaction ratios before being used in areas that need to take vehicular traffic.

Technologies that allowed for the maximisation of pore spaces with the use of Structural Soil were used successfully with the Sydney Olympics development. The reasons for the utilisation of structural soils are summarised in a paper prepared by S.W Leake of the Sydney Environmental & Soil Laboratory as follows:

"Areas, the major conflict is the maximisation of soil volume for tree rooting, whilst also providing a stable base onto which roads and pavements can be laid. In asphalted paving, the relatively high aeration and moisture content of the soil directly beneath the pavement attracts roots and accelerates pavement damage by heaving (Kopinga, 1994). By providing a hospitable rooting medium down the entire depth of the profile, roots are drawn deeper into the soil profile creating gentle bulges in the surface, rather than sharp up wellings, which causes tripping hazards. Structural soils, possible better described as Gap Graded or Bimodal Support soils are a growing medium that allows for the needs of both the landscape architect and engineer to be met." (S.W. Leake BScAg (Hons1) Director Sydney Environmental & Soil Laboratory Structural Soils Some Technical Aspects).

The use of this or a similar product may be appropriate for the driveway construction and roadway construction. The following diagrams show some of the ways that the principals of structural soils might be applied to existing trees.
1.2.1 Structural Soils Practical Applications

Figure 1 Typical Down slope construction with tree lower than the proposed construction. TPZ extends to toe of the batter beyond proposed gravity wall. Compaction of materials does not extend beyond existing conditions. Application example Retaining a roadway path or building over a trees root zone.

Figure 2 Cross sectional view of typical Side slope construction where grades need to be changed within. TPZ typically extend into undisturbed areas. Likely lower concentration of roots on down-slope side of tree as soil tends to dry out. Application Side fall roadway pathway or building.
1.2.1 Structural Soils Practical Applications

Figure 3 Typical cut retention using flat rocks. Existing cuts close to trees can lead to tree mortality and windthrow. Structural ballast may be appropriate to relieve reduce or prevent compaction of root zones. This concept may apply in abutting roadways and pavement surfaces in terms of separation of materials.
1.3 Core Drilling

Structural soils are generally used with new plantings. They may however be utilised with established trees in association with existing root systems. It may be possible to remove and replace existing poor soils with a structural soil blend in association with planned construction in the vicinity of retention trees. This process is achieved through core drilling. Compacted material is removed outside the SRZ of a tree and replaced with structural soil providing a new medium for roots to occupy. Once the sub-grade of structural soil has been established there are a number of pavement surfaces, which can be considered.

1.4 Pavement Surfaces

a) Granitic Sand, Lilydale Toppings, Scoria, River Pebbles

The use of Granitic Sand, Lilydale Toppings, Scoria, or River Pebbles as a pavement surface while providing a compacted surface still allows soil moisture to penetrate making it more preferable than a hard pavement surface.

The provision of a suitable base for any tree roots to occupy will need to have a satisfactory pore space to accommodate feeder roots but be able to be compacted to engineer’s specifications so that surfaces can be constructed on top. Such a base material is referred to as structural soil (see previous section).

The use of a weed mat or Fibreglass mat (Geotech fabric or similar) assists in keeping the base material and surface material separated.

b) Eco Paver System® Gravel Paver System®, Bodpave®, Turf Cell®

These pavement systems are under-surface systems where various toppings can be applied to maintain porosity to the roots of trees. These toppings and materials are presented in part H of this document and are all viable in the right situation. It is a porous pavement, with a foundation of washed sand, screenings or structural soils.

These systems consists of integrated plastic or brick cell pavers that interlock and may be filled with materials such as Granitic Sand, Lilydale Toppings, Scoria, River Pebbles as described earlier. These All these systems are valid pavement alternatives, however it is important that the installation of these systems be managed by a tree management plan specific to their application.

Other available and suitable products include Bodpave™ www.boddingtons.com.au. See attached installation and application documents. The following photographs are of the turf cell product.
1.4.1 Turf Cell photographs

Photo 1. Close up picture of Turf Cell® reinforcement grid structure showing interlock system.

Photo 2. Laying of Turf Cell® onto permeable Geotech Fabric over a shallow layer of levelled coarse washed river sand.

Photo 3. Turf Cell® laid as parking bays and ready for in fill with highly permeable substance.

Photo 4. Permeable Blue metal Stone Chip infill as opposed to soil and seeded grass.

Photo 5. Finished product. Surface level slightly below adjacent surfaces to reduce gravel travel.
1.5 Permeable Concrete Pavements

Another worthwhile alternative is permeable concrete or asphalt. There are a number of available commercially available products that use this technology. A Datasheet is available for this product from Cement and Concrete Association of Australia (February 2004) Permeable Concrete Pavements, a copy of which follows this document.

Resin blended materials have the advantages of looking like concrete but maintaining moisture and oxygen permeability. Examples of these items can be viewed at the following web addresses.


1.6 Soil Levels

Significant changes in soil level can result in the rapid decline of many tree species. Some trees are tolerant to soil level changes. These trees are adapted to moist environments where soil de-oxygenation as a result of oxygen being displaced by water is common. It is recommended that soil level changes not be changed within the specified Tree Preservation Zones for retention trees.

1.7 Soft Landscaping

Soft Landscaping refers to non-construction type landscaping. It includes the general cultivation, soil amelioration and beautification of the top layers of a landscaping area. Landscaping such as the establishment of lawns, preparation of garden beds, supplementary planting of sites are examples of soft landscaping. Soft landscaping is generally not detrimental to tree health.
Part I Specific Requirement Notes

The objective of the tree management plan is the protection of the retained trees during development and construction processes. Impacts of construction may not become evident until years after the construction is completed. The concepts previously described will sometimes require specific instructions to better convey the intent of the project Arborist to protect retention trees on a development or construction site.

Part J Recording Non-conformances

In addition it is important to record issues of non-conformance whereby an instruction set out in the tree management plan is either not followed or modified. Where this has occurs there is a responsibility for all parties to come to the table and work out a solution to ultimately benefit the tree as well as deliver the project.

The Tree Management Plan format template that would accompany an Arborist report where one is deemed required is presented in section 8.2 of this report and references this document.
PROPOSED SOUTH STREETSCAPE ELEVATION

ISSUE FOR TOWN PLANNING PERMIT

239 STATION STREET

SCALE 1:100

SINGLE STOREY BRICK

FIRST FLOOR FFL+9.60

GROUND FLOOR FFL+6.50

2700

2550

6330

OVERALL BUILDING HEIGHT FROM NGL

BLK.01

1200MM ABOVE FFL

PROVIDE GLAZED BALUSTRADE

TO A MINIMUM HEIGHT OF

TP-06

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Oakleigh VIC 3166

www.arch10.com.au