LAND USE SUMMARY		Area (HA)	%
	SITE AREA	5.95	
	Open Space	0.54	9%
	NET DEVELOPABLE AREA	5.41	
	Local Roads	1.13	19%
	Residential Lots	4.28	72%
			100%
TOTAL NUMBER OF LOTS		49	
DENSITY (dwellings/ha)	8.2	AVERAGE LOT SIZE (m²)	873

LOT SIZE	# LOTS	%
< 800m²	34	69%
800m² - 999m²	8	16%
1000m²+	7	14%
Total Lots	49	100%

WILLOWBANK ROAD

VANCLEVE CRESCENT

CHARTERS AVENUE

REBECCA WAY

TUXEDO DRIVE

CHERRY BALLART ROAD

ROTHSCHILD ROAD

TOVEY DRIVE

BUCKLAND BOULEVARD

FINNIGAN ROAD

COOP DRIVE

GORDON BLVD

1.0 ha

Passive Open Space Reserve 2 2464m²

Passive Open Space Reserve 1 2975m²

AMENDED DEVELOPMENT PLAN

N

Job No: 21-000227
Drawing No: 21-000227ADPD
Version: D
Created by: EL
Date: 21.07.23
Scale @ A3 1:2000

Note: Street trees are indicative only and subject to detailed design

MACEDON RANGES PLANNING SCHEME
DEVELOPMENT PLAN: DP/2009/12/C
Date: 20/11/2023
Authorised Officer: Jack Wiltshire
Page: 1 of 221 SIGNED:

75 Willowbank Road
Gisborne
Macedon Range Shire Council, Vic

calibre

Planning Submission

Amendment to Gisborne Development Plan 4A | 75 Willowbank Road, Gisborne

PREPARED FOR SAM AND ANGELA GIUDICE

MACEDON RANGES PLANNING SCHEME
DEVELOPMENT PLAN: DP/2009/12/C
Date: 20/11/2023
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Calibre Professional Services Pty Ltd
55 070 683 037

DOCUMENT CONTROL

ISSUE	DATE	ISSUE DETAILS	AUTHOR	CHECKED	APPROVED
A	December 2021	Draft	EL	FS	FS
B	21 December 2021	Final	EL	FS	FS

Contents

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Appendices

1 Snapshot

Table 1: Application Details

Application Details	
Applicant	Sam and Angela Giudice
Subject Land	Lot 4 on LP98445
Subject Address	75 Willowbank Road Gisborne VIC 3437
Municipality	Macedon Ranges
Proposal	Amendment to Gisborne Development Plan 4A
Zone	General Residential Zone – Schedule 1
Overlay	Development Contributions Overlay – Schedule 2 Development Plan Overlay – Schedule 4
Permit Triggers	Pursuant to Clause 43.04-2, a permit must not be granted to use or subdivide land, construct or carry out works until a development plan has been prepared to the satisfaction of the responsible authority. A permitted granted must be generally in accordance with the development plan.
Aboriginal Cultural Heritage	At the time of this application, the site is not located within an area of Aboriginal Cultural Heritage Sensitivity. Therefore, no CHMP is required.
Notice	Yes – Pursuant to Section 4 of Schedule 4 to Clause 43.04, the development plan and any amendment to the plan must be publicly exhibited for a period of two weeks prior to approval.
Site Area	Development Plan Area: 79.95 ha Subject site area: 5.95ha

2 Introduction

Calibre acts on behalf of Sam and Angela Giudice in relation to the submission of this application to amend the existing approved Development Plan

This application seeks approval to amend the Gisborne Development Plan 4A (GDP4A) to allow for the development of the subject site at 75 Willowbank Road Gisborne. The GDP4A covers approximately 80ha of land south of Willowbank Road. The subject site is approximately 6ha and is within the northern section of the GDP4A.

Since the latest endorsed version of the GDP4A (endorsed 16 April 2009), all land within the Development Plan with the exception of the subject site, has been developed. An amendment to the GDP4A is required to reflect the existing conditions and to allow for the orderly development of the subject site.

The land within the GDP4A is governed by the Macedon Ranges Planning Scheme. The land is within the General Residential Zone - Schedule 1 and is affected by the Development Contributions Overlay – Schedule 2 and the Development Plan Overlay – Schedule 4. The amendment to the GDP4A is generally consistent with the requirements of Schedule 4 of the Development Plan Overlay.

The submission introduces the amended Development Plan and provides the supporting analysis that informed the design. This report has been prepared to:

- Describe the subject site, the area within the Gisborne Development Plan 4A, existing conditions and surrounds;
- Outline the nature of the proposed changes;
- Demonstrate compliance with the Planning Policy Framework, Local Planning Policy Framework, the purpose of the General Residential Zone, Overlays and the relevant General Provisions within the Macedon Ranges Planning Scheme;
- Demonstrate compliance with the Gisborne Outlined Development Plan and proposed Gisborne Futures Structure Plan; and
- Provide justification for the proposed amended Development Plan.

In support of the application, we provide the following information:

- Certificate of Title at Appendix A;
- Context Plan prepared by Calibre at Appendix B;
- Endorsed Development Plan (endorsed 16 April 2009) prepared by Hansen at Appendix C;
- Amended Development Plan (context) prepared by Calibre at Appendix D;
- Amended Development Plan (detail) prepared by Calibre at Appendix E;
- Amended Development Plan (staging) prepared by Calibre at Appendix F;
- Proposed Subdivision Concept Plan prepared by Calibre at Appendix G;
- Stormwater Management plan prepared by BCS Engineering at Appendix H.

3 Subject Site and Surrounds

3.1 Parcel Details

The land within the Gisborne Development Plan 4A area is made up of hundreds of title parcels as most of the site has already been subdivided. The exception to this is the subject site at 75 Willowbank Road Gisborne. The subject site is formally known as Lot 4 on Lodged Plan 98445 (Vol 09019, Fol. 578).

The Certificate of Title for the subject site can be found at Appendix A and an excerpt of the title plan is shown below at **Error! Reference source not found.**.

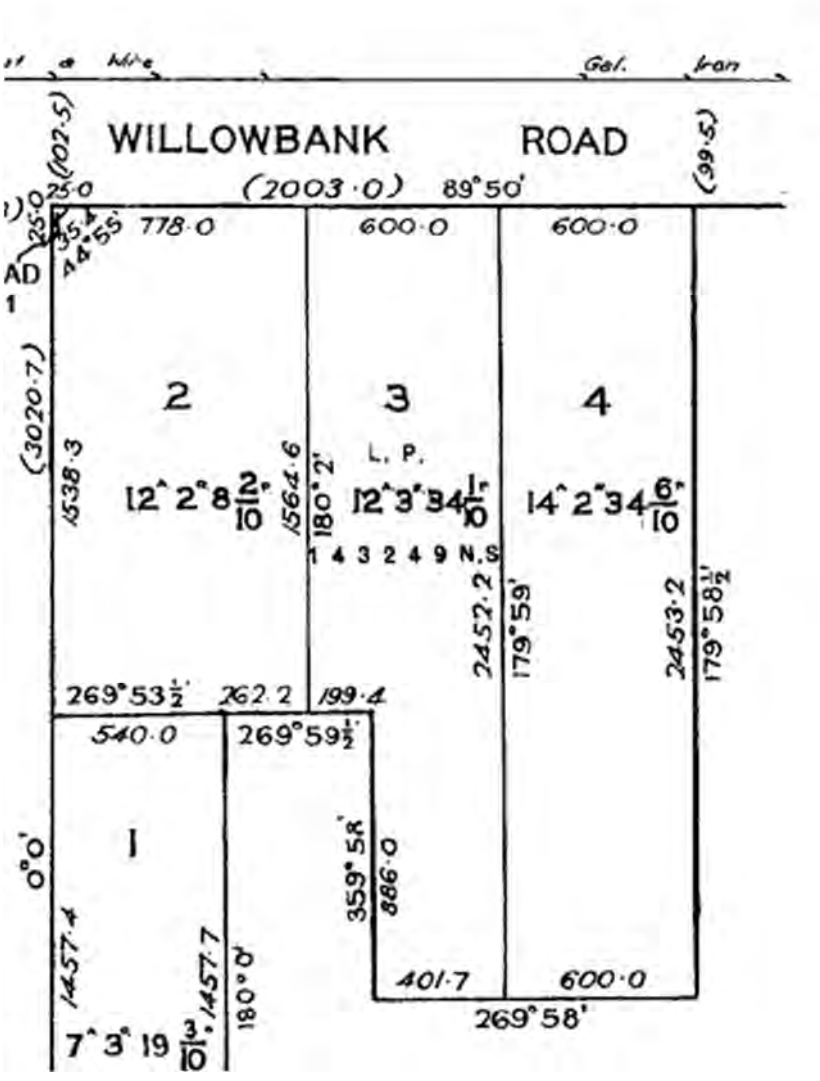

Figure 1: Excerpt of Title Plan

3.2 Subject Site

The subject site at 75 Willowbank Road Gisborne is approximately 5.95ha in area and generally rectangular in shape. The site has a frontage of 120.7m to Willowbank Road to the north. To the east, south and west, the site is surrounded by residential dwellings, also within the General Residential Zone.

The property has access to Willowbank Road to the north via an unsealed crossover and driveway.

Willowbank Road is a sealed road which has a sealed footpath that runs along the site's northern frontage. There are also several other roads which terminate around the site's east, south and west boundaries. These include Vancleve Crescent, Tuxedo Drive and Rothschild Road to the east, Coop Drive to the south and Cherry Ballart Road, Charters Avenue and Vancleve Crescent from the west. Interfaces with these roads and the site are illustrated in the images below.

There is also a local park to the immediate south east of the site abutting the site's south eastern corner. Refer to **Error! Reference source not found.** below for the aerial photo showing the subject site and immediate surrounds.

There is an existing dwelling in the northern area of the site which has manicured garden areas surrounding it. There is a tennis court to the east of the dwelling. There is a vegetable patch with a shed and netted garden beds to the south west of the dwelling. Beyond the vegetation patch to the south, there is an Olive Grove. Further to the south, there is a fence line which is parallel to the northern and southern site boundaries and creates a large paddock in the southern part of the parcel which is free of buildings and structures and features large cypress trees around the boundaries.

There are two native trees located on the eastern boundary with the existing park. These trees will be retained and form part of the larger open space reserve. In terms of topography, the site is generally flat with a gentle fall towards the north. There is a small waterbody at the site's south east boundary where Rothschild Road terminates at the site's boundary.

Figure 2: Aerial photo of the subject site

Figure 3: Drone footage looking south east

Willowbank Road

Figure 4: Existing crossover and gate off Willowbank Road

Figure 5: Existing internal driveway off Willowbank Road

Figure 6: Existing dwelling and garden from Willowbank Road

Figure 7: Existing gardens west of driveway

Interface with Vancleve Crescent

Figure 8: Vancleve Crescent looking west into the subject site

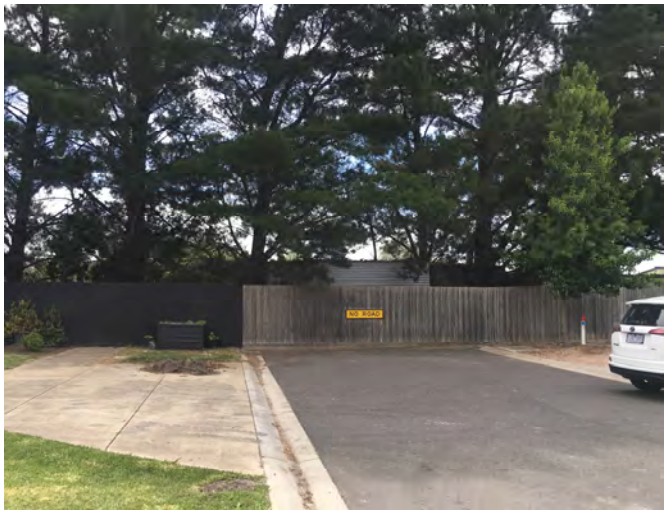

Figure 9: Vancleve Crescent looking east into the subject site

Interface with Charters Avenue/Tuxedo Drive

Figure 10: Tuxedo Drive looking west to the subject site

Figure 11: Charters Avenue looking east to the subject site

Interface with Rothschild Road

Figure 12: Rothschild Road looking south east across existing Gisborne Fields Parkland Reserve and into subject site to the west

Figure 13: Rothschild Road looking west into the subject site. The native tree at the end of Rothschild Road will be need to be removed to facilitate the road extension

Interface with Cherry Ballart Road

Figure 14: Existing small waterhole at the end of Rothschild Road which will be filled to facilitate the road extension

Figure 15: Cherry Ballart Road looking east into the subject site

Interface with Coop Drive

Figure 16: Looking north west from Coop Drive to boundary trees

Figure 17: View north across the subject site through gap in trees from Coop Drive Boundary

Existing Gisborne Fields Reserve Parkland

Figure 18: Existing parkland reserve will be expanded through additional open space provided as part of the Development Plan

3.3 Gisborne Development Plan 4A Site Area

The Gisborne Development Plan 4A covers approximately 80 ha of land within Gisborne. The area within the Development Plan is bounded by Willowbank Road to the north, the currently under construction Willow Estate to the east, Brooking Road to the south and Brady Road to the west.

The majority of the land within the Development Plan has been subdivided and developed over the last decade. The subject site at 75 Willowbank Road is the last remaining parcel and represents an excellent infill opportunity to fulfill the development potential of this area.

The land within the GDP4A and all immediately surrounding land is within the General Residential Zone.

To the north of Willowbank Road, subdivision of a number of sites is underway as can be seen in Figure 19. To the east is the Willow Estate, which has approval for the development of +500 residential lots. Works are currently underway for this subdivision which includes the Willowbank Primary School which is scheduled to open in 2022. To the south of the GDP4A area beyond Brooking Road is land zoned Rural Living and is generally used for rural residential living purposes. To the west is land used for residential purposes with the area to the north west being within the General Residential Zone and the area to the south west being within the Low Density Residential Zone.

Figure 19: Gisborne Development Plan 4A Area

3.4 Surrounds

The GDP4A site is located within the south eastern area of the Gisborne Township area and is located approximately 2km from the town centre. Refer to Figure 20 below for an excerpt of the context plan and Appendix B for the plan.

The areas of Gisborne and New Gisborne are experiencing significant growth in population due to demographic changes such as people moving from larger urban areas as well as an increase of rural lifestyle commuters. The increasing population is also a result of the efficient transport networks in the area such as the Bendigo-Melbourne train line, Calder Freeway and Western Ring Road which connect Gisborne to the wider area and allow people to easily travel for work.

Gisborne Township offers residents with services and facilities that meet daily needs including but not limited to Coles, Foodworks, Aldi, health centre, a number of churches, primary and secondary schools, a leisure centre and extensive recreation reserves. The township also has a variety of cafés, restaurants and retail shops.

The Gisborne Train Station, which is located in New Gisborne to the north, is approximately a 10 minute drive from the subject site. There is also an existing bus route which operates along Willowbank Road. There is a bus stop approximately 300m from the site. This bus route provides access to the train station as well as Gisborne and New Gisborne town centres.

Willowbank Early Learning Centre is in the north west corner of the Development Plan area along Willowbank Road. Willowbank Estate Reserve which is a linear green corridor along a waterway is 250m west of the site. Willowbank Primary school is within 500 -600 metres of the site. There are also a number of primary secondary schools further north west of the site and Gisborne Secondary College which is approximately 1.2km of the site.

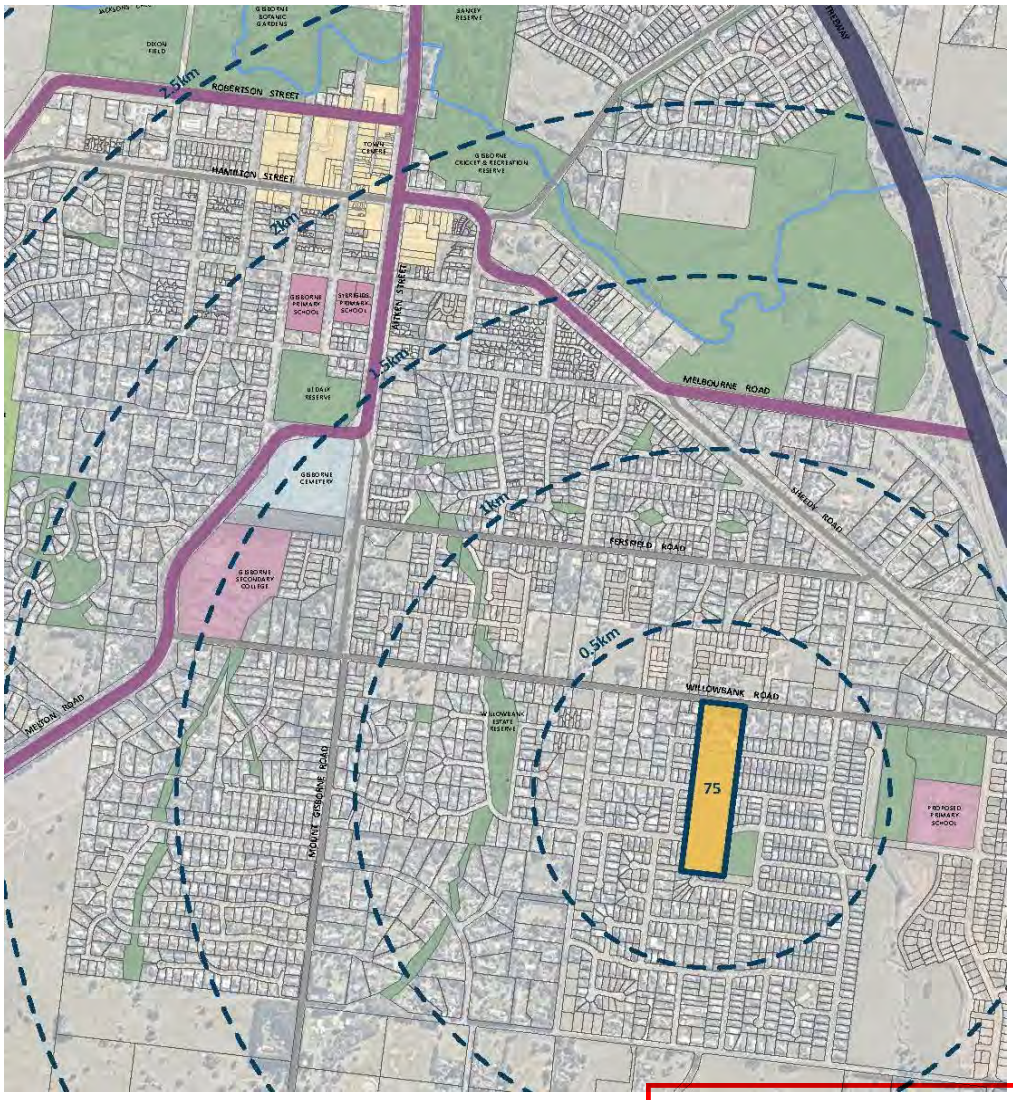

Figure 20: Site Context Plan

The surrounding land to the north, east and west is part of the Gisborne Structure Plan and as such, has been subdivided and developed or is proposed to do so in the future. This includes the Willow Estate, which is abutting the development plan area to the east. Works are currently underway for the 500+ lot subdivision and the Willowbank Primary School. There are also works underway to the north for the subdivision into 50+ lots.

3.5 Aboriginal Heritage

The *Aboriginal Heritage Regulations 2018* specifies the circumstances in which a Cultural Heritage Management Plan (CHMP) is required for an activity or class of activity. A CHMP is required is a 'high-impact activity' is proposed in an area of Aboriginal Cultural Heritage Sensitivity.

Areas of cultural heritage sensitivity are defined within Division 3 of the *Aboriginal Heritage Regulations 2018*. At the time of this application, the area within the GDP4A is partly covered by a section of Aboriginal Cultural Heritage Sensitivity along the eastern boundary, as shown in Figure 21 below.

Figure 21: Areas of Aboriginal Cultural Heritage Sensitivity

As this amendment to the Development Plan does not include use or works, which would be classified as 'high impact activity' pursuant to Division 2 of the *Aboriginal Heritage Regulations 2018*, a CHMP is not required.

The area which is covered by the Aboriginal Heritage Sensitivity has been developed and will not be impacted by the amendments to the Development Plan. Further to this, the application for the subdivision application of the subject site at 75 Willowbank Road will not trigger a CHMP, as the site does not contain areas of Aboriginal Cultural Heritage Sensitivity.

4 Proposal

This application proposes an amendment to the latest endorsed Gisborne Development Plan 4A shown in Figure 22 and Figure 23 on the following page.

A number of pre application discussions were held in the lead up to the submission of this Amendment Development Plan.

Comments provided by various Council Departments were taken into account and have been provided for in the proposed plan.

A Key element of this proposal is the proposed open space reserve which will allow for the completion of the existing Gisborne Parkland Reserve. As outlined in pre application discussions, the amended plan provides for 0.59ha of open space to be added to the existing reserve. This provision of open space equates to 9.9% of the site which is over and above the require 5% open space contribution in this area. The additional land is therefore being provided following in principle agreement that Council will purchase the additional land contribution (4.9% of the site area) and compensate the landowner at a rate to be agreed by both parties prior to Certification of the Plan of subdivision.

A description of the proposed amendments to the ODP are provided below:

- The current endorsed Development Plan does not reflect the recent development in the GDP4A area. The area with the GDP4A has now all been developed with the exception of the subject site. This has been reflected in the proposed Development Plan.

- Vancleve Crescent is proposed to continue through the site. However, the two ends of Vancleve Crescent which terminate at the subject site's boundaries have been constructed such that the two roads do not align as intended by the approved Development Plan. The plan has been amended to allow for a slight curve of the road to connect the two road segments.

- Following the pre-application meeting with Council, it was agreed that the existing development plan creates a potential three way traffic conflict at the intersection of Cherry Ballart Road/ Rothschild Road, the new north south road and Coop Drive. In order to address this issue, the plan has been amended to terminate Coop Drive as a Court bowl and provide only pedestrian/bicycle connections from Coop Drive through to Cherry Ballart Road/ Rothschild. This is considered an appropriate design response as Gisborne Fields Parkland Reserve will retain three street frontages as well as the frontage to the proposed court bowl and pedestrian links will provide for a more local community feel to this park as well as continue to provide for safety and surveillance of the park. Consideration was given to terminating the north south road between Cherry Ballart/Rothschild Road and Tuxedo Drive however, it was considered that the leg length for a court bowl was too long and that traffic flow through this area was of greater value to residents moving to and from the Primary school as opposed to Coop Drive which in its current form already functions as a cul de sac.

- Design guidelines will be incorporated into the subdivision application to ensure the dwelling siding on to the park is designed to front the parkland.

- The shape of the open reserve has been adjusted to accommodate the changes to the road layout outlined above. The plan has been amended to reflect the open space size determined between the applicant and Council.

- The lots within the subject site have been added and the areas/ dimensions included on the plan. It is considered that the balance of lot sizes is appropriate for this last remaining parcel within Area 4A. More specifically, much change has occurred since the Development Plan was originally conceived and the site is now within walking distance of the Willowbank Primary School and associated facilities contained therein as well as the childcare centre on Brady Road and small activity centre located at that intersection.

The amendments will allow for the subdivision of the last undeveloped parcel within the GDP4A area. The subdivision of this site will allow for greater connectivity in the area by completing the road connections which currently terminate at the site's boundaries. The proposed road network is in accordance with the relevant standards and the road reserves will allow for landscaping and footpaths to create a landscaped setting for the new development. The road network has also been designed to be legible and safe for pedestrians, cyclists and vehicles alike. The amended Development Plan will also allow for the development of the balance of the public open space in the south of the site. Road access to the open space is also proposed to ensure passive surveillance.

A variety of lot sizes on the subject site have been achieved with the proposed amendment to the plan. In addition, the lots have been designed on a north-south or east-west axis to maximise solar orientation and promote energy efficient housing.

This site contains a small number of native trees along the eastern boundary, most of which will be retained within the area of the extended reserve. One large gum tree exists at the end of Rothschild Road where the road is to be extended. This tree will need to be removed to facilitate the road network. The remaining vegetation on the site is planted. The large cypresses around the boundaries of the site will be removed as each stage of the development is constructed.

There is no change to the vegetation impacts considered on the site when originally approved as a result of the amended Development Plan. A detailed vegetation assessment will be provided as part of the subdivision application in order to identify any required offsets.

The allotments proposed along the Willowbank Road frontage will require an arborist report as part of any future subdivision application to ensure to appropriate siting of crossovers to ensure the protection of the existing large oak trees along this frontage.

A stormwater management plan has been prepared by BCS Consulting and accompanies this application. The plan concludes that the development will meets its stormwater treatment and storage requirements by contributing to the Melbourne Water Central Creek Drainage Scheme. The upstream catchment was analysed to ensure that the roadways can safely convey overland flow during a 1% AEP storm event.

Overall, the amendments to the Development Plan provide for a layout that allows the vision for the area to be achieved in terms of road connectivity and the completion of Gisborne Fields Park while providing for additional housing diversity and land supply within the Township of Gisborne.

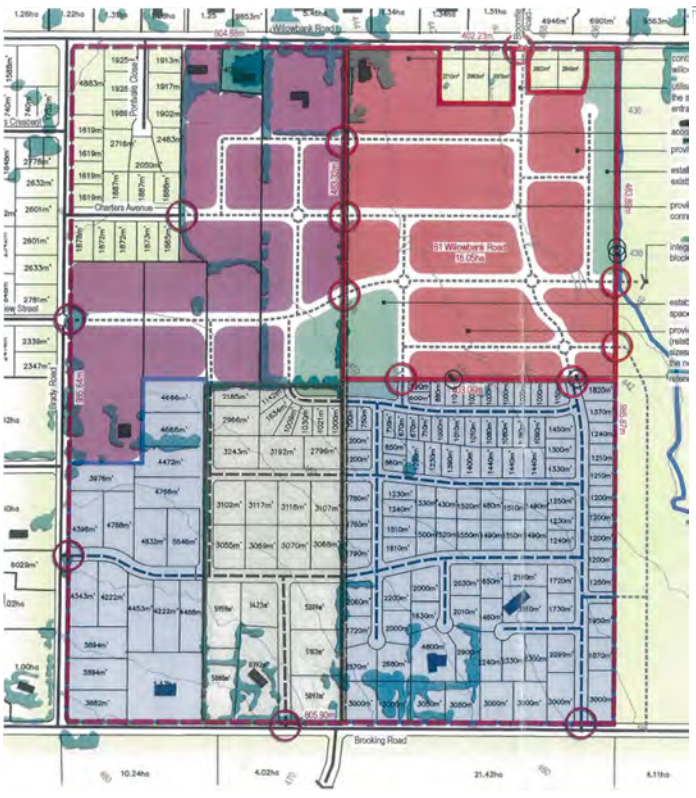

Figure 22: Endorsed Development Plan

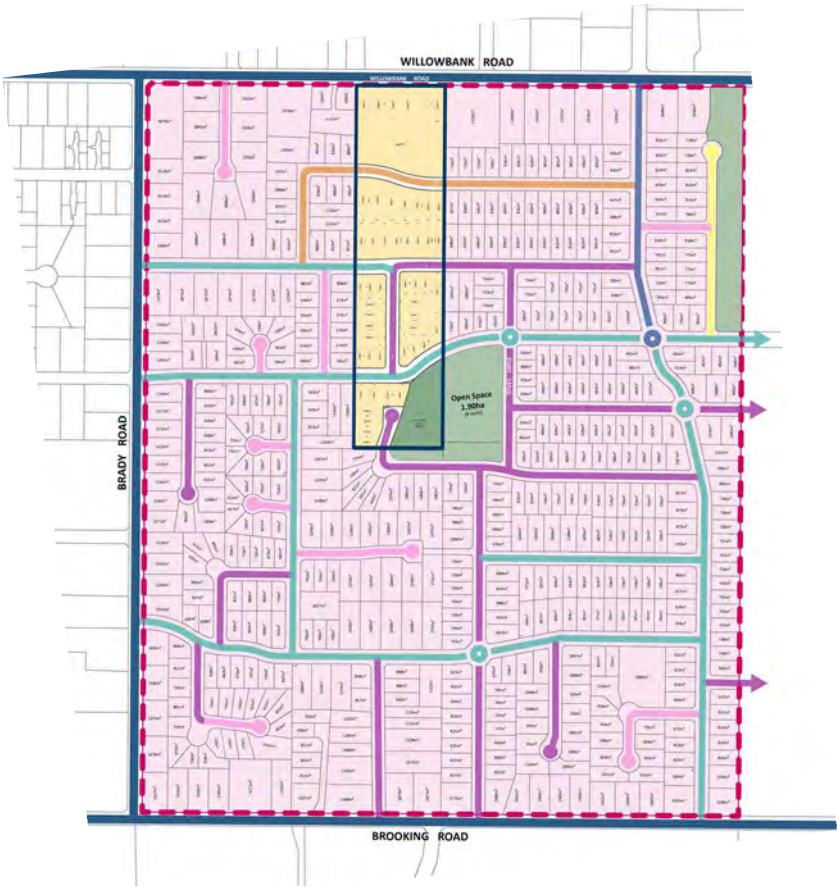

Figure 23: Proposed Development Plan

MACEDON RANGES PLANNING SCHEME
DEVELOPMENT PLAN: DP/2009/12/C
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5 Planning Context

The areas of policy considered of most relevance to this application are identified in the table below and detailed in the following sections:

Table 2: Planning Provisions, Policies and Controls

Relevant Planning Controls	
Planning Policy Framework	Clause 11 - Settlement Clause 15 - Built Environment and Heritage Clause 16 - Housing Clause 19 - Infrastructure
Local Planning Policy Framework	Clause 21.03 - Vision - Strategic Framework Plan Clause 21.04 - Settlement Clause 21.09 - Housing Clause 21.12 - Community Development and Infrastructure Clause 21.13 - Local Areas and Small Settlements
Zone	General Residential Zone
Overlays	Development Contributions Plan Overlay – Schedule 2 Development Plan Overlay – Schedule 4
General Provisions	Clause 65 - Decision Guidelines

5.1 Planning Policy Framework (PPF)

Clause 11 - Settlement

This clause seeks to plan for and respond to the existing and future needs of communities through providing zoned land that is appropriately serviced, accessible and environmentally sustainable.

This clause seeks, amongst other things, to promote the sustainable growth and development (**Clause 11.01-1S Settlement**) and to ensure a sufficient supply of land is available, including for residential purposes (**Clause 11.02-1S Supply of urban land**). As such, new subdivision or development must recognise these features and avoid undermining the long-term natural or non-urban use of land in these areas. Strategies to achieve these include (From **Clause 11.01-1S Settlement**):

- *Develop sustainable communities through a settlement offering convenient access to jobs, services, infrastructure and community facilities.*
- *Encourage a form and density of settlements that supports sustainable transport to reduce greenhouse gas emissions.*
- *Limit urban sprawl and direct growth into existing settlements.*
- *Promote and capitalise on opportunities for urban renewal and infill redevelopment.*
- *Build on strengths and capabilities of each region across Victoria to respond sustainably to population growth and changing environments.*
- *Develop compact urban areas that are based around existing or planned activity centres to maximise accessibility to facilities and services.*
- *Consider the distinctive characteristics and needs of regional and local places in planning for future land use and development (**Clause 11.03-6S Regional and local places**).*

RESPONSE:

The GDP4A area is within the Gisborne town boundary and is identified for infill development under the Gisborne Outline Development Plan. As such, the development of the GDP4A is appropriate and strategically justified.

The development of the subject site at 75 Willowbank Road will support Clause 11 as it will meet the purpose of the Development Plan Overlay to ensure development is carried out in a planned and orderly manner. This infill development will help to limit urban sprawl and direct growth into the existing township area that has access to existing services, transport options and community facilities.

Clause 15 - Built Environment and Heritage

Planning plays a key role in delivering liveable and sustainable cities, towns and neighbourhoods. Planning should ensure all land use and development appropriately responds to its surrounding landscape and character, valued built form and cultural context.

In particular, **Clause 15.01-3S Subdivision design** has the objective to ensure the design of subdivisions achieves attractive, safe, accessible, diverse and sustainable neighbourhoods. There are a number of strategies within this clause that relate to the proposal, which are:

- *Creating compact neighbourhoods that have walkable distances between activities.*
- *Providing a range of lot sizes to suit a variety of dwelling and household types to meet the needs and aspirations of different groups of people.*
- *Being accessible to people with disabilities.*
- *Facilitating an urban structure where neighbourhoods are clustered to support larger activity centres served by high quality public transport.*
- *Reducing car dependency by allowing for:*
  - *Convenient and safe public transport.*
  - *Subdivision layouts that allow easy movement between neighbourhoods.*
  - *Convenient and safe road network*

- *Creating an urban structure and providing utilities and services that enable energy efficiency, resource conservation, integrated water management and minimisation of waste and air pollution.*

Another relevant policy is **Clause 15.01-5S Neighbourhood character** which has the objective to recognise, support and protect neighbourhood character, cultural identify and a sense of place. There are a number of strategies within this clause that relate to the proposal. These are:

- *Support development that respects the existing neighbourhood character or contributes to a preferred neighbourhood character.*
- *Ensure development responds to its context and reinforces a sense of place and the valued features and characteristics of the local environment and place by respecting the:*
    - *Pattern of local urban structure and subdivision.*
    - *Underlying natural landscape character and significant vegetation.*
    - *Neighbourhood character values and built form that reflect community identity.*

RESPONSE:

The amendments to the Development Plan are relatively minor in nature given that most of the area within the GDP4A has already been developed. The proposed amendments are solely in relation to the subject site at 75 Willowbank Road.

The amendments are required to rectify the road connections immediately surrounding the subject site which are no longer in alignment and are proposed to go through the site. The revised Development Plan is seeking to correct this. This will achieve greater functionality and accessibility around the subject site and the wider area. As such, the proposed amendments will allow for a more cohesive network which allows pedestrians and vehicles alike to easily move through the site. There are also other minor amendments to the plan which have been done to facilitate a better urban design outcome and neighbourhood character.

Clause 16 - Housing

The purpose of this clause is to:

- *Provide for housing diversity and ensure the efficient provision of supporting infrastructure.*
- *Ensure the long term sustainability of new housing, including access to services, walkability to activity centres, public transport, schools and open space.*
- *Inclusion of the provision of land for affordable housing.*

The objective under **Clause 16.01-1S Housing supply** reiterates the need to provide for diverse housing which is integrated and well-located and that offers choice for future residents and meets the community's needs. This objective is achieved by ensuring there are opportunities for a range of income groups to choose housing in well-serviced locations and to ensure that an appropriate quantity, quality and type of housing is provided.

RESPONSE:

As noted previously, all of the area, apart from the subject site, within the GDP4A has been developed since the latest Development Plan was endorsed. The amendments to the Development Plan solely relate to the subject site. As such, the changes respond to Clause 16 as it will allow for the subject site to be developed which will provide a variety of lots and will build upon the existing housing stock in the area.

Clause 19 - Infrastructure

Clause 19 has the objective to plan for development of social and physical infrastructure which should be provided in a way that is efficient, equitable, accessible and timely. Of particular relevance is **Clause 19.02-6S Open Space** which has the objective to establish, manage and improve a diverse and integrated network of public open space that meets the needs of the community.

RESPONSE:

Infrastructure for the majority of the GDP4A area has already been provided. In respect to the subject site, the Gisborne Outline Development Plan and Gisborne Futures Project both propose passive open space which is partly within the subject site.

The amended Development Plan is generally in accordance with the Gisborne Outline Development Plan and the required open space has been provided.

5.2 Local Planning Policy Framework (LPPF)

Clause 21.03 - Vision – Strategic Framework Plan

Clause 21.03 contains the Macedon Ranges Strategic Framework Plan which interprets the land use vision for the Macedon Ranges Shire. The clause states that land use planning should be guided by:

- *Development that occurs in an orderly and sustainable manner, maintaining clear distinctions and separations between settlements.*
- *A diverse range of residential and commercial opportunities are provided in appropriate locations, including appropriately zoned and serviced land to meet the needs of the Shire's changing demographic.*
- *Growth is generally directed to the transport corridors, in-line with infrastructure provision and cognisant of constraints.*

RESPONSE:

The proposed amendments to the Development Plan will allow the final parcel under the GDP4A area, being the site at 75 Willowbank Road, to be developed. This will result in a greater cohesion within the area in terms of connectivity and reduces fragmentation between the developed and undeveloped land.

Clause 21.04 - Settlement

This clause seeks to manage settlement growth in the Shire, noting that it is influenced by many factors, particularly regional transport corridor improvements, bushfire risk, community infrastructure and the potential for residents to commute to metropolitan Melbourne while living in an attractive rural/ semi-rural environment.

The relevant strategies under Clause 21.04 include:

- *Encourage the development of Gisborne and Kyneton as regional centres by facilitating the provision of a large, diverse, employment and housing base in both centres and for their provision of higher order goods and services.*
- *Ensure development is consistent with the capacity of settlements to grow and plan for growth on the following basis:*
    - *Focus development on and consolidate the roles of the key towns of Gisborne and Kyneton which have the highest levels of infrastructure, services and employment.*
- *Guide development to settlements where existing environmental assets will not be jeopardised.*

RESPONSE:

The proposed amendments are in accordance with Clause 21.04 which seeks to encourage the development of Gisborne. The amendments to the plan will allow for new dwellings to be developed in close proximity to existing services and amenities which will provide additional lifestyle opportunities for a wide range of future residents.

Clause 21.09 - Housing

Clause 21.09 provides local content to support Clause 16 of the Planning Policy Framework that states, planning should provide for housing diversity and ensure the efficient provision of supporting infrastructure.

Objective 1 of Clause 21.09 seeks to provide for responsive and affordable housing and a diversity of lot sizes and styles to meet the requirements of all age groups, household types, lifestyles and preference.

The strategies that are most relevant to this proposal are:

1.1 Encourage a diversity of housing in appropriate locations.

1.7 Encourage the provision of a range of lot sizes in plans for new development.

RESPONSE:

The proposed amendments to the GDP4A supports Clause 21.09 and will allow for the development of additional dwellings in the area to meet the growing population pressures on the Gisborne township area. The GDP4A area is also suitably located to accommodate additional dwellings, as it is within close proximity of the town centre, train station and existing community facilities and services.

Clause 21.12 - Community Development and Infrastructure

Clause 21.12 aims to guide appropriately designed developments to provide the ability to strengthen community connections through the provision of linking pathways between residential developments and public facilities and spaces, and by creating public spaces for use by people of all ages and abilities.

The relevant objectives are:

- *To improve the physical health of the community by providing safe, attractive, useable, well maintained public spaces that encourage active lifestyles for people of all ages and abilities.*
- *To improve accessibility to and the use of public spaces, public premises and resources.*

RESPONSE:

The amendments to the Development Plan support Clause 21.12 as an area of passive open space will be provided within the subject site. Furthermore, the proposed road connections will improve the connectivity across the overall site. This will ensure that the area is safer for vehicles and pedestrians alike. The amended plan will also allow for the development of the remaining public open space, that will be accessible for residents.

Clause 21.13-1 - Gisborne and New Gisborne

Clause 21.13-1 contains town specific information that guides the use and development for Gisborne. Gisborne and New Gisborne currently serve the role of a large district town and form the major urban centre in the southern end of the Shire and are located within the Melbourne-Bendigo regional fast rail corridor. Gisborne and New Gisborne are expected to grow from a large district town to a regional centre by 2036.

The key elements of Gisborne and New Gisborne's character are as follows:

- *Rural environment with high quality landscapes.*
- *Significant views of prominent landforms.*
- *Natural environmental assets including Gisborne Racecourse Marshlands Reserve, Jacksons Creek, Mount Gisborne, Magnet Hill and remnant vegetation.*
- *Distinctive village characters.*
- *Valley setting of Gisborne's historic township area.*
- *Heritage buildings and streetscapes.*
- *Exotic trees in the Gisborne town centre, Station Road, New Gisborne and within established residential areas.*
- *Network of open space areas focusing on Jacksons Creek corridor.*
- *Diverse residential precincts.*
- *Semi-rural character and attractive living environments.*

There are key objectives which include containing urban development within the defined township boundary as indicated on the Gisborne/New Gisborne Framework plan.

The subject land sits within the existing growth area west of Gisborne where short to medium growth is encouraged.

Under Objective 5 of the identified Settlement and Housing objectives includes at 1.9, the objective to Provide a range of conventional residential development opportunities and densities in other residential areas that is cognisant of the semi-rural character and village setting of Gisborne / New Gisborne. Within the context of Gisborne and New Gisborne conventional residential development includes lots ranging between 500-1,500 square metres in area (with an average lot size not less than 800 square metres in any new subdivision) and at 1.10, to encourage wide lot frontages in residential developments to provide space between buildings and a high quality landscaped setting for new development.

RESPONSE:

The proposal accords with the above objectives and strategies as the proposed lot sizes are in accordance with the character of the surrounding area within the General Residential Zone.

The proposed amendments to the Development Plan retain and respect the key elements that contribute to Gisborne's character as outlined in Clause 21.13 -1. The existing conditions and assets on site have been taken into account in the proposed layout of the subject site. The existing dwelling and the surrounding gardens which feature a number of planted trees and garden areas are to be retained. The amendment will also allow for roads connections through the site which will increase accessibility in the area and will contribute to the overall character of the area.

The amended development plan provides for a total of 50 lots on the subject land with an average lot size of 857sqm.

A variety of lot sizes are proposed with the majority of lots within the conventional lot range sought by Clause 21.13-1. There are 10 lots that are slightly less than 500sqm. There are no lots proposed under 400sqm.

The lot distribution is as follows:

- 34 lots less than 800sqm;
- 8 lots between 800sqm and 999sqm and
- 8 lots less than 1000sqm.

Lot frontage widths also vary between 20 metres and 12.5 metres.

The lot distribution is in keeping with recent approvals including the Willow Development to the east.

5.3 Zoning

The land within the GDP4A is zoned General Residential (Clause 32.08) – Schedule 1 of the Macedon Ranges Planning Scheme as shown below in Figure 24.

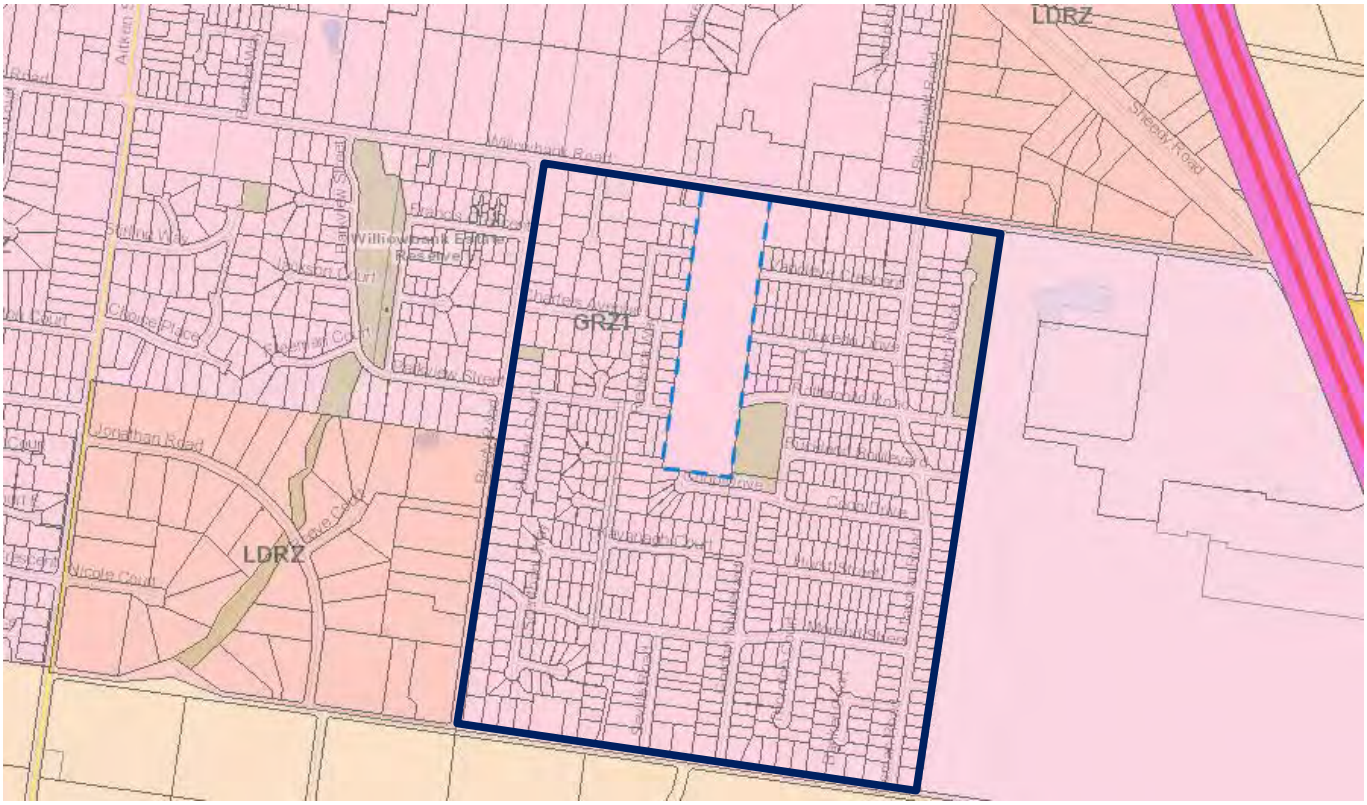


Figure 24: Zoning Plan

The purpose of the General Residential Zone (GRZ) is:

- *To implement the Municipal Planning Strategy and the Planning Policy Framework.*
- *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.*

RESPONSE:

The proposed layout is consistent with the purpose of the zone, surrounding lots and the existing character of the area. The proposed amendments respond to the site conditions, the local context and align with the Municipal Planning Strategy and the Planning Policy Framework.

5.4 Overlays

Clause 43.04 Development Plan Overlay

The majority of the GDP4A area is affected by the Development Plan Overlay – Schedule 4, apart from a small section in the north west corner, as shown in Figure 25 below.

Figure 25: Development Plan Overlay Area

The purpose of Clause 43.04 is:

- *To implement the Municipal Planning Strategy and the Planning Policy Framework.*
- *To identify areas which require the form and conditions of future use and development to be shown on a development plan before a permit can be granted to use or develop the land.*
- *To exempt an application from notice and review if a development plan has been prepared to the satisfaction of the responsible authority.*

Pursuant to Clause 43.04-2, a permit must not be granted to use or subdivide land, construct a building or construct or carry out works until a development plan has been prepared to the satisfaction of the responsible authority.

A permit granted must:

- Be generally in accordance with the development plan.
- Include any conditions or requirements specified in a schedule to this overlay.

Schedule 4 of the Development Plan Overlay applies to the site. The schedule stipulates that any development plan that is prepared should implement the following 'key principles':

- *Encouraging housing choice and the development of a variety of lot sizes and types within the context of a semi-rural township.*
- *Establishing open space networks that provide both pedestrian and cycling link, passive and active recreation needs, and protection of environmental features and drainage functions.*

- *Limiting the visual intrusion of development around key township entrances, the Calder Freeway, Jacksons Creek escarpment and Rosslynne Reservoir.*
- *Protecting areas of remnant indigenous and significant exotic vegetation.*
- *Recognising and protecting cultural, environmental, landscape and heritage assets.*
- *Increasing stormwater capture and reuse to reduce water usage and impacts on existing drainage infrastructure.*
- *Providing for physical and social infrastructure and the orderly staging of development.*
- *Encouraging current sustainable development principles and high quality urban design.*

Pursuant to Section 4 of Schedule 4 to Clause 43.04, the development plan and any amendment to the plan must be publicly exhibited for a period of two weeks prior to approval. The responsible authority must take into account any comments received when considering the development plan or any amendment to the plan.

RESPONSE:

The proposed Development Plan is in accordance with the above key principles. The plan has taken into account the existing conditions and has proposed a variety of lots to accommodate the growing and diverse population in Gisborne.

Pursuant to Schedule 4 of the DPO, the following are requirements for a development plan:

Table 3: Development Plan Overlay Requirements

Development Plan Overlay Requirements	
Requirements	**Response**
A development plan must be consistent with the provisions of Clause 21.13-1 of this planning scheme and must have regard to the Gisborne/ New Gisborne Outline Development Plan, Revised Final Report, September 2009.	These matters have been addressed in Sections 5.2 and 6.1 of the report.
One development plan must be prepared for all of the land shown within a development area as marked on Map 1 within this clause, unless otherwise agreed to by the responsible authority.	The Development Plan complies with this requirement.
A development plan must show or include, as appropriate, the following matters to the satisfaction of the responsible authority: • *A written report detailing how the plan responds to Clause 21.13-1 of this planning scheme and the 'key principles' contained in this schedule.* • *A detailed site analysis of the natural, cultural and strategic context of this site.* • *The proposed subdivision layout which shows:* o *The provision of a variety of lot sizes across the development area.* o *How development interfaces with and relates to environmentally significant and landscape sensitive areas.* o *The transition between the proposed development and low density residential lots and land in rural zones.* o *Consideration of the topography of the land, particularly with regard to the provision of usable open space, site features such as vegetation, significant view lines, waterways and places of cultural heritage significance.*	Refer to Section 5.2 for an assessment against 21.13-1. A detailed site analysis has been provided at Section 3. The proposed layout is shown in the proposed amended Development Plan and further discussion of the layout is at Section 4.

o *Physical infrastructure such as roads and reticulated services (water, sewer, gas and drainage etc.)* o *The use of solar orientation development principles to promote energy efficient housing.*	
The proposed movement network which: • *Provides convenient internal and external access / linkages within and between neighbourhoods and key destinations.* • *Allows for the future provision of public transport, including accommodating bus movements and bus stop facilities at strategic locations.* • *Provides attractive, convenient, safe and legible pedestrian and bicycle networks.* • *Provides for wide road verge widths to allow for landscaping, footpaths and create the overall appearance of openness and a landscaped setting for new development.*	The amendments to the Development Plan have allowed for the site to be appropriately developed with connections to the surrounding area. The road network is safe and legible and allows access to the passive open space reserve in the south of the site.
The proposed public open space network which: • *Provides links to existing or proposed open space areas.* • *Is fronted by roads or lots, to enhance passive surveillance of the area.* • *Integrates with areas and corridors of habitat significance where possible.* • *Incorporates passive and active recreation opportunities, including shared pedestrian/bicycle paths, urban art and playgrounds.* • *Is not encumbered by any constraints, such as drainage reserves or land slope. Any encumbered open space areas must be provided in addition to an unencumbered public open space contribution of at least 5% of the development plan area.*	The amended Development Plan meets these requirements as it will allow for the timely development of the passive open space which is located partly within the subject site. The passive open space will be connected by the road network within the subject site which will provide connection to the wider area, thus ensuring accessibility to a wide catchment of residents. Native vegetation will be retained within the park area with the exception of one tree which cannot be avoided in order provide for the continuation of Rothschild Road.
Landscape concept plans for the development that show: • *How significant view corridors have been considered and protected.* • *Significant vegetation that is to be protected and retained.* • *Public open space landscaping, including landscaping of roads and streets, to create key public spaces, landscape corridors and contribute to Gisborne and New Gisborne's attractive semi-rural environment.* • *Details of the staging and timing of all landscape works.*	A Landscape Concept Plan has not been provided as all the land under the GDP4A has been developed apart from the subject site at 75 Willowbank Road. As such, a Landscape Concept Plan can be addressed as a condition on the future subdivision permit for the subject site.
The location of major drainage lines, water features, proposed retarding basins and floodways, and the means by which they will be managed in accordance with the principles of water sensitive urban design.	N/A There are no major drainage lines or waterways on the site.
The location of major infrastructure easements or installations.	N/A There are no major infrastructure easements or installations.
The stages, if any, by which the land is to be subdivided and developed.	A Staging plan has been provided at Appendix F.
The provision and timing of physical and social infrastructure including retail, community, open space and recreational facilities (where required); clearly demonstrating the ability to provide any	As noted earlier, the passive open space is proposed to be developed with the subdivision of the subject site. The remaining infrastructure within the GDP4A area has already been developed.

reticulated service or infrastructure item required by the proposed development.	
Unless agreed upon in writing by the responsible authority, the development plan must include the following information to the satisfaction of the responsible authority: • *A flora and fauna assessment and where necessary an arboriculture assessment.* • *A cultural heritage assessment* • *A stormwater management plan* • *A traffic assessment and management plan* • *An environmental assessment*	The proposed amendments to the Development Plan does not alter the impacts on flora and fauna as such a further report has not been prepared as part of this proposal. A detailed flora and fauna assessment and aboricultural report will accompany future subdivision applications in order to determine offsets and appropriate setbacks for driveway crossovers etc. As considered in Section 3.5 of this report, the subject site is not within an area of aboriginal cultural heritage. Therefore, a CHMP is not required. A stormwater management plan has been prepared and is provided at Appendix H. Given that the GDP4A site has been largely developed apart from the subject site, it is considered that a traffic assessment and management plan is not required. The amendment is to allow for an infill opportunity of the last undeveloped parcel within the area.
The following requirements are specific to Development Area 4A: • *A low density interface to Brooking Road, Brady Road and Willowbank Road.* • *Pedestrian, vehicle and bicycle linkages to Area 4B.* • *A coordinated infrastructure plan and stormwater management plan that incorporates Area 4B and identifies the staging and timing of the provision of infrastructure.*	A low density interface will be provided to Willowbank Road.

The proposed amendments are generally in accordance with the requirements of Schedule 4 to the DPO.

Clause 45.06 Development Contributions Plan Overlay

The site is wholly contained within the Development Contributions Plan Overlay - Schedule 2 (DCPO2) as shown in Figure 26 below. Schedule 2 implements the Gisborne Development Contributions Plan. The site is within Charge Area 14.

Figure 26: Development Contributions Plan Overlay

RESPONSE

The Development Contribution Rate for Area 14 is $1,502.73 per residential lot (2013 rates). It is noted that this rate is indexed yearly.

Further discussion on the Gisborne Development Contributions Plan is at Section 6.3. The development of the land within the GDP4A will meet the requirements under the DCPO2.

5.5 General Provisions

Clause 65 - Decision Guidelines state that the Responsible Authority must decide whether the proposal will produce acceptable outcomes in terms of the decision guidelines of this Clause. Specifically, the decision guidelines of Clause 65.02 relate to the approval of an application to subdivide land as appropriate.

The following guidelines have been considered in the application:

Table 4: Response to the Clause 65 Decision Guidelines

Decision Guidelines	Response
Approval of An Application or Plan	
The matters set out in Section 60 of the Act.	These matters have been discussed throughout the body of the report.
The Municipal Planning Strategy and the Planning Policy Framework.	These matters have been dealt with in Section 5.1 and Section 5.2 of this report.

The purpose of the zone, overlay or other provision.	These matters have been dealt with in Sections 5.3 and Section 5.4 of this report.
Any matter required to be considered in the zone, overlay or other provision.	As above.
The orderly planning of the area.	The purpose of the Development Plan Overlay is to allow for the orderly and planned development of an area. The amendments to the Development Plan will allow for this area to be developed in accordance with the existing character of the area whilst providing for the expanding population of Gisborne.
The effect on the amenity of the area.	The amendments to the Development Plan will positively impact the amenity of the area, as it will allow the public open space in the south east of the subject site to be completed and functional road connections to be formed. This will positively impact the surrounding area.
The proximity of the land to any public land.	The proposed Development Plan proposes a section of public open space to be developed which will complete the existing area of open space in the south east. Nearby, there is also the Willowbank Estate Reserve which is a linear open space corridor along the creek to the west of the site. Given the above, it considered that the proposed Development Plan will provide a positive contribution to the area by providing the remaining section of the park which will provide future residents with access to additional public open space.
Factors likely to cause or contribute to land degradation, salinity or reduce water quality.	The proposed Development Plan will not negatively degrade the land or reduce the water quality. The lots will be connected to the nearby servicing and therefore, will not contribute to land degradation. This will be further addressed in the subdivision application.
Whether the proposed development is designed to maintain or improve the quality of stormwater within and exiting the site.	As above.
The extent and character of native vegetation and the likelihood of its destruction.	The Development Plan does not identify any vegetation to be removed. This matter will be dealt with in the subdivision application.
Whether native vegetation is to be or can be protected, planted or allowed to regenerate.	As above.
The degree of flood, erosion or fire hazard associated with the location of the land and the use, development or management of the land so as to minimise any such hazard.	The site is not located within the Land Subject to Inundation Overlay or Bushfire Management Overlay.
The adequacy of loading and unloading facilities and any associated amenity, traffic flow and road safety impacts.	N/A

6 Planning Consideration

The proposed amendment to the Gisborne Development Plan 4A has considered the following strategic plans:

6.1 Gisborne Outline Development Plan

The Gisborne Outline Development Plan was initially adopted by Council in February 2006 and was then amended in September 2009.

The Gisborne Outline Development Plan identifies the land within the GDP4A for residential development with a number of new road connections going through the site and connecting to the wider area. A part of the indicative pedestrian and cycle network is also proposed to run through the subject site (red dotted line in Figure 27 below).

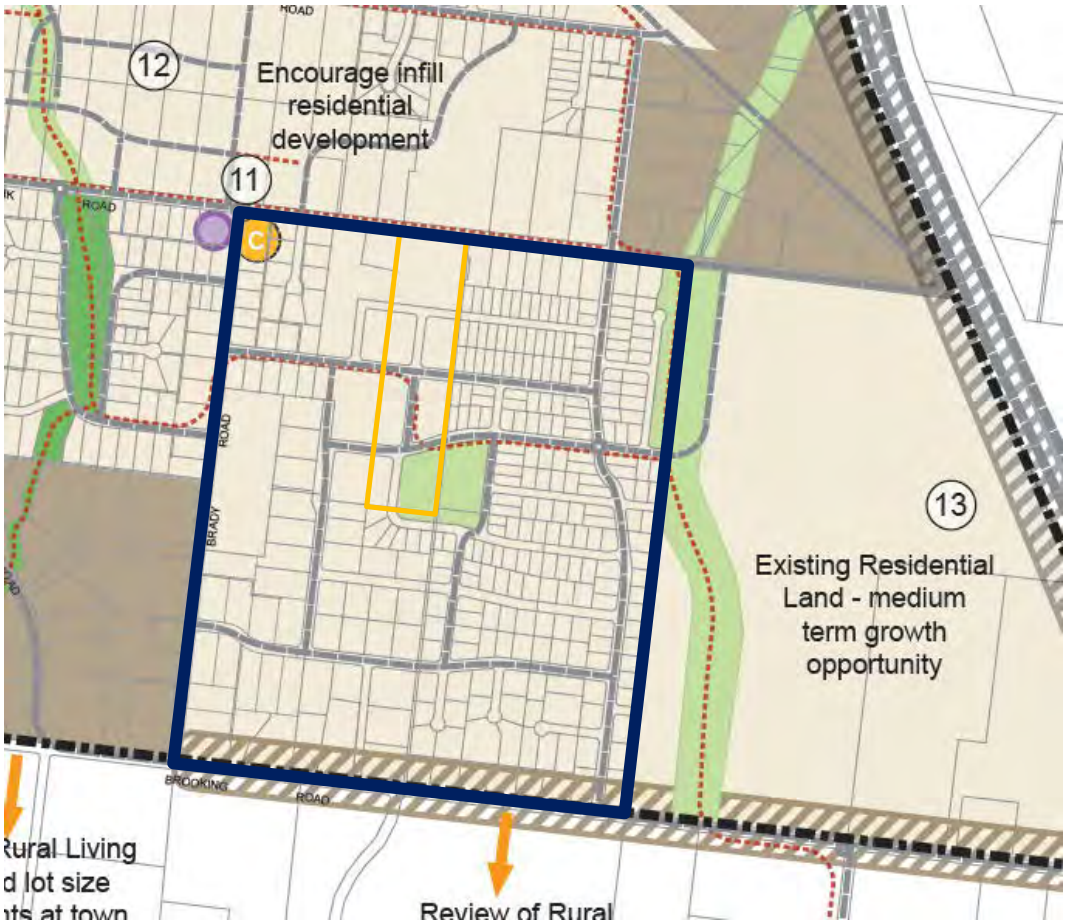


Figure 27: Gisborne Outline Development Plan

Within the GDP4A area, there is a passive open space area in the centre. This is partly within the subject site and the other section has already been developed. There is also a small part of the open space corridor in the north eastern area of the site.

RESPONSE:

The area within the GDP4A, apart from the subject site, has already been developed generally in accordance with the Gisborne Outline Development Plan. The proposed amendments to the Development Plan remain in accordance with the vision and proposed layout of the Gisborne Outline Development Plan.

The following design objectives and design principles within the Gisborne Outline Development Plan have been taken into consideration:

Table 5: Response to Gisborne Outline Development Plan Objectives (as applicable)

Design Objectives	Response
General matters	
To provide a range of residential densities to respond to local circumstances and housing market conditions, and to support the efficient provision of infrastructure and services. Lot sizes and housing types must be responsive to the character of the natural and built environment and the established landscape character in the area and respond to principles of environmental sustainability.	The proposed Development Plan allows for flexibility in terms of density across the subject site. Notwithstanding, the lots are generally in accordance with the evolved neighbourhood character and the immediately surrounding lots.
To ensure an increase in housing density occurs within the context of the semi-rural character of Gisborne/New Gisborne and view lines to significant landforms (e.g. Mount Gisborne) together with a commensurate increase in the standard of urban design and infrastructure delivery.	As it has been noted throughout this report, the GDP4A site is within the Gisborne township boundary. The township has been identified as the focus for residential growth to meet the land supply for the next 15 years. As such, the amendment to the Development Plan is appropriate to allow for residential development in this area.
To provide residential neighbourhoods with attractive streetscapes and a high quality urban design and urban character.	The amendments to the Development Plan are required so as to rectify the existing conditions against the latest Development Plan and to allow for the infill of the subject site. The amendments will not only make the area more functional and accessible for residents, but the amendments will result in more attractive streetscapes with a better urban design outcome.
To ensure that the dwelling, rather than the garage, is the dominant feature of the streetscape.	The lot sizes and widths proposed are of sufficient area to ensure the garages do not become the dominant feature of the streetscape. This objective can be further covered by Design Guidelines to be provided as part of the subdivision application.
To achieve an appropriate interface with open space, sensitive environmental features and between areas of different densities.	An appropriate interface with the open space has been incorporated into the Development Plan. A frontage road is proposed around the majority of the open space to provide access and ensure passive surveillance. Lots surrounding the open space will also front onto the space to help activate the frontage. The proposed amendments alter the access around the park in order to avoid the three way intersection identified in pre application discussions as a point of concern. The amended plan has been designed to continue Coop Drive as a cul de sac and continue the connection to Cherry Ballart Road as a pedestrian connection alongside the park. The lots abutting the park are in the most part designed to front the park. One lot will side onto the park however design guidelines are proposed to be incorporated through the subdivision application to ensure the dwelling is design to front the park.
To ensure new development design is cognisant of existing vegetation, including roadside vegetation.	As noted in the earlier sections, this Development Plan seeks to retain the vegetation around the existing dwelling. The proposed roads will also allow for roadside landscaping.
Design Principles	**Response**
Residential Development	
Conventional density residential development within the context of Gisborne/New Gisborne includes lots with sizes generally within the range of 500 sqm to 1500 sqm (average of at least	The Development Plan provides for a layout which will allow for a variety of lot sizes. The average lot size across the subject site is 857sqm which is within the range sought by the ODP.

800 sqm) and are likely to form a large proportion of new developments. *Lot sizes in 'conventional' areas should achieve an overall average lot distribution as per below:* ***Lot size range Distribution*** *300sqm to 800sqm - 25% - 30%* *800sqm to 1000sqm - 30% - 40%* *1000sqm to 1500sqm - 35% – 40%*	The lot range distribution differs to that sought by the 2006 ODP and much has changed in the area since this document including the Willows Development to the east of the site which provides for the following lot distribution: The Willows *300sqm to 800sqm – 86%* *800sqm to 1000sqm – 7.4%* *1000sqm to 1500sqm – 0.4%* This proposal provides the following lot distribution: *300sqm to 800sqm – 68%* *800sqm to 1000sqm – 16%* *1000sqm to 1500sqm – 16%* It is therefore considered that the lot distribution provides an appropriate response as the last remaining piece in the existing Development Plan Area 4A.
Subdivision Lot Design	
Lots should be: • *Generally be rectangular in shape on streets aligned on a north – south or east – west axis to maximise building and energy efficiency; Encourage wider lot frontages to provide space between buildings and encourage a high quality landscaped setting for all new developments;* • *Designed so as to ensure garages are not the dominant front façade element of the house and/or the streetscape. This provision also applies to integrated development sites;* • *Designed to create a sense of street address and streetscape character;* • *Designed to maximise the opportunity for more useable private open space; and* • *Designed to enable the retention of significant vegetation*	As noted above, the Development Plan provides for a layout which is flexible so as to ensure that future lots can meet the requirements outlined in the Gisborne Development Plan. These requirements will be addressed in the subdivision application.
Public open space design should ensure that an appropriate interface with surrounding development is achieved.	As noted above, an appropriate interface with the open space on the site has been achieved by locating roads for the majority of the open space interface. Lots will also front onto the open space to ensure passive surveillance.
A variety of styles and types of medium density development are encouraged to further enhance lot diversity	The Development Plan provides for a variety of lots sizes and densities ranging from 405sqm to 1205sqm (excluding the balance lot).
Lots with shared driveway access should be designed to ensure: • *Housing fronts out to both streets and / or public open space;* • *A shared driveway or 'garage court' provides access to garages sited off street to minimise the visual impact of*	Design specifics for dwellings will be dealt with at the planning permit stage. As previously stated, design guidelines will provide direction to ensure dwellings are designed to front the proposed open space.

garages on the streetscape; and • *Private open space is maximised through careful design of the dwelling.*	
Lots with direct public open space frontage or road/open space frontage with rear access are encouraged and should be designed to ensure: • *Rear lane access to garages lessens the visual impact on the streetscape;* • *Strong building form along the open space edge provides a backdrop and active interface to open space; and;* • *Wide footpaths are provided along the frontage to ensure an 'address' for dwellings.*	Lots fronting the park are separated by the extension of Coop Drive with the exception on one lot which sides on to the park and will be separated by a pedestrian footpath that will link Coop Drive to Cherry Ballart Road. Design Guidelines will provide requirements for this dwelling to front the park and the final landscape plan will include the footpath detail. There are two lots to the north of the Coop Drive cul-de-sac which have been designed to ensure each lot in prohibited from gaining dual access to both Cherry Ballart and Coop Drive. The Landscape Plan will provide for landscape strips that prevent the western lot from accessing via Coop Drive, further no access strips will be provided on the Plan of Subdivision that will prevent legal access for this lot to Coop Drive. The Eastern Lot will have a similar landscape and subdivision plan response which will restrict access from Cherry Ballart Road and focus the frontage of the lot to Coop Drive. Further detail can be seen in the plan extract below:  Figure 28:Cul-de-sac extension to Coop Drive
Avoid rear lanes that: • *Provide concealment opportunities; and* • *Are curved, have T-intersections or are longer than 150m.*	No rear lanes are proposed within the Development Plan.

6.2 Gisborne Futures Structure Plan

The Gisborne Futures Structure Plan aims to create a sustainable vision for how Gisborne will grow and develop into the future. It is currently in draft stage with the first draft plan released in August 2020 for consultation. Whilst it is acknowledged that this strategic plan is not yet finalised, the overall vision and direction for the site is likely to remain the same, and as such, it is a key strategic document to inform the future development of the site.

The GDP4A area is identified as General Residential Zone with the exception of the subject shite, which is identified as undeveloped existing residential land as shown in Figure 29 below.

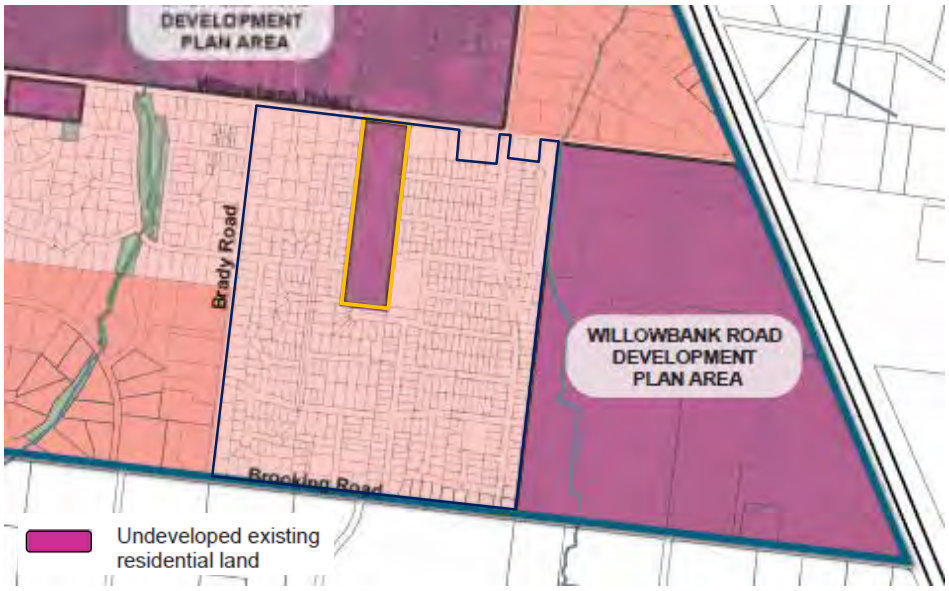


Figure 29: Gisborne Futures Plan Residential Land Supply

The area subject to the GDP4A is identified in Precinct 5A (Contemporary Suburban) in the draft Gisborne Futures Draft Neighbourhood Character Study. Precinct 5 is defined by recent subdivision and construction with some areas currently undergoing development and change.

The existing character elements of this precinct include:

- *Larger greenfield sites will be developed in accordance with approved developments plans in the short to medium term (0-10 years)*
- *In most areas, lots are laid out in a regular grid with straight to slightly curving roads, some featuring cul-de-sacs. Future development will have a fine grain patter of subdivision.*
- *Lot sizes vary between 600sqm to 1000sqm with an average of 800sqm. Smaller lot sizes of 190 to 400sqm are present in the medium density precinct.*
- *Lot width averages around 18m.*
- *Hoses are mostly detached on both sides with side setbacks from 1-3m on larger lots, some with garages built to side boundaries on smaller lots.*
- *Front setbacks average at around 6m.*

The future character statement of Precinct 5 includes:

- *New development reflects the predominant scale and form of buildings in landscaped settings.*
- *The semi-rural character of Willowbank Road will be retained by setting back buildings 12m from property boundaries.*
- *Front and side setbacks are consistent with the rhythm of surrounding built form.*

RESPONSE:

The proposed amendment to the Development Plan and subsequent subdivision seeks to carry out the vision of the Gisborne Futures Structure Plan. The proposed subdivision of the site will increase the housing supply in an area with access to existing community facilities and services. In this way, this application seeks to manage and appropriately direct residential development and growth to areas with existing infrastructure and services.

6.3 Gisborne Development Contributions Plan

The Gisborne Development Contributions Plan was prepared in 2013 to support the Gisborne Outline Development Plan. This plan seeks to ensure that developers of residential, commercial and industrial zoned land in Gisborne pay a share of the planned public infrastructure in the town. The GDP4A area is wholly within Charge Area 14.

RESPONSE:

A small part of infrastructure items OS3 (Willowbank Road to Brady Road open space bicycle link) and OS6 (Bicycle and pedestrian links from Willowbank Road to Brooking Road) are within the GDP4A area. These infrastructure items have already been constructed.

Any additional requirements within the Gisborne Development Contribution Plan will be attended to during the subdivision stage.

7 Conclusion

This report has assessed the proposed amendments to the existing Gisborne Development Plan 4A against the Planning Policy Framework, Local Planning Policy Framework (including the Municipal Strategic Statement), the General Residential Zone, Overlays as well as the General Provisions of the Macedon Ranges Planning Scheme.

This report highlights that the amended plan is an appropriate development outcome for future residents within the Macedon Ranges Shire and responds to the role of Gisborne as an expanding town with growing population pressures. The proposed amendment supports the growth of Gisborne as it will allow for the orderly and planned development of the subject site. The proposal seeks to increase the housing yield of the area, whilst still respecting the purpose of the General Residential Zone.

The subject site at 75 Willowbank Road is ultimately, the last 'piece of the puzzle' under the Gisborne Development Plan 4A as all surrounding lots have been developed for residential use. As such, the amendments to the Development Plan will allow for the proposed development under the GDP4A to be completed in a cohesive and functional matter.

As such, it is considered that the proposal is an appropriate outcome having regard to the provisions of the Macedon Ranges Planning Scheme and strategic documents, and therefore warrants Council approval.

AMENDMENT TO GISBORNE DEVELOPMENT PLAN 4A | 75 WILLOWBANK ROAD, GISBORNE

Appendix B Site Context Plan

SAM AND ANGELA GIUDICE

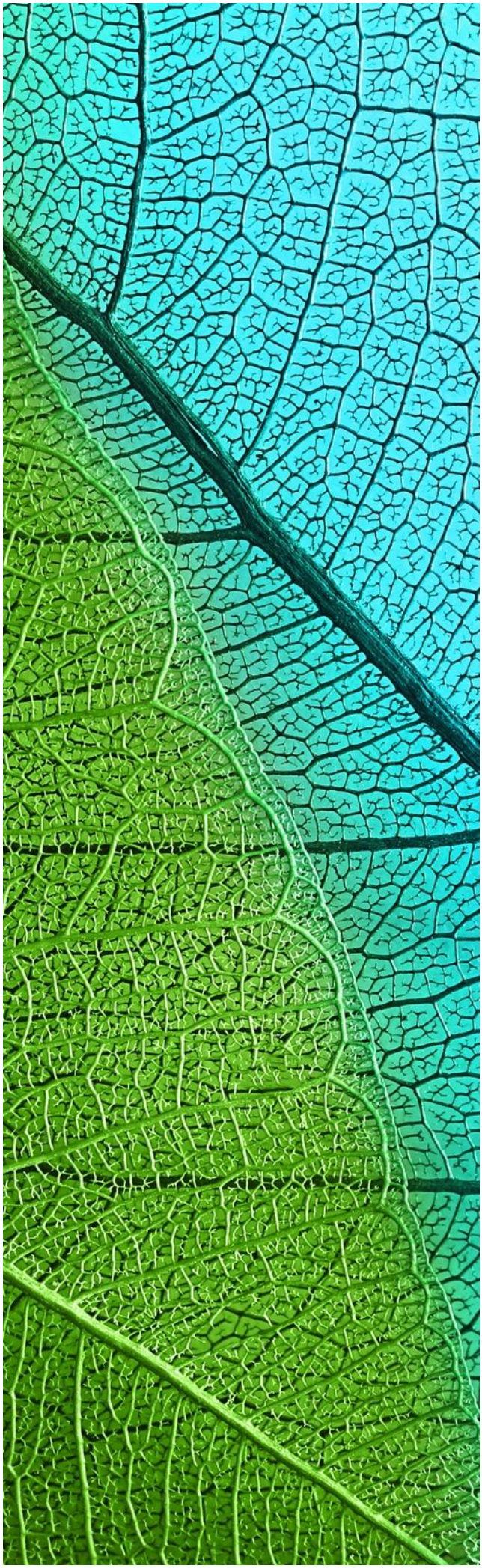
CONTEXT PLAN

Job No: 21-000227
Drawing No: 21-000227CPAA
Version: A
Created by: DSC
Date: 16.09.21
Scale @ A3 1:10,000

MACEDON RANGES PLANNING SCHEME
DEVELOPMENT PLAN: DP/2009/12/C
Date: 20/11/2023
Authorised Officer: Jack Wiltshire
Page: 41 of 221 SIGNED:

75 Willowbank Road
Gisborne
Macedon Ranges Shire Council, Vic

calibre



75 Willowbank Road Gisbourne

Flora and Fauna Assessment

Prepared for Emily Ling

October 2022
Report No. 22057.01 (1.0)

Nature Advisory
(Formerly Brett Lane & Associates Pty Ltd)
5/61-63 Camberwell Road
Hawthorn East VIC 3123
PO Box 337, Camberwell VIC 3124
(03) 9815 2111
www.natureadvisory.com.au

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1. Executive summary

Nature Advisory Pty Ltd undertook a flora and fauna assessment of a 5.5-hectare area of land in Gisborne. Subdivision and development are proposed for the study area.

This investigation was commissioned to provide information on the extent and condition of native vegetation in the study area according to Victoria's *Guidelines for the removal, destruction or lopping of native vegetation* (DELWP 2017a), herein referred to as 'the Guidelines', and any potential impacts on flora and fauna matters listed under the state *Flora and Fauna Guarantee Act 1988* (FFG Act) and the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act). This report outlines any implications under relevant national, state and local legislation and policy frameworks.

Vegetation in the study area consisted of two distinct vegetation types: planted gardens and windrows and cleared pasture (with a small dam). Planted vegetation included Radiata Pine windrows bordering the property, olive and fruit tree orchards, and a planted garden. The cleared pasture comprised predominantly introduced pasture grasses, including Sweet-vernal Grass, Yorkshire Fog, Paspalum and Onion Weed. Native vegetation in the cleared pasture comprised sparsely scattered Rushes, Wallaby Grass and Spear Grass. Three small scattered Swamp Gum trees with some recruits were located on the eastern boundary near the dam, and several Swamp Gum recruits were scattered nearby.

Fauna habitat in the study area consisted of three main types: grassland (the main habitat present), planted treed vegetation (present at the peripheries of the study area), and aquatic habitat (present as a small dam adjacent to the end of Rothschild Rd). The study area was observed to be used by species of native birds and amphibians commonly found in urban and agricultural areas and may be used by native mammals and birds that are also commonly found in such habitats. A small number of listed fauna species could occasionally visit the study area, but none of them were considered to be susceptible to development in the study area.

The following native vegetation was recorded in the study area:

- 3 small scattered trees.

The proponent proposes to remove 1 small scattered tree.

The application site lies within Location 1. Based on the extent of native vegetation, the number of large trees, and the location category, the proposal must be assessed under the **Basic** assessment pathway. This **would not** trigger a referral to the Department of Environment, Land, Water and Planning (DELWP).

A *Native Vegetation Removal* (NVR) report for this proposal is provided in Appendix 7.

Offsets required to compensate for the proposed removal of native vegetation from the study area are:

- 0.006 general habitat units, with following offset attribute requirements:
    - A minimum strategic biodiversity value (SBV) of 0.248
    - Located within the Melbourne Water CMA boundary or the Macedon Ranges municipal district.

Under the Guidelines all offsets must be secured prior to the removal of native vegetation.

In addition to this, a permit is required for the removal of incidental occurrences of native vegetation that do not constitute a patch or scattered tree under the Guidelines. No offsets obligations are generated from such removal.

The table below summarises the compliance of the information in this report with the application requirements of the *Guidelines for the removal, destruction or lopping of native vegetation* (DELWP 2017a).

Application requirement		Response
1.	Information about the native vegetation to be removed.	Section 5.3.1.
2.	Topographic and land information relating to the native vegetation to be removed.	Section 4.1.
3.	Recent, dated photographs of the native vegetation to be removed.	Appendix 6.
4.	Details of any other native vegetation approved to be removed, or that was removed without the required approvals, on the same property or contiguous land in the same ownership as the applicant, in the five-year period before the application for a permit is lodged.	N/A
5.	An avoid and minimise statement.	Section 6.5.1
6.	A copy of any Property Vegetation Plan contained within an agreement made pursuant to section 69 of the *Conservation, Forests and Lands Act 1987* that applies to the native vegetation to be removed.	N/A
7.	Where the removal of native vegetation is to create defendable space, a written statement explaining why the removal of native vegetation is necessary. This statement is not required when the creation of defendable space is in conjunction with an application under the Bushfire Management Overlay.	N/A
8.	If the application is under Clause 52.16, a statement that explains how the proposal responds to the Native Vegetation Precinct Plan considerations (at decision guideline 8).	N/A
9.	An offset statement providing evidence that an offset that meets the offset requirements for the native vegetation to be removed has been identified and can be secured in accordance with the Guidelines.	Appendix 9.

2. Introduction

Nature Advisory Pty Ltd was engaged to conduct a flora and fauna assessment of a 5.5-hectare area of land in Gisborne. The specific area investigated, referred to herein as the 'study area', comprised a private dwelling with planted gardens and an empty pasture. The study area is surrounded by low and medium density housing. Subdivision and development are proposed for the study area.

This investigation was commissioned to provide information on the extent and condition of native vegetation in the study area according to Victoria's *Guidelines for the removal, destruction or lopping of native vegetation* (DELWP 2017a), herein referred to as 'the Guidelines', and any potential impacts on flora and fauna matters listed under the state *Flora and Fauna Guarantee Act 1988* (FFG Act) and the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act). This report outlines any implications under relevant national, state and local legislation and policy frameworks.

Specifically, the scope of the investigation included the following:

- Existing information regarding the flora, fauna and native vegetation of the study area and surrounds will be reviewed, and will include the following:
    - Victorian Biodiversity Atlas administered by the Department of Environment, Land, Water and Planning (DELWP);
    - The Commonwealth Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act) Protected Matters Search Tool; and
    - DELWP's Native Vegetation Information Management system (NVIM).
- A site survey will be undertaken and will involve the following:
    - Characterisation and mapping of native vegetation on the site, as defined in Victoria's Guidelines for the removal, destruction or lopping of native vegetation (the 'Guidelines');
    - Assessment of native vegetation in accordance with the Guidelines, including habitat hectare assessment and/or scattered tree assessment;
    - Compilation of a flora species list/flora and fauna species lists for the site;
    - Assessment of the nature and quality of native fauna habitat; and
    - Assessment of the likelihood of occurrence of EPBC Act- and Flora and Fauna Guarantee Act 1988 (FFG Act)-listed flora, fauna and communities on the site

This investigation was undertaken by a team from Nature Advisory comprising Merinda Day-Smith (Botanist), Michael Sebastian (Zoologist), James Bennie (GIS Analyst) Jim Grant (Senior Ecologist & Project Manager).

3. Planning and legislative considerations

This investigation and report address the application on the site of relevant legislation and planning policies that protect biodiversity. Local, state and Commonwealth controls are summarised below.

3.1. Local planning provisions

The study area is located within the Macedon Ranges local government area and is currently zoned General Residential (GRZ1) in the Macedon Ranges Planning Scheme.

Local planning provisions apply under the *Victorian Planning and Environment Act 1987*.

3.2. Overlays

The study area is subject to the following two overlays in the Macedon Ranges Planning Scheme:

- *Development Contributions Overlay – Schedule 2 (DCPO2)* – This overlay is considered to be irrelevant to the current investigation.
- *Development Plan Overlay – Schedule 4 (DPO4)* – The purpose of this overlay is to ensure co-ordinated development of Gisborne and relates to the protection of remnant indigenous native vegetation. Information required to address the decision guidelines of this overlay is provided in this report.

3.3. State planning provisions

State planning provisions are established under the *Victorian Planning and Environment Act 1987*.

Clause 52.17 of all Victorian Planning Schemes states the following:

A permit is required to remove, destroy or lop native vegetation, including dead native vegetation.

A permit is not required if any of the following apply:

- An exemption in Table 52.17-7 specifically states that a permit is not required.
- A native vegetation precinct plan corresponding to the land is incorporated into the planning scheme and listed in the schedule to Clause 52.16.
- The native vegetation is specified in a schedule to Clause 52.17.

3.3.1. Exemptions

Exemptions listed in Table 52.17-7 relevant to the study area include the following:

- *Planted vegetation:* Native vegetation that is to be removed, destroyed or lopped that was either planted or grown as a result of direct seeding. This exemption does not apply to native vegetation planted or managed with public funding for the purpose of land protection or enhancing biodiversity.
- *Regrowth:* Native vegetation that is to be removed, destroyed or lopped that has been naturally established or regenerated on land lawfully cleared of naturally established native vegetation and meets the following criteria:
    - Is less than 10 years old; or
    - Is Austral Bracken (*Pteridium esculentum*); or

- Falls within the boundary of a timber production plantation, as indicated on a Plantation Development Notice or other documented record and has become established after the plantation; or
- Is less than 10 years old at the time of a property vegetation plan being signed by the Secretary to the Department of Environment, Land, Water and Planning (DELWP) (as constituted under Part 2 of the *Conservation, Forests and Lands Act 1987*) and is shown on that plan as being 'certified regrowth'; and occurs on land that is to be used or maintained for cultivation or pasture during the term of that plan.

This exemption does not apply to land where native vegetation has been destroyed or otherwise damaged as a result of flood, fire or other natural disaster.

3.3.2. Application requirements

Any application to remove, destroy or lop native vegetation must comply with the application requirements specified in the Guidelines (DELWP 2017a).

When assessing an application, Responsible Authorities are also obligated to refer to Clause 12.01-2 (Native vegetation management) in the Planning Scheme that, in addition to the Guidelines, refers to the following:

- *Assessor's handbook – applications to remove, destroy or lop native vegetation* (Version 1.1) (DELWP 2018a).
- Statewide biodiversity information maintained by DELWP.

The application of the Guidelines (DELWP 2017a) is explained further in Appendix 1.

3.3.3. Referral to DELWP

Clause 66.02-2 of the planning scheme determines the role of DELWP in the assessment of native vegetation removal permit applications. If an application is referred, DELWP may make certain recommendations to the responsible authority in relation to the permit application.

Any application to remove, destroy or lop native vegetation must be referred to DELWP if any of the following apply:

- The impacts to native vegetation fall within the Detailed Assessment Pathway;
- A property vegetation plan applies to the site; or
- The native vegetation is on Crown land that is occupied or managed by the responsible authority.

3.4. EPBC Act

The *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) protects a number of threatened species and ecological communities that are considered to be of national conservation significance. Any significant impacts to these species require the approval of the Australian Minister for the Environment.

If there is a possibility of a significant impact on nationally threatened species, communities or listed migratory species, a Referral under the EPBC Act should be considered. The Minister will decide whether the project will be a 'controlled action' under the EPBC Act after 20 business days, in which case the project can only be undertaken with the approval of the Minister. This approval depends on a further assessment and approval process (lasting between three and nine months, depending on the level of assessment).

Implications under the EPBC Act for the current proposal are discussed in Section 7.4.

3.5. FFG Act

The Victorian *Flora and Fauna Guarantee Act 1988* (FFG Act) lists threatened and protected species and ecological communities (DELWP 2017b, DELWP 2018b). Any removal of protected flora, including threatened flora species and plants that constitute threatened communities listed under the FFG Act from public land, requires a Protected Flora Licence or Permit under the Act that can be obtained from DELWP.

The FFG Act only applies to private land where a license is required to remove grass trees, tree ferns and sphagnum moss for sale or where an Interim Conservation Order has been made to protect critical habitat for a threatened species or community. As no such habitat has ever been declared, this mechanism under the FFG Act has never been implemented.

Implications under the FFG Act for the current proposal are discussed in Section 7.5.

3.6. EE Act

One or a combination of several criteria may trigger a requirement for a Referral to the Victorian Minister for Planning who will determine whether an Environmental Effects Statement (EES) will be required according to the *Ministerial Guidelines for Assessment of Environmental Effects under the* Environment Effects Act 1978 (DSE 2006).

The criteria related to flora, fauna and native vegetation that trigger a Referral are listed below.

<u>One or more</u> of the following would trigger a Referral:

- Potential clearing of 10 or more hectares of native vegetation from an area that meets the following criteria:
    - Is of an Ecological Vegetation Class identified as endangered by the Department of Sustainability and Environment (in accordance with Appendix 2 of Victoria's Native Vegetation Management Framework); or
    - Is, or is likely to be, of very high conservation significance (as defined in accordance with Appendix 3 of Victoria's Native Vegetation Management Framework); and
    - Is not authorised under an approved Forest Management Plan or Fire Protection Plan;
- Potential long-term loss of a significant proportion (e.g., 1 to 5 percent depending on the conservation status of the species) of known remaining habitat or population of a threatened species within Victoria;
- Potential long-term change to the ecological character of a wetland listed under the Ramsar Convention or in 'A Directory of Important Wetlands in Australia'; or
- Potential extensive or major effects on the health or biodiversity of aquatic, estuarine or marine ecosystems, over the long term.

<u>Two or more</u> of the following would also trigger a Referral:

- Potential clearing of 10 or more hectares of native vegetation, unless authorised under an approved Forest Management Plan or Fire Protection Plan;
- Matters listed under the Flora and Fauna Guarantee Act 1988, including the following:
    - Potential loss of a significant area of a listed ecological community; or

- Potential loss of a genetically important population of an endangered or threatened species (listed or nominated for listing), including as a result of loss or fragmentation of habitats; or
- Potential loss of critical habitat; or
- Potentially significant effects on habitat values of a wetland supporting migratory bird species.

Implications under the *Environment Effects Act 1978* (EE Act) for the current proposal are discussed in Section 7.6.

3.7. CaLP Act

The *Catchment and Land Protection Act 1994* (CaLP Act) requires that landowners (or a third party to whom responsibilities have been legally transferred) must eradicate regionally prohibited weeds and prevent the growth and spread of regionally controlled weeds.

Weed species listed under the CaLP Act that have been recorded in the study area are discussed in Section 7.7.

4. Existing information and methods

4.1. Existing information

Existing information used for this investigation is described below.

4.1.1. Existing reporting and documentation

The existing documentation below, relating to the study, area was reviewed.

- Macedon Ranges Planning Scheme;

4.1.2. Native vegetation

Pre-1750 (pre-European settlement) vegetation mapping administered by DELWP was reviewed to determine the type of native vegetation likely to occur in the study area and surrounds. Information on Ecological Vegetation Classes (EVCs) was obtained from published EVC benchmarks. These sources included the following:

- Relevant EVC benchmarks for the Victorian Volcanic Plain bioregion[1] (DSE 2004a); and
- *NatureKit* (DELWP 2022a).

4.1.3. Listed matters

Existing flora and fauna species records and information regarding the potential occurrence of listed matters were obtained from an area termed the 'search region', defined here as an area with a radius of 5 kilometres from the approximate centre point of the study area.

A list of the flora and fauna species recorded in the search region was obtained from the *Victorian Biodiversity Atlas* (VBA), a database administered by DELWP.

The online EPBC Act *Protected Matters Search Tool* (DAWE 2022a) was consulted to determine whether nationally listed species or communities potentially occurred in the search region based on habitat modelling.

4.2. Field methods

The field assessment was conducted on 4th October 2022. During this assessment, the study area was initially surveyed in detail on foot.

Sites in the study area found to support native vegetation or with potential to support listed matters were mapped through a combination of aerial photograph interpretation and ground-truthing using a hand-held GPS (accurate to approximately five metres). Species and ecological communities listed as threatened under the EPBC Act were also mapped using the same method.

4.2.1. Native vegetation

Native vegetation is currently defined in Clause 73.01 of all Victorian planning schemes as 'plants that are indigenous to Victoria, including trees, shrubs, herbs and grasses'. The Guidelines (DELWP 2017a) further classify native vegetation as belonging to two categories:

[1] A bioregion is defined as "a geographic region that captures the patterns of ecological characteristics in the landscape, providing a natural framework for recognising and responding to biodiversity values". In general, bioregions reflect underlying environmental features of the landscape (DNRE 1997).

- Patch; or
- Scattered tree.

The definitions of these categories are provided below, along with the prescribed DELWP methods of assessment. Further details on definitions of patches and scattered trees are provided in Appendix 1.

Patch

A patch of native vegetation may be defined as one of the following:

- An area of vegetation where at least 25 per cent of the total perennial understorey plant cover is native; or
- Any area with three or more native canopy trees[2] where the drip line[3] of each tree touches the drip line of at least one other tree, forming a continuous canopy; or
- Any mapped wetland included in the *Current wetlands map*, available at *MapShareVic* (DELWP 2022b).

Patch condition is assessed using the habitat hectare method (Parkes *et al.* 2003; DSE 2004b) whereby components of the patch (e.g., tree canopy, understorey and ground cover) are assessed against an EVC benchmark. The score effectively measures the percentage to which the condition of the vegetation resembles the original condition.

The *Native Vegetation Information Management* (NVIM) system (DELWP 2022c) provides modelled condition scores for native vegetation to be used in certain circumstances.

Scattered tree

A scattered tree may be defined as the following:

- A native canopy tree[2] that does not form part of a patch.

Scattered trees are counted and mapped, the species identified and the circumference at 1.3 m above the ground is recorded.

4.2.2. Flora species and habitats

Records of flora species were made in conjunction with sampling methods used to undertake habitat hectare assessments of the native vegetation described above. Specimens requiring identification using laboratory techniques were collected.

Species protected under the FFG Act were determined by crosschecking against the FFG Act *Protected Flora List* (DELWP 2017b).

The potential for habitats to support listed flora species was assessed based on the following criteria:

- The presence of suitable habitat for flora species such as soil type, floristic associations and landscape context; and

[2] A native canopy tree is a mature tree (i.e., able to flower) that is taller 3 metres and normally found in the upper layer of the relevant vegetation type.

[3] The drip line is the outermost boundary of a tree canopy (leaves and/or branches) where the water drips onto the ground.

- The level of disturbance of suitable habitats by anthropogenic disturbances and invasions by pest plants and animals.

Wherever appropriate, a precautionary approach was adopted in determining the likelihood of occurrence or flora listed under the EPBC Act and/or FFG Act. That is, where insufficient evidence was available regarding the potential occurrence of a listed species, the assumption was made that this could be in an area of suitable habitat.

4.2.3. Fauna species and habitats

The techniques below were used to detect fauna species utilising the study area.

- Incidental searches for mammal scats, tracks and signs (e.g., diggings, signs of feeding and nests/burrows).
- Turning over logs/rocks and other ground debris for reptiles, frogs and mammals.
- Daytime bird observations.
- General searches for reptiles and frogs, including identification of frog calls in seasonally wet areas.
- General searches for bat habitat including waterbodies and potential roosting sites such as caves, dead trees with hollows and underneath the bark of trees.

Fauna habitats are described using habitat components that include old-growth trees, fallen timber, leaf litter and surface rocks.

Habitat connectivity of the study area (i.e., degree of isolation/fragmentation), including linkages to other habitats in the region, was determined using field observations, recent aerial photography and *NatureKit* (DELWP 2022a).

Wherever appropriate, a precautionary approach was adopted in determining the likelihood of occurrence or fauna listed under the EPBC Act and FFG Act. That is, where insufficient evidence was available regarding the potential occurrence of a listed species, the assumption was made that this could be in an area of suitable habitat.

4.2.4. Threatened ecological communities

The likelihood of listed threatened ecological communities occurring in the study area was determined by checking general field observations against published descriptions of relevant listed ecological communities modelled to potentially occur in the study area.

Reviewed ecological community descriptions comprised identification criteria and condition thresholds from listing advice for EPBC Act communities and FFG Act-listed community descriptions (SAC 2015).

4.3. Limitations of field assessment

The site assessment was conducted during spring. The short duration and seasonal timing of field assessments can result in some species not being detected when these may occur at other times. Additionally, some flora species and lifeforms may be undetectable at the time of survey or unidentifiable due to a lack of flowers or fruit. The study area had recently been slashed, removing the inflorescences of most flowering grasses. Difficulties in identifying flora in the observed state limited the accuracy of determining native vegetation patch extent. Timing of the survey and condition of vegetation were otherwise considered suitable to ascertain the extent and condition of native vegetation and fauna habitats.

These limitations were not considered to compromise the validity of the current investigation that was designed to address the relevant policies and decision guidelines.

Determination of EVCs considers vegetation types that would have naturally occurred in the landscape prior to European impacts. Significant past alteration of the study area's landform, hydrology and soil composition, and past vegetation clearance has resulted in the emergence of an artificial site ecosystem and the reestablishment of vegetation that is likely to be notably different from that which would have naturally occurred in the study area. Determination of EVCs in altered areas was therefore based on consideration of the following:

- Modelled EVC mapping (DELWP 2022a);
- Observations of adjacent landforms that had not been significantly altered;
- Observations of nearby natural vegetation;
- Any observed indigenous flora species that are useful for determining EVCs; and
- Relevant published EVC benchmark descriptions.

If this information was insufficient to reasonably determine which EVC would have naturally occurred and the observed vegetation resembled an EVC that is likely to have naturally occurred in the region, EVC determination was based on the structure and floristic composition of current observed vegetation.

5. Assessment results

5.1. Site description

The study area for this investigation (Figure 1) constituted approximately 5.95 hectares of private land located at Gisborne, approximately 46km north-west of Melbourne, and was bordered by Willowbank Road to the north, and adjoining residential housing to the east, south and west.

The study area supported dark clay on a flat, south-sloping landscape comprising a private dwelling with planted gardens and orchards in the northern half and a cleared pasture in the southern half. One small dam was located on the eastern boundary, adjacent to Rothschild Road. The study area was bordered by a planted pine wind break.

Past land use of the study area and surrounds include stock grazing and cropping. The Gisborne and New Gisborne township as subject to rapid residential expansion in the last 15 years with the study area being the largest single lot in the immediate surrounds.

Vegetation in the study area consisted of two distinct vegetation types: planted gardens and windrows and cleared pasture (with a small dam). Planted vegetation included Radiata Pine windrows bordering the property, Olive and fruit tree orchids, and a planted garden. The cleared pasture comprised predominantly introduced pasture grasses, including Sweet-vernal Grass, Yorkshire Fog, Paspalum and Onion Weed. Native vegetation in the cleared pasture comprised sparsely scattered Rushes, Wallaby Grass and Spear Grass. Three small scattered Swamp Gum trees with some recruits were located on the eastern boundary near the dam, and several Swamp Gum recruits were scattered nearby.

Fauna habitat within the study area comprised:

- Grassland, present as the predominant groundcover throughout the study area.
- Planted treed vegetation and associated litter, primarily pine trees around the periphery of the study area, although there were some planted eucalypts among them, with a few clustered near a small dam.
- Aquatic habitat, restricted to a small dam in the east of the study area.

The following key fauna habitat areas occurred within the region:

- Jackson's Creek occurred approximately 1.1 kilometres north of the study area. Native vegetation in the study area was isolated from this habitat by residential areas and roads (especially the C791/Melbourne Rd).
- Rosslynne Reservoir occurred approximately 4.2 kilometres northwest of the study area. Native vegetation in the study area was isolated from this habitat by residential areas (i.e., most of Gisborne), as well as two highways (C705/Melton Rd and C704/Bacchus Marsh Rd).
- Willowbank Estate Reserve occurred approximately 550 metres west of the study area. Native vegetation in the study area was isolated from this habitat by residential areas, and Brady Rd.
- Mt Gisborne Reserve occurred approximately 2.19 kilometres southwest of the study area. Native vegetation in the study area was isolated from this habitat by residential areas and roads.
- Lerderderg State Park occurred approximately 4.5 kilometres southwest of the study area. Native vegetation in the study area was isolated from this habitat by residential land as well as a highway (C705/Melton Rd)

The study area does not appear to provide any important connectivity between any important habitat areas.

The study area lies within the Victorian Volcanic Plain bioregion and falls within the Melbourne Water catchment management area.

5.2. Native vegetation

5.2.1. Patches of native vegetation

Pre–European EVC mapping (DELWP 2022a) indicated that the study area and surrounds would have supported Plains Grassy Woodland (EVC 55) and Scoria Cone Woodland (EVC 894) prior to European settlement based on modelling of factors including rainfall, aspect, soils and remaining vegetation.

Evidence on site, including floristic composition and soil characteristics, suggested that highly degraded *Higher rainfall* Plains Grassy Woodland (EVC 55_63) was present in in the southern half of the study area represented by several scattered Swamp Gum trees and sparsely scattered understory vegetation. However, this native vegetation did not meet the requirements under the guidelines to constitute a patch. The understory vegetation is treated as incidental occurrences of native vegetation.

Figure 1: Study area and native vegetation

Project: 75 Willowbank Road, Gisbourne **Client**: Calibre Group **Date**: 21/10/2022

Study area

Small scattered tree

N

Metres

0 25

Nature Advisory
PO Box 337, Camberwell, VIC 3124, Australia
www.natureadvisory.com.au
03 9815 2111 - info@natureadvisory.com.au

5.2.2. Scattered trees

Scattered trees recorded in the study area would once have comprised the canopy component of *Higher rainfall* Plains Grassy Woodland (EVC 55_63).

Three small scattered trees (< 70-centimetre DBH) occurred in the study area (Figure 1).

Details of all scattered trees recorded are listed in Appendix 2.

5.3. Flora species

5.3.1. Species recorded

During the field assessment, 32 plant species were recorded, of which 13 (40%) were indigenous and 19 (60%) were introduced or non-indigenous native in origin (Appendix 3).

5.3.2. Listed species

Records from the VBA (DELWP 2022d) and Commonwealth EPBC Protected Matters Search Tool (DAWE 2022a) indicated that within the search region there were records of, or potential suitable habitat occurred for, 18 species listed under the Commonwealth EPBC Act and 23 listed under the state FFG Act, including 15 listed under both Acts. No flora species listed under the EPBC Act were recorded during the field survey.

The likelihood of occurrence of species listed under the EPBC Act and FFG Act in the study area is addressed in Table 1. Species considered 'likely to occur' have very highpotential of occurring in the study area based on numerous records in the search region andsuitable habitat in the study area. Species considered to have the 'potential to occur' are those for which suitable habitat exists, but recent records are scarce.

This analysis indicates that no listed flora species are likely to occur or have the potential to occur.

Table 1 Listed flora species and their likelihood of occurrence in the study area

Common Name	Scientific name	Conservation status		Habitat	Number of records	Date of last record	Likelihood of occurrence
		EPBC	FFG				
Sticky Wattle	*Acacia howittii*		Vulnerable	Victorian endemic, confined to east from upper Macalister River area near Mt Howitt south to near Yarram and east to near Tabberabbera, growing in moist forest; widely cultivated and naturalising in some areas (e.g., Daylesford, Greater Melbourne, Dandenong Ranges etc.) (VicFlora 2022).	1	25/06/2012	Outside of natural range. No recent records near study area. **Unlikely to occur**
Bacchus Marsh Wattle	*Acacia rostriformis*		Vulnerable	Confined to the Bacchus Marsh area (Lerderderg Gorge, Long Forest, Coimadai, Balliang and Werribee) where it occurs in low hilly areas in Eucalyptus woodland. Records from outside the Bacchus Marsh area are thought to be mislabelled or possibly of cultivated material (VicFlora 2022).	8	24/12/2013	Outside of natural range. No recent records near study area. **Unlikely to occur**
River Swamp Wallaby-grass	*Amphibromus fluitans*	Vulnerable		River Swamp Wallaby-grass grows mostly in permanent swamps and also lagoons, billabongs, dams and roadside ditches. The species requires moderately fertile soils with some bare ground; conditions that are caused by seasonally fluctuating water levels (DAWE 2020).	None	N/A	No records within 10km of study area. **Unlikely to occur.**
Candy Spider-orchid	*Caladenia versicolor*	Vulnerable	Endangered	Restricted to the western part of the Midlands region in the vicinity of Stawell, in woodland on winter-wet sandy loam (VicFlora 2022).	None	N/A	Outside of natural range. No recent records near study area. **Unlikely to occur**
Pale Swamp Everlasting	*Coronidium gunnianum*		Critically Endangered	Widespread throughout the state except for the north-west and the alpine and adjacent mountainous areas, and usually at low elevations (under c. 100 m) where mostly in grasslands and riverine Eucalyptus camaldulensis woodland on soils that are prone to inundation (VicFlora 2022).	5	18/05/2011	Habitat in degraded state and unlikely to support species. **Unlikely to occur.**
Matted Flax-lily	*Dianella amoena*	Endangered	Critically Endangered	Lowland grassland and grassy woodlands on well-drained to seasonally waterlogged fertile sandy loams to heavy cracking soils derived from sedimentary or volcanic Geology. It is widely distributed from eastern to south-western Victoria (DAWE 2020).	5	6/12/2016	Habitat in degraded state and unlikely to support species. **Unlikely to occur.**
Spotted Hyacinth-orchid	*Dipodium pardalinum*		Endangered	Victoria, scattered in higher rainfall parts of the west (VicFlora 2022).	5	31/01/2017	Habitat in degraded state and unlikely to support species. **Unlikely to occur.**
Small Golden Moths	*Diuris basaltica*	Endangered	Critically Endangered	Grows in herb-rich native grasslands, dominated by Kangaroo Grass (*Themeda triandra*) on heavy basaltic soils, often embedded with basalt boulders. All locations that the species is known to occur form part of the 'Natural Temperate Grassland of the Victorian Volcanic Plain' (DAWE 2020).	None	N/A	Outside of natural range. No recent records near study area. **Unlikely to occur**
Sunshine Diuris	*Diuris fragrantissima*	Endangered	Critically Endangered	Native grasslands dominated by Kangaroo Grass, on heavy basalt soils, often with embedded basalt boulders; the only remaining natural population at Sunshine occurs in a small (0.1 ha) remnant of Western (Basalt) Plains Grassland (DAWE 2020).	None	N/A	Outside of natural range. No recent records near study area. **Unlikely to occur**

Common Name	Scientific name	Conservation status		Habitat	Number of records	Date of last record	Likelihood of occurrence
		EPBC	FFG				
Trailing Hop-bush	*Dodonaea procumbens*	Vulnerable		Grows in low lying, often winter wet areas in woodland, low open-forest heathland and grasslands on sands and clays. Largely confined to SW of Victoria (DAWE 2020).	None	N/A	Outside of natural range. No recent records near study area. Study are does not support suitable habitat. **Unlikely to occur**
Black Gum	*Eucalyptus aggregata*	Vulnerable	Vulnerable	Victoria, restricted to Gisborne- Woodend region (Brooker & Slee 1996).	None	N/A	Recent records near study area. Appropriate habitat and associated species were present. However, only Eucalypt trees in the study area were Swamp Gum and planted Blue Gum **Unlikely to occur.**
Large-flower Crane's-bill	*Geranium sp. 1*		Critically Endangered	Volcanic plains in Grassy Woodland, Plains Grassland and Plains Grassy Wetland (Bull 2014).	2	21/04/2005	No recent records within 10km of study area. Habitat in degraded state and unlikely to support species. **Unlikely to occur.**
Clover Glycine	*Glycine latrobeana*	Vulnerable	Vulnerable	Found across south-eastern Australia in native grasslands, dry sclerophyll forests, woodlands and low open woodlands with a grassy ground layer. In Victoria, populations occur in lowland grasslands, grassy woodlands and sometimes in grassy heath (DAWE 2020).	None	N/A	No recent records within 10km of study area. Habitat in degraded state and unlikely to support species. **Unlikely to occur.**
Adamson's Blown-grass	*Lachnagrostis adamsonii*	Endangered	Endangered	Confined to slow moving creeks, swamps, flats, depressions or drainage lines that are seasonally inundated or waterlogged and usually moderately to highly saline. Appear to favour sites that have some shelter from the wind (DAWE 2020).	None	N/A	No recent records within 10km of study area. Habitat in degraded state and unlikely to support species. **Unlikely to occur.**
Spiny Peppercress	*Lepidium aschersonii*	Vulnerable	Endangered	The Spiny Peppercress occurs in periodically wet sites such as gilgai depressions and the margins of freshwater and saline marshes and shallow lakes, usually on heavy clay soil. Almost all sites receive some degree of soil waterlogging or seasonal flooding.	None	N/A	No recent records within 10km of study area. Habitat in degraded state and unlikely to support species. **Unlikely to occur.**
Basalt Peppercress	*Lepidium hyssopifolium* s.s.	Endangered	Endangered	Known to establish on open, bare ground with limited competition from other plants. Previously recorded from Eucalypt woodland with a grassy ground cover, low open Casuarina woodland with a grassy ground cover and tussock grassland. Now generally found amongst exotic pasture grasses and beneath exotic trees (DAWE 2020).	None	N/A	No recent records within 10km of study area. Habitat in degraded state and unlikely to support species. **Unlikely to occur.**
White Sunray	*Leucochrysum albicans subsp. tricolor*	Endangered	Endangered	Occurs in a wide variety of grassland, woodland and forest habitats, generally on relatively heavy soils. Plants can be found in natural or semi-natural vegetation and grazed or ungrazed habitat. Bare ground is required for germination. The unpalatability of this species is likely to protect it in heavily grazed areas where patches of bare ground are likely to develop, favouring recruitment (DAWE 2020).	None	N/A	No recent records within 10km of study area. Habitat in degraded state and unlikely to support species. **Unlikely to occur.**
Giant Honey-myrtle	*Melaleuca armillaris subsp. armillaris*		Endangered	Near coastal sandy heaths. Widely planted	2	6/12/2016	Outside of natural range. Any plant near study area likely to be plantings. **Unlikely to occur.**

Common Name	Scientific name	Conservation status		Habitat	Number of records	Date of last record	Likelihood of occurrence
		EPBC	FFG				
Plains Yam-daisy	*Microseris scapigera s.s.*		Critically Endangered	Moist depressions on the Western Basalt Plains (Jeanes 1999).	1	2/12/1996	No recent records within 10km of study area. Habitat in degraded state and unlikely to support species. **Unlikely to occur.**
Spiny Rice-flower	*Pimelea spinescens subsp. spinescens*	Critically Endangered	Critically Endangered	Occurs in grassland or open shrubland on basalt derived soils, usually comprising black or grey clays. Plants from more northerly populations occur on red clay complexes, while plants from southern populations occur on heavy grey-black clay loams. Topography is generally flat, but populations may occur on slight rises or in slightly wettish depressions.	None	N/A	No recent records within 10km of study area. Habitat in degraded state and unlikely to support species. **Unlikely to occur.**
Green-striped Greenhood	*Pterostylis chlorogramma*	Vulnerable	Endangered	Occurs in mixed Box-Stringybark forest with a shrubby understorey, often with Pteridium esculentum as a major component on sandy or clay loam soils (Duncan et al. 2009).	1	24/09/1990	Outside of natural range. No recent records near study area. Study are does not support suitable habitat. Unlikely to occur
Button Wrinklewort	*Rutidosis leptorhynchoides*	Endangered	Endangered	In Victoria restricted to open stands of plains grassland and grassy woodlands, on fertile clays to clay loams, usually in areas where the grass cover is more open, either as a result of recurrent fires or grazing by native macropods or stock. It also occurs on low rises with shallow, stony soils at less than 100 m above sea level.	None	N/A	No recent records within 10km of study area. Habitat in degraded state and unlikely to support species. **Unlikely to occur.**
Large-headed Fireweed	*Senecio macrocarpus*	Vulnerable	Critically Endangered	Victoria, occurs most commonly in grasslands on red-brown earth soils; may also occur in grassy woodlands and open woodlands predominantly in the Western (Basalt) Plains grassland on red brown earth soils found on recent Quaternary (basalt) deposits (DAWE 2020).	None	N/A	Outside of natural range. No recent records near study area. Study are does not support suitable habitat. **Unlikely to occur**
Swamp Fireweed	*Senecio psilocarpus*	Vulnerable		Herb-rich winter-wet swamps on volcanic clays or peaty soils (Walsh 1999). Known from approximately 10 sites between Wallan, about 45 km north of Melbourne, and Honans Scrub in south-eastern South Australia (TSSC 2008).	3	16/11/2016	Outside of natural range. No recent records near study area. Study are does not support suitable habitat. **Unlikely to occur**
Hairy-leaf Triggerplant	*Stylidium armeria subsp. pilosifolium*		Critically Endangered	Is thought to be confined to dry heathy vegetation on skeletal shaly soils in the southern foothills of the Macedon Range near Riddells Creek and the Pyrete Range (Best et al. 2009).	1	26/09/2008	Outside of natural range. No recent records near study area. Study are does not support suitable habitat. **Unlikely to occur**
Swamp Everlasting	*Xerochrysum palustre*	Vulnerable	Critically Endangered	Grows in wetlands including sedge-swamps and shallow freshwater marshes, often on heavy black clay soils. Commonly associated genera include *Amphibromus, Baumea, Carex, Chorizandra, Craspedia, Eleocharis, Isolepis, Lachnagrostis, Lepidosperma, Myriophyllum, Phragmites australis, Themea triandra* and *Villarsia* (DAWE 2020).	11	6/01/2019	Recent records near study area. However, no associated species present in study area and habitat in degraded condition with little to no native vegetation. **Potential to occur.**

Notes: EPBC-T = threatened species status under EPBC Act; **FFG** = threatened species status under the FFG Act.

5.4. Fauna habitats

The study area supported the following three fauna habitat types:

- Grassland
- Planted treed vegetation; and
- Aquatic habitat

Grassland: This habitat covered most of the study area and occurred almost everywhere except the at the peripheries and the garden areas at the northern end of the study area (although this area is not being sold for development). About 4.271 ha of this habitat was present. The grassland was dominated by introduced species, with only a small minor presence of native species scattered throughout. There were no surface rocks or logs present for fauna shelter. This part of the study area is not currently used and was likely used in the past for stock grazing and cropping. The grassland is isolated from other habitat by surrounding residential land.

Photo 1: Grassland habitat, present throughout most of study area.

Planted Treed Vegetation: This habitat covered a minority of the study area and occurred at the peripheries of the study area. About 1.227 ha of this habitat was present. It primarily consisted of pine trees, although scattered eucalypts were also present. A few planted garden trees are present at the northern end of the study area, although this area is not being sold for development. Fauna shelter occurred on the ground in the form of leaf and pine needle litter and fallen branches. The trees provided shelter and perching sites for many of the various bird species observed in the study area, and one of the

eucalypt trees near the dam contained an old bird nest. Furthermore, the eucalypt trees provide food for nectar-eating animals when they flower. This part of the study area is currently used as a windbreak, was likely used in this way for many years. This habitat was isolated from other habitats outside the study area by surrounding residential land.

Photo 2: Planted treed vegetation at peripheries of study area

Aquatic Habitat: This habitat covered an extremely small proportion of the study area, occupying 0.013 hectares and being confined to a small dam in the east of the study area. This dam appeared to be permanent, with fringing and floating vegetation present in moderate densities. This habitat was isolated from other habitats outside the study area by surrounding residential land. This part of the study area is not currently used and was likely used in the past as a water source for stock.

Photo 3: Aquatic habitat – small dam with fringing and floating aquatic vegetation

5.5. Fauna species

5.5.1. Species recorded

During the field assessment 16 fauna species were recorded. This included 14 bird (3 introduced), 1 mammal (1 introduced), and 1 frog species (Appendix 4).

5.5.2. Listed species

The review of existing information [including VBA records (DELWP 2022d) and the results of the EPBC Protected Matters Search Tool (DAWE 2022a) indicated that within the search region there were records of, or potential suitable habitat occurred for, 40 fauna species listed under the Commonwealth EPBC Act and the state FFG Act. The likelihood of occurrence of these species in the study area was assessed and the results are presented in Table 2.

This analysis of potential occurrence of listed fauna species excludes the following:

- Marine fauna given that the study area is inland; and
- Migratory oceanic bird species (such as albatrosses and petrels) and most migratory shorebirds given that the study area is inland.

Species considered 'likely to occur' are those with very high potential of occurring in the study area given the existence of numerous records in the search region and suitable habitat in the study area. Using the precautionary approach, species considered to have the 'potential to occur' are those for which suitable

habitat exists, but recent records are scarce. This analysis indicates that 10 listed fauna species are likely to occur or have the potential to occur. These species include the following:

EPBC-listed:

- Fork-tailed Swift (EPBC: Migratory
- Gang-gang Cockatoo (EPBC: Vulnerable)
- Latham's Snipe (EPBC: Migratory)
- Rufous Fantail (EPBC: Migratory)
- Swift Parrot (EPBC: Critically Endangered)
- White-throated Needletail (EPBC: Vulnerable and Migratory)
- Grey-headed Flying Fox (EPBC: Vulnerable)

FFG-listed:

- Grey Goshawk (FFG: Endangered)
- Hardhead (FFG: Vulnerable)
- Lewin's Rail (FFG: Vulnerable)

Table 2: Listed fauna species and their likelihood of occurrence in the study area

Common Name	Scientific name	EPBC-T	EPBC-M	FFG	Habitat	Number of records	Date of last record	Likelihood of occurrence
Birds								
Australasian Bittern	*Botaurus poiciloptilus*	Endangered		Critically Endangered	Terrestrial wetlands, including a range of wetland types but prefers permanent water bodies with tall dense vegetation, particularly those dominated by sedges, rush, reeds or cutting grass (Marchant & Higgins 1990).	None	N/A	**Unlikely to occur.** No suitable habitat in study area - dam had aquatic vegetation, but it was too short.
Australian Painted-snipe	*Rostratula australis*	Endangered		Critically Endangered	Generally, inhabits shallow terrestrial freshwater wetlands, including temporary and permanent lakes, swamps and claypans. They also use inundated or waterlogged grassland or saltmarsh, dams, rice crops, sewage farms and bore drains. Typical sites include those with rank emergent tussocks of grass, sedges, rushes or reeds, or samphire; often with scattered clumps of Lignum muehlenbeckia or canegrass or sometimes tea-tree (Melaleuca). Sometimes utilises areas that are lined with trees, or that have some scattered fallen or washed-up timber (DAWE 2020).	None	N/A	**Unlikely to occur.** No records in search region.
Common Greenshank	*Tringa nebularia*		M (Bonn A2H, ROKAMBA, JAMBA, CAMBA)	Endangered	Inhabits wide range of coastal or inland wetlands with varying levels of salinity; mainly muddy margins or rocky shores of wetlands (Higgins & Davies 1996).	None	N/A	**Unlikely to occur.** No suitable habitat in study area.
Common Sandpiper	*Actitis hypoleucos*		M (Bonn A2H, ROKAMBA, JAMBA, CAMBA)	Vulnerable	Inhabits a wide range of coastal or inland wetlands with varying levels of salinity; mainly muddy margins or rocky shores of wetlands. In Victoria, mostly found Westernport and Port Phillip Bay (Higgins & Davies 1996).	None	N/A	**Unlikely to occur.** No suitable habitat in study area.
Curlew Sandpiper	*Calidris ferruginea*	Critically Endangered	M (Bonn A2H, ROKAMBA, JAMBA, CAMBA)	Critically Endangered	Inhabits wide range of coastal or inland wetlands with varying levels of salinity; mainly muddy margins or rocky shores of wetlands (Higgins & Davies 1996).	None	N/A	**Unlikely to occur.** No suitable habitat in study area.
Eastern Curlew	*Numenius madagascariensis*	Critically Endangered	M (Bonn A1, ROKAMBA, JAMBA, CAMBA)	Critically Endangered	Inhabits sheltered coasts, especially estuaries, embayment, harbours, inlets and coastal lagoons with large intertidal mudflats or sandflats, often with beds of sea grass (Higgins & Davies 1996).	None	N/A	**Unlikely to occur.** No suitable habitat in study area.
Fork-tailed Swift	*Apus pacificus*		M (CAMBA, ROKAMBA, JAMBA)		The species can occur in wet sclerophyll forest but mainly prefers open forest or plains. It is almost exclusively aerial and feeds up to hundreds on metres above the ground, but can feed among open forest canopy. The species breeds internationally and seldom roosts in trees (Higgins 1999).	None	N/A	**Potential to occur.** Occurs as a flyover over most habitat types.

Gang-gang Cockatoo	*Callocephalon fimbriatum*	Endangered			In summer generally in tall mountain forests and woodlands, particularly in heavily timbered, mature wet sclerophyll forests and woodlands. Prefer Eucalyptus dominated assemblages. Also occurs in subalpine snow gum woodlands and occasionally in temperate rainforests and regenerating forests. In winter occur at lower altitudes in drier, more open Eucalyptus woodland (Higgins 1999).	3	6/06/2020	**Potential to occur**. Recent records in search region, and the species may make use of planted pine and eucalypt trees for foraging.
Grey Falcon	*Falco hypoleucos*	Vulnerable		Vulnerable	Inhabits arid and semi-arid zones; mainly on sandy and stony plains of inland drainage systems, lightly timbered with acacia. Hunt far into open areas, over spinifex, tussock grasslands and low shrublands. In Victoria, few records mostly in north and northwestern regions (Marchant & Higgins 1993).	None	N/A	**Unlikely to occur**. No suitable habitat in study area.
Grey Goshawk	*Accipiter novaehollandiae*			Endangered	Inhabit rainforests, open forests, swamp forests, woodlands and plantations; most abundant where forest or woodland provide cover for hunting from perches. in Vic., most common in Otway ranges (Marchant & Higgins 1993).	1	7/04/2021	**Potential to occur**. Recent records in search region, and the species may make use of planted pine and eucalypt trees, as well as grassland, to forage.
Hardhead	*Aythya australis*			Vulnerable	Inhabits large, deep waters where vegetation is abundant; particularly deep swamps and lakes, pools and creeks. Also occur on freshwater meadows, seasonal swamps with abundant aquatic flora, reed swamps, wooded lakes and swamps, rice fields, and sewage ponds (Marchant & Higgins 1990).	1	31/10/2018	**Potential to occur**. Potential habitat on farm dam in study area.
Latham's Snipe	*Gallinago hardwickii*		M (Bonn A2H, ROKAMBA, JAMBA)		Occurs in wide variety of permanent and ephemeral wetlands; it prefers open freshwater wetlands with dense cover nearby, such as the edges of rivers and creeks, bogs, swamps, waterholes. The species is widespread in southeast Australia and most of its population occurs in Victoria, except in the northwest of the state (Naarding 1983; Higgins & Davies 1996).	3	24/12/2019	**Potential to occur.** Potential habitat on farm dam in study area.
Lewin's Rail	*Lewinia pectoralis*			Vulnerable	Occurs in a variety of densely vegetated wetland habitats, fresh or saline, and usually with areas of standing water. Requires shallow water areas for foraging (Marchant & Higgins 1993).	24	16/03/2021	**Potential to occur.** Potential habitat on farm dam in study area.

Painted Honeyeater	*Grantiella picta*	Vulnerable		Vulnerable	Inhabits box-ironbark forests and woodlands and mainly feeds on the fruits of mistletoe. Strongly associated with mistletoe around the margins of open forests and woodlands. Can also be found in farmland containing remnant treed vegetation. Occurs at few localities. Uncommon breeding migrant from further north, arriving in October and leaving in February (Higgins et al. 2001; Tzaros 2005).	None	N/A	**Unlikely to occur**. No suitable habitat in study area.
Plains-wanderer	*Pedionomus torquatus*	Critically Endangered		Critically Endangered	This species is highly sensitive to changes in grassland cover and density. Typically inhabits treeless native grasslands with sparse cover, with a preference for grasslands composed of wallaby grass and spear grass (Marchant & Higgins 1993). Habitat becomes unsuitable when grassland becomes dense (CA 2016). Evidence suggests it avoids areas of tree cover, with no records of the species within 300m of trees (>10m high) in their strongholds in New South Wales or Victoria (CA 2016).	None	N/A	**Unlikely to occur**. No suitable habitat in study area.
Regent Honeyeater	*Anthochaera phrygia*	Critically Endangered		Critically Endangered	Inhabits dry box-ironbark eucalypt forests near rivers and creeks on inland slopes of the Great Dividing Range. Can also occur in small remnant patches or in mature trees in farmland or partly cleared agricultural land (Higgins et al. 2001).	None	N/A	**Unlikely to occur**. No records in search region.
Rufous Fantail	*Rhipidura rufifrons*		M (Bonn A2H)		In east and south-east Australia, mainly inhabits tall wet sclerophyll forests, often in gullies. When on passage in warmer months, they are sometimes recorded in drier sclerophyll forests and woodlands, as well as parks and gardens (Higgins et al. 2006). Virtually absent from south-eastern Australia during winter (Higgins et al. 2006).	1	16/12/2020	**Potential to occur**. Recent records in search region, and the species may make use of planted pine and eucalypt trees.
Satin Flycatcher	*Myiagra cyanoleuca*		M (Bonn A2H)		Mostly found in eucalypt forest, particularly tall wet forests and woodland within gullies (Higgins et al. 2006). Also inhabits eucalypt woodland comprising an open understorey and a grassy ground layer (Higgins et al. 2006). Generally absent from rainforest (Higgins et al. 2006).	1	30/11/1992	**Unlikely to occur**. No suitable habitat in study area.
Sharp-tailed Sandpiper	*Calidris acuminata*		M (Bonn A2H, ROKAMBA, JAMBA, CAMBA)		Inhabit shallow fresh to saline wetlands, usually coastal to near-coastal, but occasionally farther inland. Wetlands often have open fringing mudflats and low emergent or fringing vegetation (Higgins & Davies 1996).	None	N/A	**Unlikely to occur**. No records in search region.
South Polar Skua	*Catharacta maccormicki*		M (Bonn A2H, ROKAMBA, JAMBA)		Inhabit shallow fresh to saline wetlands, usually coastal to near-coastal, but occasionally farther inland. Wetlands often have open fringing mudflats and low emergent or fringing vegetation (Higgins & Davies 1996).	None	N/A	**Unlikely to occur**. No records in search region.

Swift Parrot	*Lathamus discolor*	Critically Endangered		Critically Endangered	Prefers a select range of eucalypts in Victoria, including Yellow Gum, Grey Box, White Box, Red Ironbark and Yellow Box, as well as River Red-gum when this species supports abundant 'lerp' (Saunders & Tzaros 2011). The species is also known to forage within planted stands of Spotted Gum and Sugar Gum (Nature Advisory; unpublished data). Breeds in Tasmania and migrates to the mainland of Australia for the autumn, winter and early spring months. It lives mostly north of the Great Dividing Range, passing through two areas of Victoria on migration: the Port Phillip district and Gippsland (Emison et al. 1987; Higgins 1999; Kennedy & Tzaros 2005). Though it is also not uncommonly sighted in urban areas (Nature Advisory; unpublished data). Occurrence of this species on the mainland can substantially change from year to year depending on food availability, giving potential for this species to occur almost anywhere throughout its range (Emison et al. 1987).	None	N/A	**Potential to occur.** The species may make use of planted eucalypt trees for foraging, but no records in area.
White-throated Needletail	*Hirundapus caudacutus*	Vulnerable	M (CAMBA, ROKAMBA, JAMBA)	Vulnerable	Aerial, over all habitats, but probably more over wooded areas, including open forest and rainforest. Often over heathland and less often above treeless areas such as grassland and swamps or farmland (Higgins 1999).	None	N/A	**Potential to occur.** Occurs as a flyover over most habitat types.
Yellow Wagtail	*Motacilla flava*		M (CAMBA, JAMBA, ROKAMBA)		Regular non-breeding visitor in northern Australia mainly spring-summer, vagrant to the south. Occupies a wide range of habitats, usually open areas with low vegetation such as crop, grassland and even parkland. Often recorded near water (Higgins, Peter & Cowling 1999)	None	N/A	**Unlikely to occur.** Rare vagrant to southern Australia.
Mammals								
Brush-tailed Phascogale	*Phascogale tapoatafa*			Vulnerable	Dry forest and woodland in association with box, ironbark and stringybark eucalypts (Menkhorst 1995). Closely associated with remnant vegetation, this species occupies large home ranges of woodland habitat (M=100Ha; F=20-70Ha) (Menkhorst 1995).	5	13/05/2016	**Unlikely to occur.** No suitable habitat in study area.
Eastern Quoll	*Dasyurus viverrinus*	Endangered		Endangered (Extinct in Victoria)	Probably extinct in mainland Australia. Inhabits a range of open forest, scrubland and heath (Menkhorst 1995).	None	N/A	**Unlikely to occur.** No suitable habitat in study area.
Grey-headed Flying-fox	*Pteropus poliocephalus*	Vulnerable		Vulnerable	Brisbane, Newcastle, Sydney and Melbourne are occupied continuously. Elsewhere, during spring, they are uncommon south of Nowra and widespread in other areas of their range. Roosts in aggregations of various sizes on exposed branches. Roost sites are typically located near water, such as lakes, rivers or the coast. Roost vegetation includes rainforest patches, stands of Melaleuca, mangroves and riparian vegetation, but colonies also use highly modified vegetation in urban and suburban areas (DAWE 2020).	None	N/A	**Potential to occur.** May make use of planted eucalypts in study area when they flower.
Platypus	*Ornithorhynchus anatinus*			Vulnerable	Inhabits freshwater streams, ranging from alpine creeks to tropical lowland rivers; also lakes, shallow reservoirs and farm dams (Menkhorst and knight 2001).	2	15/11/2017	**Unlikely to occur.** Insufficient suitable habitat

								in study area, isolated from larger areas of suitable habitat.
Southern Brown Bandicoot	*Isoodon obesulus obesulus*	Endangered		Endangered	Suitable habitat for Southern Brown Bandicoots (eastern) is defined to be any patches of native or exotic vegetation, within their distribution, which contains understorey vegetation structure with 50–80% average foliage density in the 0.2–1 m height range. In areas where native habitats have been degraded or diminished, exotic vegetation, such as Blackberry (*Rubus spp.*), can and often does, provide important habitat (DAWE 2020).	None	N/A	**Unlikely to occur.** No suitable habitat in study area.
Southern Greater Glider	*Petauroides volans*	Vulnerable		Vulnerable	In Victoria, this species inhabits forest habitats dominated by peppermint, stringybark, ash and gum eucalypts (Menkhorst 1995). Restricted to the central highlands and eastern Victoria, and common in areas of high rainfall. Rare in dry stringybark-box and Snow Gum forest, and does not occur in the box-ironbark or River Red-gum dominated riverina regions (Menkhorst 1995).	None	N/A	**Unlikely to occur.** No suitable habitat in study area.
Spot-tailed Quoll	*Dasyurus maculatus maculatus*	Endangered		Endangered	Rainforest, wet and dry forest, coastal heath and scrub and River Red-gum woodlands along inland rivers (Menkhorst 1995).	None	N/A	**Unlikely to occur.** No suitable habitat in study area.
Yellow-bellied Glider	*Petaurus australis*	Vulnerable			Forests with a predominance of smooth-barked eucalypts, as well as a mixture of eucalypt species. Uncommon in wet forests dominated by single tree species; a mixture of tree species is preferred (Menkhorst 1995). Inhabits a range of forest types, depending on the location in Victoria - western populations use dry woodland and forest, whereas southern, eastern and northeastern populations use a variety of wet forest types (Menkhorst 1995). Require large hollows in large, old trees. In Mountain Ash forest dependent on extensive stands of old-growth forest - rare in young forest even when scattered old trees are available (Menkhorst 1995). Will persist in corridors as narrow as 200 m (Menkhorst 1995).	None	N/A	**Unlikely to occur.** No suitable habitat in study area.
Reptiles								
Grassland Earless Dragon	*Tympanocryptis pinguicolla*	Endangered		Critically Endangered	The species is confined to native tussock grassland on basalt plains north and west of Melbourne, with no confirmed sightings in Victoria since the 1960's (Robertson & Cooper 2000).	None	N/A	**Unlikely to occur.** No suitable habitat in study area.
Mountain Skink	*Liopholis montana*	Endangered			Areas of granite associated with tall open forest and heath along the Great Dividing Range to the Yarra River Valley (Wilson & Swan 2003).	None	N/A	**Unlikely to occur.** No suitable habitat in study area.

Pink-tailed Worm-Lizard	*Aprasia parapulchella*	Vulnerable		Endangered	Sites where the species is found generally include rocky outcrops or scattered partly buried rocks. This species is diurnal and largely fossorial, sheltering under rocks and vegetation, and in the burrow passages of small ants and termites within grassland and woodland habitats of south-eastern Australia (Robertson & Coventry 2019). It feeds primarily on the larvae and eggs of ants. In Victoria, the species is largely restricted to box-ironbark woodland in the greater Bendigo region, though it may also persist elsewhere in the state (Robertson & Coventry 2019).	None	N/A	**Unlikely to occur.** No suitable habitat in study area.
Striped Legless Lizard	*Delma impar*	Vulnerable		Endangered	Grassland specialist. Known to occur in some areas dominated by introduced species such as Harding Grass Phalaris aquatica, Serrated Tussock Nasella trichotoma and Flatweed Hypocharis radicata and at sites with a history of grazing and pasture improvement. shelter in grass tussocks, thick ground cover, soil cracks, under rocks, spider burrows, and underground debris such as timber. The majority of sites in Victoria and NSW occur on cracking clay soils with some surface rock which provide shelter for the species (DAWE 2020).	None	N/A	**Unlikely to occur.** No suitable habitat in study area.
Fish								
Australian Grayling	*Prototroctes maraena*	Vulnerable		Endangered	Large and small coastal streams and rivers with cool, clear waters with a gravel substrate and altering pools and riffles (Cadwallader & Backhouse 1983).	None	N/A	**Unlikely to occur.** No suitable habitat in study area.
Dwarf Galaxias	*Galaxiella pusilla*	Vulnerable		Endangered	Ranges from the far west of the state through to the Mitchell River basin in central Gippsland. Vegetated margins of still water, ditches, swamps and backwaters of creeks, both ephemeral and permanent (Allen et al. 2002). Some wetlands where it occurs may partially or completely dry up during summer, with such wetlands reliant on seasonal flooding plus linkages to other sites where the species occurs, for habitat and population replenishment (Saddlier, Jackson & Hammer 2010). Dwarf Galaxias is also often found in association with burrowing freshwater crayfish *(Engaeus spp.*), with the crayfish burrows reportedly providing refuge from predators and dry conditions for the species (Saddlier, Jackson & Hammer 2010).	None	N/A	**Unlikely to occur.** No records in search region.
Yarra Pygmy Perch	*Nannoperca obscura*	Vulnerable		Vulnerable	Streams and small lakes, prefers flowing water with abundant aquatic vegetation (Allen et al. 2002).	None	N/A	**Unlikely to occur.** No suitable habitat in study area.
Invertebrates								
Golden Sun Moth	*Synemon plana*	Vulnerable		Vulnerable	Areas that are, or have been native grasslands or grassy woodlands. It is known to inhabit degraded grasslands with introduced grasses being dominant, with a preference for the native wallaby grass being present (DEWHA 2009). Also known to be closely associated with exotic grass species, with populations found in grassland almost entirely composed of Chilean needlegrass (Richter et al. 2013).	None	N/A	**Unlikely to occur.** No suitable habitat on site.
Frogs								

Growling Grass Frog	*Litoria raniformis*	Vulnerable		Vulnerable	Permanent, still or slow flowing water with fringing and emergent vegetation in streams, swamps, lagoons and artificial wetlands such as farm dams and abandoned quarries (Clemann & Gillespie 2004).	None	N/A	**Unlikely to occur.** Insufficient suitable habitat in study area, isolated from larger areas of suitable habitat.

Notes: EPBC-T = threatened species status under EPBC Act; **EPBC-M =** migratory status under the EPBC Act (M = listed migratory taxa; Bonn Convention (A2H) - Convention on the Conservation of Migratory Species of Wild Animals – listed as a member of a family; Bonn Convention (A2S) - Convention on the Conservation of Migratory Species of Wild Animals - species listed explicitly; CAMBA - China- Australia Migratory Birds Agreement; JAMBA - Japan-Australia Migratory Birds Agreement; ROKAMBA - Republic of Korea Australia Migratory Birds Agreement); **FFG =** threatened species status under the FFG Act.

5.5.3. Susceptibility of listed fauna to impacts

The following analysis identifies the susceptibility of listed fauna species that may utilise the study area to development. This analysis includes consideration of the following factors:

- Mobility of the species;
- Availability and extent of other suitable habitat in the region and degree to which each species may rely on habitat in the study area; and

Targeted surveys will be required to determine the presence or absence of any listed fauna species considered to be susceptible to impacts from development.

Birds (non-migratory)

5 listed non-migratory bird species are considered to have the potential to occur in the study area. The susceptibility of these species to possible impacts from any development in the study area is discussed below.

- **Gang-gang Cockatoo** (EPBC Act: Vulnerable)

This species may occasionally visit the study area due to the presence of planted eucalypt and pine trees, as it may forage for gumnuts and pinecones in these trees. Although these trees occupy a minority of the study area, they still formed a sizeable stand. However, the species is unlikely to breed in the study area, as no tree hollows were observed, and breeding habitat (tall, wet montane forest) was not found in the study area. Furthermore, given the highly mobile nature of this species and the large amount of likely higher-quality habitat in the surrounding region (particularly Lerderderg State Park), Gang-gang Cockatoo would likely not be impacted by development in the study area.

- **Grey Goshawk** (FFG Act: Endangered)

This species may occasionally visit the study area due to the presence of planted eucalypt and pine trees, as it may use these as perches from which to hunt over the adjacent grassland. However, the species is unlikely to breed in the study area, as breeding habitat (dense, old-growth wet forest) was not found in the study area. Furthermore, given the highly mobile nature of this species and the large amount of likely higher-quality habitat in the surrounding region (particularly Lerderderg State Park), Grey Goshawk would likely not be impacted by development in the study area.

- **Hardhead** (FFG Act: Vulnerable)

This species may occasionally visit the study area due to the presence of the small, permanent and moderately vegetated dam in the east of the study area. However, since the dam is relatively small and unlikely to be very deep, it probably represents marginal habitat for the species. Furthermore, given the mobile nature of this species and the large amount of likely higher-quality habitat in the surrounding region (particularly Rosslynne Reservoir), Hardhead would likely not be impacted by development in the study area.

- **Lewin's Rail** (FFG Act: Vulnerable)

This species may occasionally visit the study area due to the presence of the small, permanent and moderately vegetated dam in the east of the study area. However, since the dam is relatively small, not densely vegetated, and is unlikely to contain a large shallow-water zone, it probably represents marginal habitat for the species. Furthermore, given the mobile nature of this species and the large amount of likely higher-quality habitat in the surrounding region (particularly Rosslynne Reservoir), Lewin's Rail would likely not be impacted by development in the study area.

- **Swift Parrot** (EPBC Act: Critically Endangered, FFG: Critically Endangered)

This species may occasionally visit the study area due to the presence of a few planted eucalypts, as it may forage for nectar when these trees blossom, and forage for lerp should these trees become infested with them. However, the species will not breed in the study area as it breeds only in Tasmania. Furthermore, given the highly mobile nature of this species and the large amount of likely higher-quality habitat in the surrounding region (particularly Lerderderg State Park), Swift Parrot would likely not be impacted by development in the study area.

Migratory Birds

4 listed migratory bird species (excluding oceanic species and most shorebirds) have the potential to occur in the study area. The susceptibility of these species to possible impacts from any development in the study area is discussed below.

- **Fork-tailed Swift** (EPBC Act: Migratory)

This species may occasionally visit the study area as this aerial species flies over most habitat types. However, it is unlikely to be dependent on any of the resources within the study area, apart from potentially using the dam for drinking. Furthermore, given the extremely mobile nature of this species and the large amount of surface water in the surrounding region (particularly Rosslynne Reservoir), Fork-tailed Swift would likely not be impacted by development in the study area.

- **Latham's Snipe** (EPBC Act: Migratory)

This species may occasionally visit the study area due to the presence of the small, permanent and moderately vegetated dam in the east of the study area. However, since the dam is relatively small, not densely vegetated, lacks dense cover nearby, and is unlikely to contain a large shallow-water zone, it probably represents marginal habitat for the species. Furthermore, given the mobile nature of this species and the large amount of likely higher-quality habitat in the surrounding region (particularly Rosslynne Reservoir), Lewin's Rail would likely not be impacted by development in the study area.

- **Rufous Fantail** (EPBC Act: Migratory)

This species may occasionally visit the study area as it can occur in parks and gardens (which roughly corresponds to the vegetation found in the study area) when undertaking migratory movements. However, the habitat in the study area is unlikely to be of sufficient quality for breeding, as the species typically breeds in moist forests. Furthermore, given the extremely mobile nature of this species and the large amount likely higher-quality habitat in the surrounding region (particularly Lerderderg State Park) Rufous Fantail would likely not be impacted by development in the study area.

- **White-throated Needletail** (EPBC Act: Vulnerable and Migratory)

This species may occasionally visit the study area as this aerial species flies over most habitat types. However, it is unlikely to be dependent on any of the resources within the study area, apart from potentially using the dam for drinking. They do not breed in Australia and typically roost in dense woodland or forest, which was not recorded in the study area. Furthermore, given the extremely mobile nature of this species and the large amount of surface water in the surrounding region (particularly Rosslynne Reservoir), White-throated Needletail would likely not be impacted by development in the study area.

Mammals

1 listed mammal species are considered to have the potential to occur in the study area. The susceptibility of these species to possible impacts from any development in the study area is discussed below.

- **Grey-headed Flying Fox** (EPBC Act: Vulnerable; FFG Act: Vulnerable)

This species may occasionally visit the study area to forage for nectar when the planted eucalypt trees in the study area are flowering and may make use of the dam for drinking. However, there are relatively few eucalypts in the study area. Furthermore, given the highly mobile nature of this species and the large amount likely higher-quality habitat in the surrounding region, Grey-headed Flying Fox would likely not be impacted by development in the study area.

5.6. Listed ecological communities

The EPBC Protected Matters Search Tool (DAWE 2020a) indicated that 5 ecological communities listed under the EPBC Act had the potential to occur in the search region (Table 3). Occurrence of these communities in the study area was determined based on an assessment of the native vegetation present against published descriptions and condition thresholds for these communities.

Table 3: EPBC Act-listed ecological communities and likelihood of occurrence in the study area

Ecological Community	EPBC Status	Occurrence in the study area
Grey Box (Eucalyptus microcarpa) Grassy Woodlands and Derived Native Grasslands of South-eastern Australia	Endangered	Vegetation in the study area did not match listing description or meet condition thresholds. **Did not occur.**
Grassy Eucalypt Woodland of the Victorian Volcanic Plain	Critically Endangered	No patches of native vegetation occurred; therefore, community **did not occur.**
Natural Temperate Grassland of the Victorian Volcanic Plain	Critically Endangered	No patches of native vegetation occurred; therefore, community **did not occur.**
White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland	Critically Endangered	Vegetation in the study area did not match listing description or meet condition thresholds. **Did not occur.**
Seasonal Herbaceous Wetlands (Freshwater) of the Temperate Lowland Plains	Critically Endangered	Vegetation in the study area did not match listing description or meet condition thresholds. **Did not occur.**

Notes: EPBC = status under the EPBC Act.

6. Assessment of impacts

6.1. Proposed development

The current proposal will involve subdivision and development for residential housing.

To determine impacts to native vegetation, the proposed development plan was overlaid with the native vegetation mapped as part of this investigation. Native vegetation occurring in the following locations was considered to be removed based on the proposed development plan:

- Direct removal:
    - Native vegetation within all proposed building envelopes; and
    - Native vegetation within all proposed driveways
- Consequential removal:
    - Native vegetation within 10 metres of all proposed building envelopes.
    - Native vegetation within 2 metres on either side of all proposed lot boundaries (to address the future *Fences* exemption as (per Cl. 52.17-7or52.16-8).
    - Native vegetation required to be removed for the creation of defendable space.
    - Trees with the more than 10% of their TPZ encroached.
    - For subdivisions Native vegetation on new lots with an area of less than 0.4 hectares (to account for future *Site area* exemption from the requirement for a permit application as per Cl. 52.17-7or52.16-8).

Impacts to trees

In accordance with the *Assessor's Handbook* (DELWP 2018a), a tree is deemed lost when earthworks encroach on more than 10% of the Tree Protection Zone (TPZ). A TPZ is defined as an area around the trunk of the tree that has a radius of 12 × the DBH (to a maximum of 15 metres but no less than 2 metres). Dead trees are treated in the same manner.

6.2. Impacts of proposed development

Various design measures have been undertaken for this proposal to avoid and minimise impacts to native vegetation. These are detailed in Section 7.3.1.

6.2.1. Native vegetation

The current proposal footprint will result in the loss of a total extent of 0.031 hectares of native vegetation as represented in Figure 2 and documented in the *Native Vegetation Removal* (NVR) report provided by DELWP (Appendix 7).

This comprised the following:

- 1 small scattered trees, equating to an area loss of 0.031 hectares;

The native vegetation to be removed is not in an area mapped as an endangered Ecological Vegetation Class.

There is an understanding that no native vegetation has been approved for removal on the property within the last five years.

Photographs of native vegetation proposed for removal are provided in Appendix 5.

6.2.2. Modelled species important habitat

The current proposal footprint will not have a significant impact on any habitat for any rare or threatened species as determined in Appendix 7.

6.2.3. Listed flora species

The analysis of the likelihood of occurrence of listed flora species presented in Section 5.3.2 identified that no listed species would be impacted by any development in the study area.

6.2.4. Fauna habitat

Grassland: Based on the proposed development layout, impacts to the grassland will be high. However, more suitable grazing opportunities exist in the surrounding region, particularly as this patch of grassland is isolated from other patches by residential land. The main animals that would use this habitat are native birds, and they are highly mobile and likely to transition to new areas. The loss of this habitat is therefore not considered to significantly impact any species using it.

Planted Treed Vegetation: Based on the proposed development layout, impacts to the treed vegetation will be high. This will lead to loss of nesting and foraging opportunities for native birds, insects, and possibly mammals. However, there are reserves in the surrounding region, such as Mt Gisborne Reserve roughly 2 km away, that provide more extensive treed vegetation and are connected to very large tracts of forest (i.e., Lerderderg State Park). This is far more favourable fauna habitat, due to its extend and connectedness. The loss of the treed vegetation in the study area is therefore not anticipated to significantly impact any species that utilises it.

Aquatic Habitat: Based on the proposed development layout, impacts to the aquatic habitat will be very high. Amphibians, waterbirds and possibly fish will be the most heavily impacted by the loss of this habitat. However, alternative dams and wetlands are available in the surrounding region, particularly Jackson's Creek roughly 1 km away, which is also connected to large areas of aquatic habitat (i.e., Rosslynne Reservoir). The loss of this habitat is therefore not considered to significantly impact any species that utilises it. However, this habitat should be retained if it is reasonably possible.

6.2.5. Listed fauna species

The analysis of susceptibility of listed fauna species to impacts presented in Section 5.5.3 identified that the following species could be impacted by any development in the study area:

No listed fauna species are likely to be impacted by development in the study area.

6.2.6. Threatened ecological communities

The proposed development footprint will result in no losses of threatened ecological communities.

Figure 2: Native vegetation to be removed

Project: 75 Willowbank Road, Gisbourne **Client**: Calibre Group **Date**: 21/10/2022

- Study area
- Small scattered tree
- Tree Protection Zone (TPZ)
- Tree to be removed

N

Metres 0 25

Nature Advisory
PO Box 337, Camberwell, VIC 3124, Australia
www.natureadvisory.com.au
03 9815 2111 - info@natureadvisory.com.au

7. Implications under legislation and policy

7.1. Clause 12.01 of the of the Planning Scheme

This development proposal satisfies the principles underpinning Cl. 12.01 of all Victorian Planning Schemes, which are 'To ensure that there is no net loss to biodiversity as a result of the removal, destruction or lopping of native vegetation'. This has been addressed in the following ways:

- Avoidance of native vegetation removal has been achieved through the development plan layout (see Section 7.3.1)
- Impacts to native vegetation will be minimised where possible (see Section 7.3.1)
- Vegetation proposed for removal will be offset (see Section 7.3.3)

7.1.1. Overlay implications

The study area is covered by the following overlay:

- *Development Plan Overlay – Schedule 4 (DPO4)* – The purpose of this overlay is to ensure co-ordinated development of Gisborne and relates to the protection of remnant indigenous native vegetation.

  The decision guidelines require the development plan to include A flora and fauna assessment and, where necessary, an arboriculture assessment, which identifies existing vegetation (including grasses), fauna and natural drainage lines required to be protected and enhanced in the subdivision design. The assessment must include appropriate management recommendations in accordance with Victoria's Native Vegetation Management Framework and an offset plan showing appropriate offsets to compensate for the removal of native vegetation associated with the proposed development.

  This report meets the requirements of this overlay.

7.2. Clause 52.17 of the Planning Scheme

A permit for the proposed removal of native vegetation is required under Cl. 52.17 of the State Planning Provisions.

7.2.1. Exemptions

Exemptions listed in Cl. 52.17-7 relevant to the study area are:

- *Planted vegetation:* Native vegetation that is to be removed, destroyed or lopped that was either planted or grown as a result of direct seeding. This exemption does not apply to native vegetation planted or managed with public funding for the purpose of land protection or enhancing biodiversity.
- *Regrowth:* Native vegetation that is to be removed, destroyed or lopped that has naturally established or regenerated on land lawfully cleared of naturally established native vegetation, and may be classified as one of the following:
  - Less than 10 years old; or
  - Austral Bracken (*Pteridium esculentum*); or
  - Within the boundary of a timber production plantation, as indicated on a Plantation Development Notice or other documented record and has established after the plantation; or
  - Less than ten years old at the time of a property vegetation plan being signed by the Secretary to DELWP (as constituted under Part 2 of the *Conservation, Forests and Lands Act 1987*) and

is shown on that plan as being 'certified regrowth'; and on land that is to be used or maintained for cultivation or pasture during the term of that plan.

This exemption does not apply to land where native vegetation has been destroyed or otherwise damaged as a result of flood, fire or other natural disaster.

7.3. Implications under the Guidelines

7.3.1. Avoid and minimise statement

In accordance with the Guidelines, all applications to remove native vegetation must provide an avoid and minimise statement that describes any efforts undertaken to avoid the removal of and minimise the impacts to biodiversity and other values of native vegetation, and how these efforts were focused on areas of native vegetation with the highest value. Efforts to avoid and minimise impacts to native vegetation in the current application are presented as follows:

- Strategic level planning – The development plan overlay covering the site involves protecting areas of remnant indigenous vegetation where possible.
- Site level planning - The site contains very little native vegetation; therefore impacts are minimal in addition to this, three scattered remnant trees were recorded in the study area, two of these trees are to be retained in a reserve.
- Furthermore, no feasible opportunities exist to further avoid and minimise impacts to native vegetation without undermining the key objectives of the proposal.

7.3.2. Assessment pathway

The assessment pathway is determined by the location category and extent of native vegetation as detailed for the study area as follows:

- **Location Category:** Location 1.
- **Extent of native vegetation:** A total of one small, scattered tree.

Based on the extent of native vegetation removal being <0.5 hectares, not including any large trees, and being in Location 1, the Guidelines stipulate that the proposal is to be assessed under the **Basic** assessment pathway, as determined by the following matrix:

Table 4: Assessment pathway matrix

Extent of native vegetation	Location Category		
	Location 1	Location 2	Location 3
< 0.5 hectares and not including any large trees	**Basic**	Intermediate	Detailed
< 0.5 hectares and including one or more large trees	Intermediate	Intermediate	Detailed
≥ 0.5 hectares	Detailed	Detailed	Detailed

This proposal **would not** trigger a referral to DELWP based on the above criteria.

7.3.3. Offset requirements

Offsets required to compensate for the proposed removal of native vegetation from the study area are as follows:

- 0.006 general habitat units and must include the following offset attribute requirements:
  - Minimum strategic biodiversity value (SBV) of 0.248.
  - Occur within the Melbourne Water CMA boundary or the Macedon Ranges municipal district.

Under the Guidelines all offsets must be secured prior to the removal of native vegetation.

7.3.4. Offset statement

The offset target for the current proposal will be achieved via a third-party offset.

An online search of the Native Vegetation Credit Register (NVCR) has shown that the required offset is currently available for purchase from a native vegetation credit owner (DELWP 2022e).

Evidence that the required offset is available is provided in Appendix 8. The required offset would be secured following approval of the application to remove native vegetation.

7.4. EPBC Act

The EPBC Act protects a number of threatened species and ecological communities that are considered to be of national conservation significance. Any significant impacts on these species require the approval of the Australian Minister for the Environment.

Based on the relevant guidelines, the proposed development is unlikely to result in a significant impact on EPBC Act-listed values.

Therefore, there are no implications under the EPBC Act.

7.5. FFG Act

The Victorian FFG Act lists threatened and protected species and ecological communities (DELWP 2018b, DELWP 2017b). Any removal of threatened flora species or communities (or protected flora) listed under the FFG Act from public land requires a Protected Flora Permit under the Act, obtained from DELWP.

The land addressed in this assessment is private land; therefore, a Protected Flora Licence or Permit under the FFG Act would not be required for the current proposal.

7.6. EE Act

The *Ministerial Guidelines for Assessment of Environmental Effects under the* Environment Effects Act 1978 (DSE 2006) identifies criteria that trigger a Referral to the State Minister for Planning.

Based on the relevant criteria, a Referral to the State Minister for Planning will not be required under the EE Act for the aspects covered by the current investigation.

7.7. CaLP Act

The *Catchment and Land Protection Act 1994* (CaLP Act) requires that landowners (or a third party to whom responsibilities have been legally transferred) must eradicate regionally prohibited weeds and prevent the growth and spread of regionally controlled weeds.

Property owners who do not eradicate Regionally prohibited weeds or prevent the growth and spread of Regionally controlled weeds for which they are responsible, may be issued with a Land Management Notice or Directions Notice that requires specific control work to be undertaken.

In accordance with the *Catchment and Land Protection Act 1994*, the noxious weed species listed below, that were recorded in the study area, must be controlled.

- Blackberry
- Common Prickly Pear

Precision control methods that minimise off-target kills (e.g., spot spraying) should be used in environmentally sensitive areas (e.g., within or near native vegetation, waterways, etc.).

7.8. Construction mitigation recommendations

Recommendations to avoid and minimise impacts to native vegetation are provided in this report in Section 7.3.

Additional recommendations to mitigate impacts to vegetation during construction are provided below:

- Establish appropriate vegetation protection zones around areas of native vegetation to be retained prior to works.
- Establish appropriate TPZs around scattered native trees to be retained prior to works.
- Ensure all construction personnel are appropriately briefed prior to works, and that no construction personnel, machinery or equipment are placed inside vegetation zones/TPZs.
- A suitably qualified zoologist should undertake a pre-clearance survey of planted trees to be removed during the week prior to removal to identify the presence of any nests or hollows.
- If considered necessary based on the results of the pre-clearance survey, a suitably qualified zoologist should be on site during any tree removal works to capture and relocate any misplaced fauna that may be present.
- A suitably qualified zoologist must be present for the draining of aquatic habitat in the study area, to capture and relocate any misplaced fauna that may be present. All fauna must be translocated into suitable habitat less than 100 m downstream from their capture point. When frogs are captured and translocated, each individual must be handled with a new pair of disposable gloves.

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Appendix 1: Details of the assessment process in accordance with the Guidelines for the removal, destruction or lopping of native vegetation (DELWP 2017a)

Purpose and objective

Policies and strategies relating to the protection and management of native vegetation in Victoria are defined in the State Planning Policy Framework (SPPF). The objective of all Victorian Planning Schemes, as identified in Clause 12.01, is 'To ensure that there is no net loss to biodiversity as a result of the removal, destruction or lopping of native vegetation'.

This is to be achieved through the following three-step approach, as described in the Guidelines:

1. Avoid the removal, destruction or lopping of native vegetation.
2. Minimise impacts from the removal, destruction or lopping of native vegetation that cannot be avoided.
3. Provide an offset to compensate for the biodiversity impact from the removal, destruction or lopping of native vegetation.

Note: While a planning permit may still be required, if native vegetation does not meet the definition of either a patch or a scattered tree, an offset under the Guidelines is not required.

Assessment pathways

The first step in determining the type of assessment required for any site in Victoria is to determine the assessment pathway for the proposed native vegetation removal. The three possible assessment pathways for applications to remove native vegetation in Victoria are the following:

- Basic;
- Intermediate; or
- Detailed.

This assessment pathway is determined by the following two factors:

- **Location Category**, as determined using the Location Map of Victoria. The location category indicates the potential risk to biodiversity from removing a small amount of native vegetation. The three location categories are defined as follows:
    - Location 1 – shown in light blue-green on the Location Map; occurring over most of Victoria.
    - Location 2 – shown in dark blue-green on the Location Map; includes areas mapped as endangered EVCs and/or sensitive wetlands and coastal areas.
    - Location 3 – shown in brown on the Location Map; includes areas where the removal of less than 0.5 hectares of native vegetation could have a significant impact on habitat for rare and threatened species.
- **Extent of native vegetation** – The extent of any patches and scattered trees proposed to be removed (and the extent of any past native vegetation removal), with consideration as to whether the proposed removal includes any large trees. Extent of native vegetation is determined as follows:
    - **Patch** – the area of the patch in hectares.
    - **Scattered Tree** – the extent of a scattered tree is dependent on whether the scattered tree is small or large. A tree is considered to be a large tree if the DBH is greater than or equal to the large tree benchmark DBH for the relevant bioregional EVC. Any scattered tree that is not a

large tree is a small scattered tree. The extent of large and small scattered trees is determined as follows:

- **Large scattered tree** – the area of a circle with a 15 metre radius, with the trunk of the tree at the centre.
- **Small scattered tree** – the area of a circle with a ten-metre radius, with the trunk of the tree at the centre.

The assessment pathway for assessing an application to remove native vegetation is subsequently determined as shown in the following matrix table:

Extent of native vegetation	Location Category		
	Location 1	Location 2	Location 3
< 0.5 hectares and not including any large trees	Basic	Intermediate	Detailed
< 0.5 hectares and including one or more large trees	Intermediate	Intermediate	Detailed
≥ 0.5 hectares	Detailed	Detailed	Detailed

Note: If the native vegetation to be removed includes more than one location category, the higher location category is used to determine the assessment pathway.

Landscape scale information – strategic biodiversity value

The strategic biodiversity value (SBV) is a measure of a location's importance to Victoria's biodiversity, relative to other locations across the state. This is represented as a score between 0 and 1, and determined from the SBV map, available from *NVIM* (DELWP 2022c).

Landscape scale information – habitat for rare or threatened species

Habitat importance for rare or threatened species is a measure of the importance of a location in the landscape as habitat for a particular rare or threatened species, in relation to other habitat available for that species. This is represented as a score between 0 and 1 and determined from the Habitat importance maps, administered by DELWP.

This includes two groups of habitat:

- **Highly localised habitats** – Limited in area and considered to be equally important, therefore having the same habitat importance score.
- **Dispersed habitats** – Less limited in area and based on habitat distribution models.

Habitat for rare or threatened species is used to determine the type of offset required in the detailed assessment pathway.

Biodiversity value

A combination of site-based and landscape scale information is used to calculate the biodiversity value of native vegetation to be removed. Biodiversity value is represented by a general or species habitat score, as determined below.

Firstly, the extent and condition of native vegetation to be removed are combined to determine the habitat hectares as follows:

Habitat hectares = extent of native vegetation × condition score

Secondly, the habitat hectare score is combined with a landscape factor to obtain an overall measure of biodiversity value. Two landscape factors exist as follows:

- **General landscape factor** – determined using an adjusted strategic biodiversity score and relevant when no habitat importance scores are applicable;
- **Species landscape factor** – determined using an adjusted habitat importance score for each rare or threatened species habitat mapped at a site in the Habitat importance map.

These factors are subsequently used as follows to determine the biodiversity value of a site:

General habitat score = habitat hectares × general landscape factor

Species habitat score = habitat hectares × species landscape factor

Offset requirements

A native vegetation offset is required for the approved removal of native vegetation. Offsets conform to one of two types and each type incorporates a multiplier to address the risk of offset:

- A **general offset** is required when the removal of native vegetation does not have a significant impact on any habitat for rare or threatened species (i.e. the proportional impact is below the species offset threshold). In this case a multiplier of 1.5 applies to determine the general offset amount.

General offset (amount of general habitat units) = general habitat score × 1.5

- A **species offset** is required when the removal of native vegetation has a significant impact on habitat for a rare or threatened species (i.e., the proportional impact is above the species offset threshold). In this case a multiplier of 2 applies to determine the species offset amount.

Species offset (amount of species habitat units) = Species habitat score × 2

Note: If native vegetation does not meet the definition of either a patch or scattered tree, an offset is not required.

Offset attributes

Offsets must meet the following attribute requirements, as relevant:

- General offsets
  - **Offset amount** – general offset = general habitat score × 1.5

- **Strategic biodiversity value (SBV)** – the offset has at least 80% of the SBV of the native vegetation removed
- **Vicinity** – the offset is in the same CMA boundary or municipal district as the native vegetation removed
- Habitat for rare and threatened species – N/A
- **Large trees** – the offset includes the protection of at least one large tree for every large tree to be removed

- Species offsets
  - **Offset amount** – species offset = species habitat score × 2
  - Strategic biodiversity value (SBV): N/A
  - Vicinity: N/A
  - **Habitat for rare and threatened species** – the offset comprises mapped habitat according to the Habitat importance map for the relevant species
  - **Large trees** – the offset includes the protection of at least one large tree for every large tree to be removed

Appendix 2: Large trees in patches and scattered trees recorded in the study area

Tree no.	Common Name	Scientific Name	DBH (cm)	Habitat Category	Radius of TPZ (m)	Remove/Retain
1	Swamp Gum	*Eucalyptus ovata*		Small Scattered Tree		Remove
2	Swamp Gum	*Eucalyptus ovata*		Small Scattered Tree		Retain
3	Swamp Gum	*Eucalyptus ovata*		Small Scattered Tree		Retain

Notes: DBH = Diameter at breast height (130 cm from the ground); **TPZ** = Tree Protection Zone.

Appendix 3: Flora species recorded in the study area

Origin	Common name	Scientific name	EPBC	FFG	CaLP Act
*	Ribwort	*Plantago lanceolata*			
*	Flatweed	*Hypochaeris radicata*			
*	Yorkshire Fog	*Holcus lanatus*			
*	Sweet Vernal-grass	*Anthoxanthum odoratum*			
*	Onion Grass	*Romulea rosea*			
*	Blackberry	*Rubus fruticosus spp. agg.*			C
	Bidgee-widgee	*Acaena novae-zelandiae*			
	Blackwood	*Acacia melanoxylon*			
*	Cocksfoot	*Dactylis glomerata*			
	Joint-leaf Rush	*Juncus holoschoenus*			
	Common Raspwort	*Gonocarpus tetragynus*			
*	Hairy Hawkbit	*Leontodon saxatilis subsp. saxatilis*			
	Rush	*Juncus spp.*			
*	Toowoomba Canary-grass	*Phalaris aquatica*			
	Common Spike-sedge	*Eleocharis acuta*			
	Swamp Gum	*Eucalyptus ovata*			
	Black-anther Flax-lily	*Dianella revoluta s.l.*			
*	Ox-tongue	*Helminthotheca echioides*			
*	Radiata Pine	*Pinus radiata*			
	Finger Rush	*Juncus subsecundus*			
*	Paspalum	*Paspalum dilatatum*			
*	Cleavers	*Galium aparine*			
	Brown-back Wallaby-grass	*Rytidosperma duttonianum*			
*	Sheep Sorrel	*Acetosella vulgaris*			
*	Curled Dock	*Rumex crispus*			
*	Bearded Oat	*Avena barbata*			
	Couch	*Cynodon spp.*			
	Tree Violet	*Melicytus dentatus s.s.*			
*	Prunus	*Prunus spp.*			
	Grassy Club-sedge	*Isolepis hookeriana*			
*	Common Prickly-pear	*Opuntia stricta*			C
#	Southern Blue-gum	*Eucalyptus globulus*			

Notes: EPBC = Threatened species status under the EPBC Act; **FFG-T** = Threatened species status under the FFG Act; **FFG-P =** Listed as protected (P) under the FFG Act; **CaLP Act**: Declared noxious weeds under the CaLP Act (S = State Prohibited Weeds – any infestations must be reported to DELWP that is responsible for control of these; P = Regionally Prohibited Weeds – landowners must eradicate these; C = Regionally Controlled Weeds – landowners must prevent the growth and spread of these; R = Restricted Weeds – trade in these weeds and propagules, either as plants, seeds or contaminants in other materials is prohibited).

* = introduced to Victoria

= Victorian native taxa occurring outside the natural range

Appendix 4: Fauna species recorded in the study area

Origin	Common name	Scientific name	EPBC-T	EPBC-M	FFG
Birds					
	Australian Raven	*Corvus coronoides*			
*	Eurasian Skylark	*Alauda arvensis*			
	Australian Magpie	*Gymnorhina tibicen*			
	Red Wattlebird	*Anthochaera carunculate*			
	Welcome Swallow	*Hirundo neoxena*			
	Australian White Ibis	*Threskiornis Molucca*			
	Rainbow Lorikeet	*Trichoglossus moluccanus*			
	Sulphur-crested Cockatoo	*Cacatua galerita*			
	Brown Thornbill	*Acanthiza pusilla*			
	Masked Lapwing	*Vanellus miles*			
	Little Corella	*Cacatua sanguinea*			
	Crimson Rosella	*Platycercus elegans*			
*	Common Starling	*Sturnus vulgaris*			
*	Common Blackbird	*Turdus merula*			
Mammals					
*	Brown Hare	*Lepus europaeus*			
Amphibians					
	Eastern Common Froglet	*Crinia signifera*			

Notes: EPBC-T = Threatened species status under EPBC Act; **EPBC-M**: Migratory status under the EPBC Act (M = listed migratory taxa; Bonn Convention (A2H) – Convention on the Conservation of Migratory Species of Wild Animals – listed as a member of a family; Bonn Convention (A2S) – Convention on the Conservation of Migratory Species of Wild Animals – species listed explicitly; CAMBA – China-Australia Migratory Birds Agreement; JAMBA – Japan-Australia Migratory Birds Agreement; ROKAMBA – Republic of Korea Australia Migratory Birds Agreement); **FFG:** = Threatened species status under the FFG Act.

* = introduced to Victoria

= Victorian native taxa occurring outside their natural range

Appendix 5: Photographs of native vegetation proposed for removal

All photographs were taken on 4th October 2022

Incidental Blackwood sapling to be removed

Pasture paddock populated by introduced grasses and some Native vegetation (<15%)

Swamp Gum to be removed.

Appendix 6: EVC benchmarks

Higher rainfall Plains Grassy Woodland (EVC 55_63) – Victoria Volcanic Plain

EVC/Bioregion Benchmark for Vegetation Quality Assessment

Victorian Volcanic Plain bioregion

EVC 55_63: Higher Rainfall Plains Grassy Woodland

Description:

An open, eucalypt woodland to 15 m tall or acacia/sheoak woodland to 10 m tall. Occupies poorly drained, fertile soils on flat or gently undulating plains at low elevations. The understorey consists of a few sparse shrubs over a species-rich grassy and herbaceous ground layer. This variant occupies areas receiving greater than 700 mm annual rainfall.

Large trees:

Species	DBH(cm)	# / ha
Eucalyptus spp.	70 cm	15 / ha
Acacia melanoxylon	40 cm	
Allocasuarina verticillata	40 cm	

Tree Canopy Cover:

% cover	Character Species	Common Name
20%	*Eucalyptus ovata*	Swamp Gum
	Eucalyptus viminalis	Manna Gum
	Acacia melanoxylon	Blackwood
	Allocasuarina verticillata	Drooping Sheoak

Understorey:

Life form	# Spp	% Cover	LF code
Immature Canopy Tree		5%	IT
Understorey Tree or Large Shrub	1	5%	T
Medium Shrub	3	10%	MS
Small Shrub	2	1%	SS
Prostrate Shrub	1	1%	PS
Large Herb	3	5%	LH
Medium Herb	8	15%	MH
Small or Prostrate Herb	3	5%	SH
Large Tufted Graminoid	2	5%	LTG
Medium to Small Tufted Graminoid	12	45%	MTG
Medium to Tiny Non-tufted Graminoid	2	5%	MNG
Bryophytes/Lichens	na	10%	BL
Soil Crust	na	10%	S/C

LF Code	Species typical of at least part of EVC range	Common Name
MS	*Acacia pycnantha*	Golden Wattle
MS	*Acacia paradoxa*	Hedge Wattle
SS	*Pimelea humilis*	Common Rice-flower
PS	*Astroloma humifusum*	Cranberry Heath
PS	*Bossiaea prostrata*	Creeping Bossiaea
MH	*Leptorhynchos squamatus*	Scaly Buttons
MH	*Chysocephalum apiculatum*	Common Everlasting
MH	*Gonocarpus tetragynus*	Common Raspwort
MH	*Acaena echinata*	Sheep's Burr
SH	*Dichondra repens*	Kidney-weed
SH	*Hydrocotyle laxiflora*	Stinking Pennywort
LTG	*Austrostipa mollis*	Supple Spear-grass
LTG	*Austrostipa bigeniculata*	Kneed Spear-grass
MTG	*Themeda triandra*	Kangaroo Grass
MTG	*Poa morrisii*	Soft Tussock-grass
MTG	*Austrodanthonia setacea*	Bristly Wallaby-grass
MTG	*Austrodanthonia racemosa* var. *racemosa*	Stiped Wallaby-grass
MNG	*Microlaena stipoides* var. *stipoides*	Weeping Grass

Recruitment:

Continuous

Organic Litter:
10 % cover

Logs:
10 m/0.1 ha.

Weediness:

LF Code	Typical Weed Species	Common Name	Invasive	Impact
MS	*Lycium ferocissimum*	African Box-thorn	high	high
LH	*Cirsium vulgare*	Spear Thistle	high	high
LH	*Sonchus oleraceus*	Common Sow-thistle	high	low
LH	*Plantago lanceolata*	Ribwort	high	low
MH	*Hypochoeris radicata*	Cat's Ear	high	low
LNG	*Holcus lanatus*	Yorkshire Fog	high	high
MTG	*Vulpia bromoides*	Squirrel-tail Fescue	high	low
MTG	*Romulea rosea*	Onion Grass	high	low
MTG	*Briza minor*	Lesser Quaking-grass	high	low
MTG	*Briza maxima*	Large Quaking-grass	high	low

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Appendix 7: Native Vegetation Removal (NVR) report

Scenario test – native vegetation removal

This report provides offset requirements for internal testing of different proposals to remove native vegetation. **This report DOES NOT support an application to remove, destroy or lop native vegetation under Clause 52.16 or 52.17 of planning schemes in Victoria.** A report must be obtained from the Department of Environment, Land, Water and Planning (DELWP).

Date of issue: **05/10/2022**
Time of issue: **10:00 am**

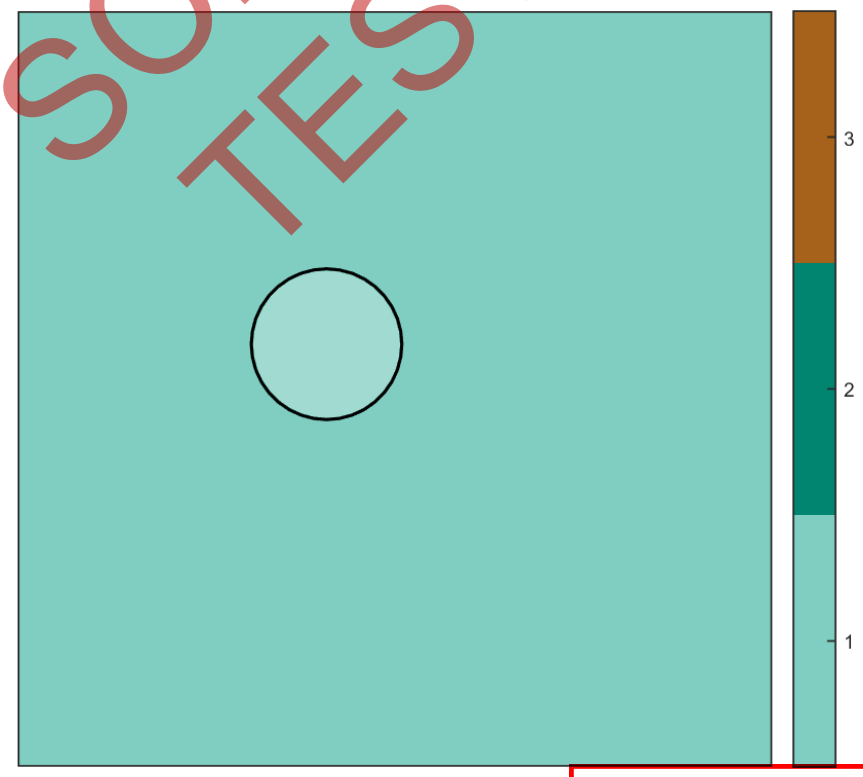
Report ID: Scenario Testing

Project ID	22057_75Willowbank_Road_Removal_221005

Assessment pathway

Assessment pathway	**Basic Assessment Pathway**
Extent including past and proposed	0.031 ha
Extent of past removal	0.000 ha
Extent of proposed removal	0.031 ha
No. Large trees proposed to be removed	0
Location category of proposed removal	Location 1 The native vegetation is not in an area mapped as an endangered Ecological Vegetation Class (as per the statewide EVC map), sensitive wetland or coastal area. Removal of less than 0.5 hectares in this location will not have a significant impact on any habitat for a rare or threatened species

1. Location map



Scenario test – native vegetation removal

Offset requirements if a permit is granted

Any approval granted will include a condition to obtain an offset that meets the following requirements:

General offset amount[1]	0.006 general habitat units
Vicinity	Port Phillip and Westernport Catchment Management Authority (CMA) or Macedon Ranges Shire Council
Minimum strategic biodiversity value score[2]	0.248
Large trees	0 large trees

NB: values within tables in this document may not add to the totals shown above due to rounding

Appendix 1 includes information about the native vegetation to be removed

Appendix 2 includes information about the rare or threatened species mapped at the site.

Appendix 3 includes maps showing native vegetation to be removed and extracts of relevant species habitat importance maps

1 The general offset amount required is the sum of all general habitat units in Appendix 1.

2 Minimum strategic biodiversity score is 80 per cent of the weighted average score across habitat zones where a general offset is required.

Scenario test – native vegetation removal

Next steps

Any proposal to remove native vegetation must meet the application requirements of the Basic Assessment Pathway and it will be assessed under the Basic Assessment Pathway.

This report DOES NOT support an application to remove, destroy or lop native vegetation under Clause 52.16 or 52.17 of planning schemes in Victoria.

If you wish to remove the mapped native vegetation you must submit the related shapefiles to the Department of Environment, Land, Water and Planning (DELWP) for processing, by email to ensymnvrtool.support@delwp.vic.gov.au. DELWP will provide a *Native vegetation removal report* that is required to meet the permit application requirements in accordance with *Guidelines for the removal, destruction or lopping of native vegetation* (Guidelines).

Appendix 1: Description of native vegetation to be removed

All zones require a general offset, the general habitat units each zone is calculated by the following equation in accordance with the Guidelines:

General habitat units = extent x condition x general landscape factor x 1.5, where the general landscape factor = 0.5 + (strategic biodiversity value score/2)

The general offset amount required is the sum of all general habitat units per zone.

Native vegetation to be removed

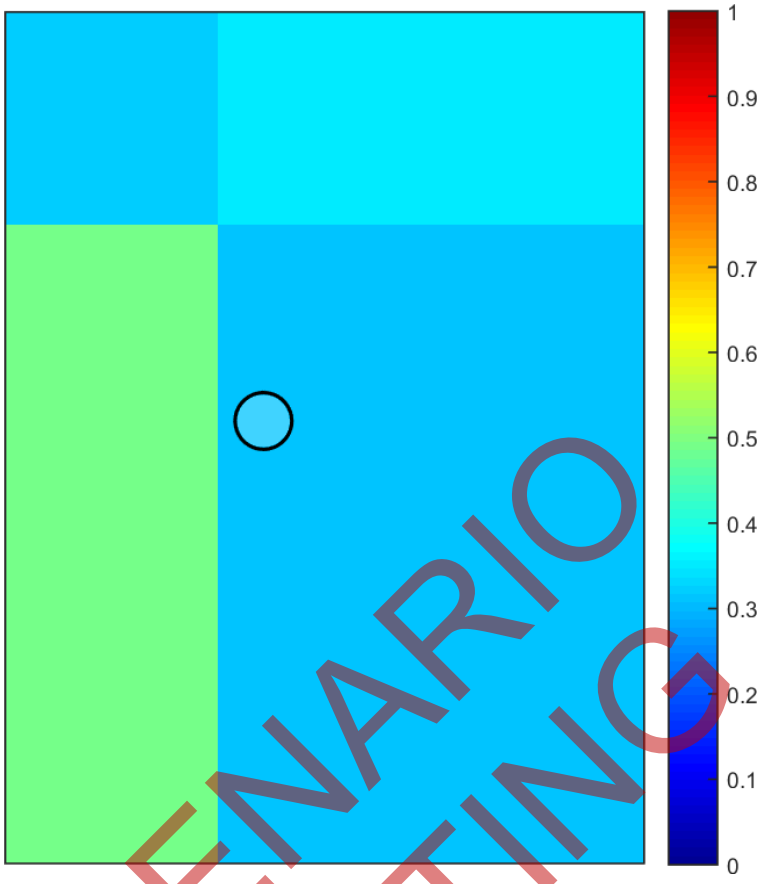
Information provided by or on behalf of the applicant in a GIS file							Information calculated by EnSym					
Zone	**Type**	**BioEVC**	**BioEVC conservation status**	**Large tree(s)**	**Partial removal**	**Condition score**	**Polygon Extent**	**Extent without overlap**	**SBV score**	**HI score**	**Habitat units**	**Offset type**
1-1	Scattered Tree	vvp_0055	Endangered	0	no	0.200	0.031	0.031	0.310		0.006	General

Appendix 2: Information about impacts to rare or threatened species' habitats on site

This is not applicable in the Basic Assessment Pathway.

Appendix 3 – Images of mapped native vegetation

2. Strategic biodiversity values map



Appendix 8: Evidence that native vegetation offset requirement is available

Report of available native vegetation credits

This report lists native vegetation credits available to purchase through the Native Vegetation Credit Register.

This report is **not evidence** that an offset has been secured. An offset is only secured when the units have been purchased and allocated to a permit or other approval and an allocated credit extract is provided by the Native Vegetation Credit Register.

Date and time: 26/10/2022 01:46 **Report ID: 16446**

What was searched for?

General offset

General habitat units	Strategic biodiversity value	Large trees	Vicinity (Catchment Management Authority or Municipal district)	
0.006	0.248	0	CMA	Port Phillip and Westernport
			or LGA	Macedon Ranges Shire

Details of available native vegetation credits on 26 October 2022 01:46

These sites meet your requirements for general offsets.

Credit Site ID	GHU	LT	CMA	LGA	Land owner	Trader	Fixed price	Broker(s)
BBA-0277	6.989	460	Port Phillip and Westernport	Mornington Peninsula Shire	No	Yes	No	Abezco, Ethos, VegLink
BBA-0670	17.745	147	Port Phillip and Westernport	Cardinia Shire	No	Yes	No	Abezco, VegLink
BBA-0677	16.505	1492	Port Phillip and Westernport	Whittlesea City	No	Yes	No	Abezco, VegLink
BBA-0678	46.086	2626	Port Phillip and Westernport	Nillumbik Shire	No	Yes	No	VegLink
BBA-0678_2	0.388	59	Port Phillip and Westernport	Nillumbik Shire	No	Yes	No	VegLink
BBA-0931	0.034	0	Port Phillip and Westernport	Moorabool Shire	Yes	Yes	No	Bio Offsets
BBA-2774	0.020	9	Port Phillip and Westernport	Greater Geelong City	Yes	Yes	No	VegLink
BBA-2789	1.317	14	Port Phillip and Westernport	Baw Baw Shire	Yes	Yes	No	Contact NVOR
BBA-2790	2.911	116	Port Phillip and Westernport	Baw Baw Shire	Yes	Yes	No	Contact NVOR
BBA-2832	0.333	0	Port Phillip and Westernport	Nillumbik Shire	Yes	Yes	Yes	Nillumbik SC
BBA-2853	0.010	46	Port Phillip and Westernport	Greater Geelong City	Yes	Yes	No	VegLink
BBA-2870	0.044	0	Port Phillip and Westernport	Yarra Ranges Shire	No	Yes	No	Contact NVOR
BBA-2870	2.544	431	Port Phillip and Westernport	Yarra Ranges Shire	Yes	Yes	No	VegLink

BBA-2871	16.335	1668	Port Phillip and Westernport	Yarra Ranges Shire	Yes	Yes	No	VegLink
BBA-3030	2.271	0	Port Phillip and Westernport	Moorabool Shire	Yes	Yes	No	VegLink
BBA-3030	0.324	0	Port Phillip and Westernport	Moorabool Shire	Yes	Yes	Yes	VegLink
BBA-3030	0.326	0	Port Phillip and Westernport	Moorabool Shire	No	Yes	No	Contact NVOR
TFN-C0287	0.158	0	Port Phillip and Westernport	Cardinia Shire	Yes	Yes	No	TFN
TFN-C1636	0.976	130	Port Phillip and Westernport	Yarra Ranges Shire	No	Yes	No	Yarra Ranges SC
TFN-C1650	0.098	20	Port Phillip and Westernport	Yarra Ranges Shire	Yes	Yes	Yes	Yarra Ranges SC
TFN-C1663	0.109	27	Port Phillip and Westernport	Yarra Ranges Shire	Yes	Yes	Yes	Yarra Ranges SC
TFN-C1664	2.556	65	Port Phillip and Westernport	Yarra Ranges Shire	Yes	Yes	No	Yarra Ranges SC
TFN-C1667	0.028	0	Port Phillip and Westernport	Yarra Ranges Shire	Yes	Yes	No	Yarra Ranges SC
TFN-C1763_3	11.231	0	Port Phillip and Westernport	Mornington Peninsula Shire	Yes	Yes	No	Ecocentric
TFN-C1854	0.251	0	North Central	Macedon Ranges Shire	No	Yes	No	VegLink
TFN-C1962	0.098	9	Goulburn Broken, Port Phillip and Westernport	Macedon Ranges Shire	No	Yes	No	Contact NVOR
TFN-C1962_2	0.011	0	Goulburn Broken, Port Phillip and Westernport	Macedon Ranges Shire	No	Yes	No	VegLink
TFN-C1980	0.019	0	Port Phillip and Westernport	Mornington Peninsula Shire	Yes	Yes	No	Ecocentric
VC_CFL-0838_01	0.209	697	Port Phillip And Westernport	Yarra Ranges Shire	Yes	Yes	No	VegLink
VC_CFL-3016_01	0.192	35	Port Phillip And Westernport	Yarra Ranges Shire	Yes	Yes	No	VegLink
VC_CFL-3084_01	0.464	353	Port Phillip And Westernport	Cardinia Shire	Yes	Yes	No	VegLink
VC_CFL-3084_02	0.040	40	Port Phillip And Westernport	Cardinia Shire	Yes	Yes	No	VegLink
VC_CFL-3682_01	1.695	0	Port Phillip And Westernport	Nillumbik Shire	Yes	Yes	No	Abezco
VC_CFL-3687_01	0.411	72	Port Phillip And Westernport	Baw Baw Shire	Yes	Yes	No	Baw Baw SC
VC_CFL-3705_01	0.008	3	Port Phillip And Westernport	Melton City	Yes	Yes	No	VegLink
VC_CFL-3708_01	0.199	511	Port Phillip And Westernport	Yarra Ranges Shire	Yes	Yes	No	VegLink
VC_CFL-3709_01	0.139	395	Port Phillip And Westernport	Yarra Ranges Shire	Yes	Yes	No	VegLink
VC_CFL-3729_01	0.016	6	Port Phillip And Westernport	Melton City	Yes	Yes	No	VegLink
VC_CFL-3740_01	1.756	96	Port Phillip And Westernport	Cardinia Shire, Yarra Ranges Shire	Yes	Yes	No	Bio Offsets
VC_CFL-3740_01	0.364	22	Port Phillip And Westernport	Yarra Ranges Shire	Yes	Yes	No	Bio Offsets
VC_CFL-3744_01	2.428	377	Port Phillip And Westernport	Macedon Ranges Shire	Yes	Yes	No	VegLink
VC_CFL-3762_01	0.408	106	Port Phillip And Westernport	Moorabool Shire	Yes	Yes	No	VegLink

VC_CFL-3762_01	0.175	0	Port Phillip And Westernport	Moorabool Shire	Yes	Yes	Yes	VegLink
VC_CFL-3764_01	12.037	55	Port Phillip And Westernport	Yarra Ranges Shire	Yes	Yes	No	VegLink
VC_CFL-3769_01	2.617	77	Port Phillip And Westernport	Nillumbik Shire	Yes	Yes	No	VegLink

These sites meet your requirements using alternative arrangements for general offsets.

Credit Site ID	GHU	LT	CMA	LGA	Land owner	Trader	Fixed price	Broker(s)

There are no sites listed in the Native Vegetation Credit Register that meet your offset requirements when applying the alternative arrangements as listed in section 11.2 of the Guidelines for the removal, destruction or lopping of native vegetation.

These potential sites are not yet available, land owners may finalise them once a buyer is confirmed.

Credit Site ID	GHU	LT	CMA	LGA	Land owner	Trader	Fixed price	Broker(s)
VC_CFL-3710_01	7.606	322	Port Phillip And Westernport	Yarra Ranges Shire	Yes	Yes	No	VegLink
VC_CFL-3746_01	4.962	563	Port Phillip And Westernport	Macedon Ranges Shire	Yes	Yes	No	VegLink
VC_CFL-3773_01	10.128	1262	North Central	Macedon Ranges Shire	Yes	Yes	No	VegLink

LT - Large Trees *CMA - Catchment Management Authority* *LGA - Municipal District or Local Government Authority*

Next steps

If applying for approval to remove native vegetation
Attach this report to an application to remove native vegetation as evidence that your offset requirement is currently available.

If you have approval to remove native vegetation
Below are the contact details for all brokers. Contact the broker(s) listed for the credit site(s) that meet your offset requirements. These are shown in the above tables. If more than one broker or site is listed, you should get more than one quote before deciding which offset to secure.

Broker contact details

Broker Abbreviation	Broker Name	Phone	Email	Website
Abezco	Abzeco Pty. Ltd.	(03) 9431 5444	offsets@abzeco.com.au	www.abzeco.com.au
Baw Baw SC	Baw Baw Shire Council	(03) 5624 2411	bawbaw@bawbawshire.vic.gov.au	www.bawbawshire.vic.gov.au
Bio Offsets	Biodiversity Offsets Victoria	0452 161 013	info@offsetsvictoria.com.au	www.offsetsvictoria.com.au
Contact NVOR	Native Vegetation Offset Register	136 186	nativevegetation.offsetregister@delwp.vic.gov.au	www.environment.vic.gov.au/native-vegetation
Ecocentric	Ecocentric Environmental Consulting	0410 564 139	ecocentric@me.com	Not avaliable
Ethos	Ethos NRM Pty Ltd	(03) 5153 0037	offsets@ethosnrm.com.au	www.ethosnrm.com.au
Nillumbik SC	Nillumbik Shire Council	(03) 9433 3316	offsets@nillumbik.vic.gov.au	www.nillumbik.vic.gov.au
TFN	Trust for Nature	8631 5888	offsets@tfn.org.au	www.trustfornature.org.au
VegLink	Vegetation Link Pty Ltd	(03) 8578 4250 or 1300 834 546	offsets@vegetationlink.com.au	www.vegetationlink.com.au
Yarra Ranges SC	Yarra Ranges Shire Council	1300 368 333	biodiversityoffsets@yarraranges.vic.gov.au	www.yarraranges.vic.gov.au

For more information contact the DELWP Customer Service Centre 136 186 or the Native Vegetation Credit Register at nativevegetation.offsetregister@delwp.vic.gov.au

Arboricultural Impact Assessment and Report

Assessment of Trees at 75 Willowbank Road, Gisborne

Report Details

Client:	Ecko No 3 C/o Axiom Consulting Engineers 6 Webster Street, Ballarat, Vic, 3350
Responsible Authority:	Macedon Ranges Shire Council
Subject site details:	75 Willowbank Road, Gisborne
Date of assessment	Thursday, 29 September 2022
Date of report:	Wednesday, 16 November 2022
Planning permit details:	
Plans, maps or other construction information:	Feature survey provided by Swanson Surveying – File Ref: 12082 FS01V1 Tree removal/Protection Plan provided by Axiom Consulting Engineers - 985PL-01
Other relevant Arborist, Ecology or Development Impact Reports:	Flora and Fauna Assessment prepared by Nature Advisory (Date: October 2022, Report No: 22057.01(1.0).
Axiom Tree Management Job Number:	11056
Prepared By:	*Tim Cameron - Consulting Arborist/Director* Email: timcameron@axiomtrees.com Qualifications: -Graduate Certificate Arboriculture -Diploma Horticulture (Arboriculture) – AQF Level 5
Reviewed By:	*Robyn Cameron – Axiom Tree Management Administration Co-ordinator*
Axiom Tree Management Business Information	Axiom Tree Management Pty Ltd (Office Address) Office 2/ 8 Sauer Rd, New Gisborne VIC 3438 (Postal Address) 48 Montgomerys Lane, Woodend 3442 Ph: 0428 896 951 ABN: 11 612 205 099

Disclaimer: This document may only be used for the purpose for which it was commissioned and in accordance with the contract between Axiom Tree Management and the client. This includes the information contained in the report, maps, photos and any other documentation. The scope of services was defined in consultation with the client, by time and budgetary constraints, and the availability of reports and other data on the subject area. Changes to available information, legislation and schedules are made on an ongoing basis and readers should obtain up to date information.

Contents

1 Summary

An Arboricultural Impact Assessment and Report has been undertaken to determine the impact to trees at 75 Willowbank Road, Gisborne. The report provides an overview of the site characteristics, relevant planning controls, condition, longevity, retention value of the trees. The also provides tree protection measures in accordance with AS4970-2009 and an assessment of the impact of the proposed development.

The subject site is a large semi-rural property covering approximately 6 hectares. The front of the site is accessed from Willowbank Road and contains a large single storey brick dwelling, tennis court, outbuildings, gravel driveway and established gardens. The rear of the site consists of introduced pasture grass previously mown or grazed by animals. The site slopes to the south and is predominately bordered by recently constructed residential properties.

- The assessed trees are primarily located within the subject site around the dwelling and along the boundaries. Of the two hundred and thirty (230) trees assessed, the location of trees include:
  - Trees numbered 62, 63, 92, 93, and 103-110 are located within adjoining properties; and
  - Trees numbered 1-61, 64-91, 94-102 and 111-230 are located within the subject site.
- Of the two hundred and thirty (230) trees assessed at and adjoining the subject site, the trees consisted of predominately exotic specimens.
- The health of most of the trees is 'Good' or 'Fair.
  - Most of the trees are semi-mature specimens that are growing favourable growing conditions.
  - Trees along the open drain to the northeast have reduced health ratings due to waterlogging and past excavation.
- The structure of most of the trees is 'Fair'.
  - Most of the trees are semi-mature common species that have been selected for their hardy nature and consistent low maintenance form with no major defects.
  - Mature trees along the front of the property have been growing together for many decades with some being suppressed or exhibiting major leans due to competition for light and space.
- The trees are long-lived species and have the potential to live for many decades provided conditions do not change significantly. Most of the trees are a long lived species that have the potential to live for many decades.
- Three retention values have been considered, consisting of 'High', 'Medium' and 'Low'.
  - Ten trees (10) have been assigned High retention value;
  - One hundred and twenty-two trees (122) have been assigned 'Medium' retention value; and
  - Ninety eight trees (98) have been assigned 'Low' retention value.

The proposal includes subdivision of the site into 2 Lots, installation of a stormwater pipe along the northeast boundary, removal of specified vegetation and specifications of vehicle crossings to future lots along Willowbank Road.

Removal of Vegetation

- It is proposed to remove one hundred and fifty-four (154) trees from within the subject site to allow for subdivision of the site into 2 Lots, installation of stormwater and future driveway construction. Proposed tree removal includes:
- It is proposed to retain and protect seventy-six (76) trees as part of subdivision of the site into 2 Lots, installation of stormwater and future driveway construction.

Construction of Driveways

- Construction of Crossovers and driveways will be required to access future dwellings from Willowbank Road. A concrete footpath has recently been construction within the road reserve and additional construction to match existing levels within the road reserve is unlikely to impact adjoining trees. Construction of the driveways is proposed is proposed to be at or near grade and constructed of porous/permeable material.

Stormwater Installation

- It is proposed to install a stormwater along the northeast of the site which has the potential to impact trees. Trees numbered 62 and 63 are located within the adjoining property to the east and their canopies and TPZ extend into the subject site by a considerable amount. Locating the proposed stormwater outside the TPZ (<10% encroachment) or boring to a depth greater than 750mm below existing ground level will be required. A large open drain is present within this area and boring will need to consider this drain and the final bore depth.

- Installation of the stormwater will be required within the TPZ of Trees numbered 59 and 60. Tree number 61 is proposed to be removed due to its very poor condition and non-destructive root investigation will be required to ensure roots from the retained trees are not damaged or removed. Development of a Tree Protection Management Plan in conjunction with detailed design should be undertaken to ensure the impact to trees is minor.

2 Introduction

Axiom Tree Management Pty Ltd has been engaged by Ecko No 3 C/o Axiom Consulting Engineers to provide a report on trees at 75 Willowbank Road, Gisborne. It is proposed to subdivide the site and an assessment and report has been requested to assist with planning.

2.1 Key Objectives

As part of the report the key objectives include:

- Identify and record the dimensions of trees on and adjoining the site;
- To identify any relevant local laws, planning controls that may be relevant to the site;
- Provide an assessment of the health, structure, longevity and retention value of the tree specimens;
- Provide and assessment of the impact of the proposed subdivision and associated infrastructure; and
- Provide tree mitigation and protection measures in accordance with AS 4970 2009 for retained trees.

2.2 Documents Viewed

The following reports and documents have been reviewed as part of the preparation of this report including:

- Tree removal/Protection Plan provided by Axiom Consulting Engineers - 985PL-01;
- Feature survey provided by Swanson Surveying – File Ref: 12082 FS01V1;
- Flora and Fauna Assessment provided by nature Advisory - Date: October 2022, Report No: 22057.01(1.0)
- Vic Plan – Department of Environment, Land, Water and Planning (DELWP) (https://mapshare.vic.gov.au/vicplan/);
- Aerial Image data for the site accessed from https://www.nearmap.com/au/en;
- AS 4970:2009 - Protection of Trees on Development Sites;
- AS 4373:2007 - Pruning of Amenity Trees.

2.3 Planning Controls

- The site is located within the Macedon Ranges Shire Council and is in a General Residential Zone (GRZ1);
- The site is covered by a Development Contributions Plan Overlay (DCPO2) and Development Plan Overlay (DPO4);
- No local laws that restrict removal or pruning of trees are present;
- The site is not within a Designated Bushfire Prone Area (Clause 52.12) and no exemptions apply;
- Native vegetation regulations (Clause 52.17 of the planning scheme) are present in Victoria and are primarily implemented through local council planning schemes.
    - The site is greater than 0.4 hectares and exemptions for site area do not apply; and
    - Native vegetation is present at the site and is addressed in the Flora and Fauna Assessment prepared by Nature Advisory (Date: October 2022, Report No: 22057.01(1.0).

2.4 Site Methodology

On Thursday, 29 September 2022, Tim Cameron and Daniel McWilliam conducted a site inspection. Data collected for the trees included but was not limited to:

- Botanical Name;
- Diameter at Breast Height (DBH);
- Retention Value;
- Canopy Dimensions (estimated);
- Health and Structure;
- Useful Life Expectancy (ULE).

Additional methodology includes:

- Assessments were conducted from ground level, with no instruments other than a diameter tape to measure DBH;
- A detailed visual inspection of the tree/s and the surrounding site was conducted, including a complete walk around the tree, looking at the buttress roots, trunk, branches, and leaves;
- Trees were assessed and located using differentially corrected GPS (generally +/- 1.0m accuracy) and aligned to locations provided in the feature survey.

3 Subject Site

3.1 Site Description

The subject site is a large semi-rural property covering approximately 6 hectares. The front of the site is accessed from Willowbank Road and contains a large single storey brick dwelling, tennis court, outbuildings, gravel driveway and established gardens (Figure 1 & Figure 2). The rear of the site consists of introduced pasture grass previously mown or grazed by animals. The site slopes to the south and is predominately bordered by recently constructed residential properties. The assessed trees are primarily located within the subject site around the dwelling and along the boundaries. Of the two hundred and thirty (230) trees assessed, the location of trees include:

- Trees numbered 62, 63, 92, 93, and 103-110 are located within adjoining properties; and
- Trees numbered 1-61, 64-91, 94-102 and 111-230 are located within the subject site.

Trees within adjoining properties have been assessed where their TPZ has the potential to encroach into the subject site.

Figure 1. Subject site from the south looking north showing open grassed area, trees along boundaries and dwelling.

Figure 2. Brick dwelling from the south east looking northwest showing established gardens.

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Drawn and Plotted by: TDC
Geographic Projection:
GDA 1994 MGA Zone 55
Scale: 1:1,783
Date: 10/11/2022

Site Map

Assessment of Trees at Willowbank Road Gisborne

Legend

Trees-Origin

- Exotic
- Indigenous
- Non Victorian native
- Victorian native
- Boundary
- TPZ
- SRZ
- TreeRow
- Dimensions
- TPZ Fence

Base Map:
Due to possible distortions associated with the aerial photograph, VIC map property boundaries and GPS mapping the location of existing and proposed features are approximate only and should be verified on site prior to commencement of works.All dimensions /areas shown are approximate only and should be confirmed on site.

4 Trees Details

4.1 Species Composition

Of the two hundred and thirty (230) trees assessed at and adjoining the subject site, the trees consisted of predominately exotic specimens. Most of the trees consist of *Pinus radiata* which from North America (California). Although restricted in its natural range, the species has been widely planted for timber in SE Australia and has become an environmental weed in many areas. The species has been planted at the site for screening around the time of construction of the dwelling. A row of large mature exotic specimens including *Quercus robur, Ulmus x hollandica, Ulmus x hollandica, Pinus pinaster* and *Quercus cerris* are located along the front of the property and may be up to 100 years in age.

Table 1. Species composition.

Botanical Name	Common Name	Status	Count
Pinus radiata	Monterey Pine	Exotic	**130**
Platanus Xacerifolia	London Plane	Exotic	**19**
Quercus palustris	Pin Oak	Exotic	**14**
Eucalyptus ovata	Swamp Gum	Indigenous	**9**
Eucalyptus bicostata	Eurabbie	Victorian native	**6**
Cupressus sempervirens	Italian Cypress	Exotic	**4**
Quercus robur	English Oak	Exotic	**4**
Liriodendron tulipifera	Tulip Tree	Exotic	**3**
Acer rubrum	Red Maple	Exotic	**3**
Quercus cerris	Turkey Oak	Exotic	**3**
Acacia melanoxylon	Blackwood	Indigenous	**2**
Liquidambar styraciflua	Liquidamber	Exotic	**2**
Phoenix canariensis	Canary Island Date Palm	Exotic	**2**
Eucalyptus cladocalyx	Sugar Gum	Non-Victorian Native	**2**
Morus nigra	Black Mulberry	Exotic	**2**
Betula pendula	Silver Birch	Exotic	**2**
Ulmus X hollandica	Dutch Elm	Exotic	**2**
Magnolia grandiflora	Bull Bay	Exotic	**1**
Fraxinus excelsior 'Aurea'	Golden Ash	Exotic	**1**
Juglans regia	Walnut	Exotic	**1**
Juniperus scopulorum 'Blue Arrow'	Blue Rocky Mountain Juniper	Exotic	**1**
Eriobotrya japonica	Loquat	Exotic	**1**
Eucalyptus globulus	Blue Gum	Victorian native	**1**
Malus domestica	Apple	Exotic	**1**
Malus sp.	Apple	Exotic	**1**
Morus alba 'Pendula'	Weeping Mulberry	Exotic	**1**
Unknown sp.	Unknown	Exotic	**1**
Olea europaea	European Olive	Exotic	**1**
Pinus pinaster	Maritime Pine	Exotic	**1**
Populus alba 'Pyramidalis'	White Fastigiate Poplar	Exotic	**1**
Prunus cerasifera	Cherry Plum	Exotic	**1**
Prunus sp.	Plum	Exotic	**1**
Quercus canariensis	Algerian Oak	Exotic	**1**
Salix babylonica	Weeping Willow	Exotic	**1**
Thuja occidentalis	White Cedar	Exotic	**1**
Ulmus glabra 'Camperdownii'	Weeping Elm	Exotic	**1**
Ulmus parvifolia	Chinese Elm	Exotic	**1**
Morus alba	Mulberry	Exotic	**1**
Total			**230**

4.2 Health

The health of most of the trees is 'Good' or 'Fair. The assessment of health has been assigned based on several factors including canopy growth and density, presence of pest or disease, presence of dead branches considering the time of year and typical form of the species. Most of the trees are semi-mature specimens that are growing favourable growing conditions. Trees along the open drain to the northeast have reduced health ratings due to waterlogging and past excavation.

4.3 Structure

The structure of most of the trees is 'Fair'. Most of the trees are semi-mature common species that have been selected for their hardy nature and consistent form. Most trees are relatively low maintenance species with no major defects. Mature trees along the front of the property have been growing together for many decades with some being suppressed or exhibiting major leans due to competition for light and space.

4.4 Useful Life Expectancy (ULE)

The ULE of a tree is assigned by the assessor based on many factors including species longevity, suitability to the site and current age and condition both regarding health and structure. It is an estimation of how long a tree can provide amenity in the landscape at an acceptable level of risk. Most of the trees are a long lived Eucalyptus species that have the potential to live for many decades. The trees are long-lived species and have the potential to live for many decades provided conditions do not change significantly. Most of the trees are a long lived species that have the potential to live for many decades.

Table 2. Health, structure, and ULE ratings.

Health/Structure Range	Health Count	Structure Count	ULE ratings	ULE
Good	196	83	20+ years	132
Fair	26	116	10-20 years	57
Poor	2	31	5-10 years	33
Very poor/Dead/Failed	6	0	0-5 years	8
Total	230	230	Total	230

4.5 Recommended Arboricultural Works

Pruning and removal works have been recommended for five trees (5) regardless of future development (Table 2). Qualified arborists should carry out all pruning works. The minimum qualification should be Certificate in Horticulture (Arboriculture) AQF Level 3. All pruning should conform to the Australian Standard Pruning of Amenity Trees (AS 4373-2007).

Table 2. Recommended pruning and removal works.

ID	Botanical Name	H x W	DBH (cm)	ULE	Recommended works	Comments
5	Quercus palustris	14m x 8m	40	20+ years	Codominant reduction	Reduce stem to south by 25%
11	Acer rubrum	6m x 1m	9	20+ years	Formative prune	Remove codominant
17	Quercus palustris	14m x 8m	55	20+ years	Hanging branch removal	
48	Quercus robur	19m x 20m	96	20+ years	Deadwood removal	Deadwood over driveway
61	Pinus pinaster	24m x 8m	126	1-5 years	Removal	Tree in severe decline

5 Retention Rating

Three retention values have been considered, consisting of 'High', 'Medium' and 'Low'. Retention value considers tree size and condition, ULE, contribution to landscape and individual tree significance and they provide useful information to planners, regarding which trees are considered worthy of protection in the design phase. Table 3 gives a breakdown of retention values across the site.

Table 3. Retention Values

Retention Value	Count
High	10
Medium	122
Low	98
Total	**230**

5.1 High Retention

Ten trees (10) have been assigned High retention value. High retention trees are well suited to the site and offer amenity. They are normally in 'Good' to 'Fair' health and have 'Good' to 'Fair' structure. The ULE should be at least the same as the design life of any new buildings.

5.2 Medium Retention

One hundred and twenty-two trees (122) have been assigned 'Medium' retention value. The trees are moderate or large sized specimens with a general condition rating of fair. If designing around these trees is not feasible or practical, removal and replacement would be an acceptable compromise.

5.3 Low Retention

Ninety eight trees (98) have been assigned 'Low' retention value. Low retention value trees are either young or semi mature common varieties that are easily replaceable or are dead and require removal. Trees in poor health or with significant defects in structure are not suitable for preservation in areas where people or structures will be located (Matheny & Clark, 1998).

6 TPZ Specifications

Regardless of tree condition or retention value, any tree selected to be retained requires protection during construction. The best way to protect retained trees as part of any development is by establishing a tree protection zone (TPZ). TPZs have been calculated according to *Protection of Trees on Development Sites* (AS 4970-2009) for all trees to be retained calculating the TPZ as 12 times the trunk diameter at 1.4m above ground level (DBH). The TPZ fence is designed to act as a physical barrier of protective fencing. It is erected around retained specimens (at the edge of the TPZ or where specified by the Arborist) before site works commence. Activities excluded from the TPZ include but are not limited to-

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

6.1 Encroachment

Encroachment into the TPZ of trees is allowed under certain circumstances depending on several factors including site and tree conditions.

Encroachment Less Than 10%

Encroachment of less than 10% of the TPZ and outside the SRZ is deemed to be minor encroachment according to AS 4970-2009. Detailed root investigations should not be required but must be compensated with an extension to the TPZ elsewhere (Figure 6 & Figure 7). Variations must be made by the project arborist considering other relevant factors including tree health, vigour, stability, species sensitivity and soil characteristics.

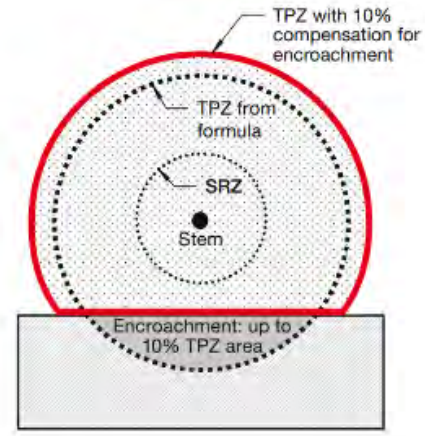


Figure 3. Example of TPZ encroachment and compensatory offset (image from AS 4970-2009).

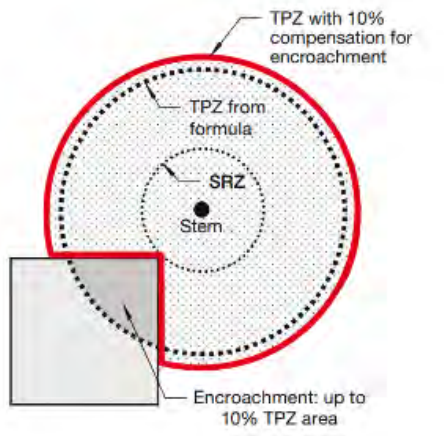


Figure 4. Example of TPZ encroachment and compensatory offset (image from AS 4970-2009)

Encroachment Greater Than 10%

Encroachment of more than 10% of the TPZ or into the SRZ will require the project arborist to demonstrate that the tree(s) will remain viable. The area lost to this encroachment should be compensated for elsewhere and contiguous with the TPZ. This may require root investigation by non-destructive methods and consideration of relevant factors tree health, vigour, stability, species sensitivity and soil characteristics.

6.2 SRZ

The SRZ is the minimum volume of roots required by the tree to remain stable in the ground. If the SRZ is breached the chances of windthrow are significantly increased, especially if roots are cut on the same side as prevailing winds. Windthrow is an event where the entire tree fails/falls over. Often, the tree is completely uprooted with devastating results. It is important to note that the SRZ is not related to tree health. It refers to the physical volume of roots required for the tree to remain stable in the ground. It is in no way related to the physiological requirements of the tree but is the minimum volume of roots required for the tree to remain standing.

7 Construction Impact and Tree Protection Measures

7.1 Design Proposal

The proposal includes:

- Subdivision of the site into 2 Lots;
- Installation of a stormwater pipe along the northeast boundary;
- Removal of specified vegetation; and
- Specifications of vehicle crossings to future lots along Willowbank Road.

7.2 Construction Impact

Construction into the TPZs of trees is allowed (AS 4970 2009). The level of encroachment is based upon the percentage of TPZ area intruded upon with less than 10% encroachment considered minor and greater than 10% encroachment considered major. Minor encroachment is considered acceptable with some modification of the TPZ, whereas mitigation measures/alternative designs are required for trees with major encroachment.

Based on the current plans, the tree removal/retention and construction impact include:

Removal of Vegetation

- It is proposed to remove one hundred and fifty-four (154) trees from within the subject site to allow for subdivision of the site into 2 Lots, installation of stormwater and future driveway construction. Proposed tree removal includes:
  - One hundred and twenty-seven trees (127) *Pinus radiata* which have been planted along the boundary;
  - Trees numbered 64 and 65 proposed for removal are *Acacia melanoxylon* which are dead, less than 40cm diameter at 1.3m and exempt from the requirements of Clause 52.17 of the planning scheme;
  - Tree number 91 is a *Eucalyptus ovata* which is native to the local area and will require a permit to remove which is outlined in the Flora and Fauna assessment;
  - Tree number 61 is a large *Pinus pinaster* and removal has been recommended due to the trees very poor condition and high likelihood of failure;
  - Tree number 44 is a moderately sized exotic specimen that has been previously lopped and is recommended for removal to reduce the impact to larger significant trees from driveway construction;
  - The remaining trees are relatively young or self-sown exotic trees.
- It is proposed to retain and protect seventy-six (76) trees as part of subdivision of the site into 2 Lots, installation of stormwater and future driveway construction.

Table 3 Tree removal and retention summary

	Encroachment		Total
Retention Value	Proposed removal	Proposed retention	
High	1	9	10
Medium	75	47	122
Low	78	20	98
Total	154	76	230

Construction of Driveways

Construction of Crossovers and driveways will be required to access future dwellings from Willowbank Road. A concrete footpath has recently been construction within the road reserve and additional construction to match existing levels within the road reserve is unlikely to impact adjoining trees. Construction of the driveways is proposed is proposed to be at or near grade and constructed of porous/permeable material. Specification for crossover and driveway construction include:

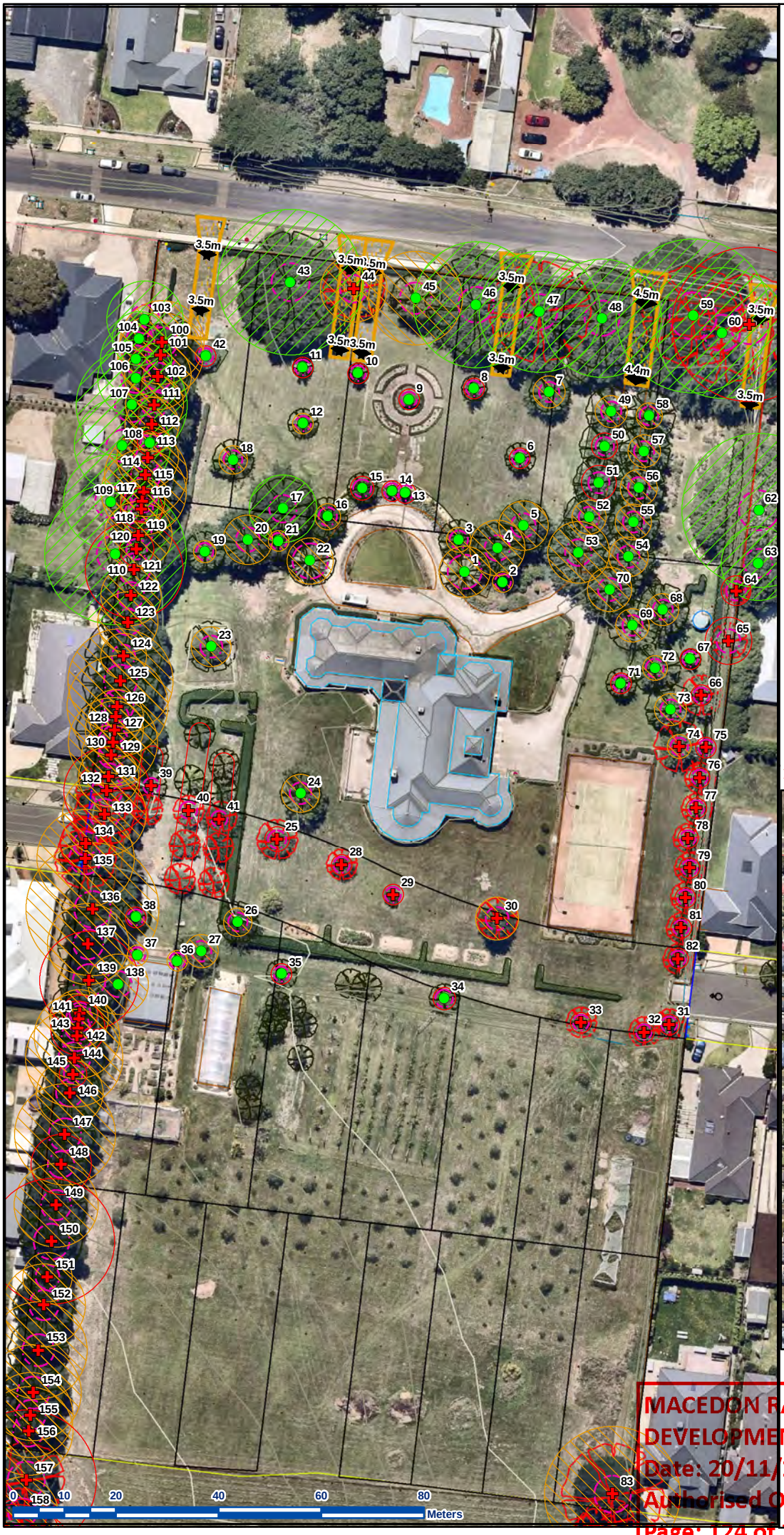
- Driveway/crossover construction within the TPZ area is to be constructed at or near grade using porous/permeable material with no greater than 150mm cut/scrape permitted for preparation;
- Cut/scrape for preparation is to be dug by hand or with excavation equipment no greater than 3 ton in operating weight within TPZ areas to reduce the likelihood of root damage;
- Where surface roots are identified, the finished soil level is to be raised (no greater than 150mm) to reduce the probability of root damage;
- Where large amounts of battering/fill is required greater than 150mm, alternative design methods/materials will be required to reduce the impact on trees.

Stormwater Installation

It is proposed to install a stormwater along the northeast of the site which has the potential to impact trees. Trees numbered 62 and 63 are located within the adjoining property to the east and their canopies and TPZ extend into the subject site by a considerable amount. Locating the proposed stormwater outside the TPZ (<10% encroachment) or boring to a depth greater than 750mm below existing ground level will be required. A large open drain is present within this area and boring will need to consider this drain and the final bore depth.

Installation of the stormwater will be required within the TPZ of Trees numbered 59 and 60. Tree number 61 is proposed to be removed due to its very poor condition and non-destructive root investigation will be required to ensure roots from the retained trees are not damaged or removed. Development of a Tree Protection Management Plan in conjunction with detailed design should be undertaken to ensure the impact to trees is minor. General specifications for underground service installation includes:

- Boring is to be explored where services occur within the TPZs greater than 10%;
- Entry/exit pits and boring machines must be located outside TPZ areas;
- Boring should be greater than 600mm below existing grade and consider existing ground conditions and levels;
- Where boring is not practical, non-destruction root excavation (Hydro excavation) under supervision from a qualified Arborist (AQF level 5) may be used. No roots greater than 50mm are permitted to be removed or destroyed. Roots less than 50mm must be cleanly at the time of excavation.



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Drawn and Plotted by: TDC
Geographic Projection:
GDA 1994 MGA Zone 55
Scale: 1:1,050
Date: 16/11/2022

Development Impact Plan

Assessment of Trees at Willowbank Road Gisborne

Legend

Trees-Removal/retention

- Remove
- Retain
- Maps

TPZ-Retention Value

- High
- Medium
- Low
- SRZ
- Dimensions
- Crossover/Driveway
- TPZ Fence

Base Map:
Due to possible distortions associated with the aerial photograph, VIC map property boundaries and GPS mapping the location of existing and proposed features are approximate only and should be verified on site prior to commencement of works.All dimensions /areas shown are approximate only and should be confirmed on site.

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- Dimensions
- Crossover/Driveway
- TPZ Fence

Base Map:
Due to possible distortions associated with the aerial photograph, VIC map property boundaries and GPS mapping the location of existing and proposed features are approximate only and should be verified on site prior to commencement of works.All dimensions /areas shown are approximate only and should be confirmed on site.

8 Tree Data and Plans

8.1 Individual Tree Assessment Spreadsheet

ID	Botanical Name	Common Name	Origin	Age	Planted/ Self-sown	H x W	DBH (cm)	Health	Structure	ULE	Retention Value	TPZ (m radius)	SRZ (m radius)	Comments	Retain/ remove
1	Phoenix canariensis	Canary Island Date Palm	Exotic	Semi mature	Planted	9m x 8m	90	Good	Fair	20+ years	Medium	5	3.30		Retain
2	Thuja occidentalis	White Cedar	Exotic	Semi mature	Planted	5m x 2m	15	Good	Good	20+ years	Medium	2	1.55		Retain
3	Liriodendron tulipifera	Tulip Tree	Exotic	Semi mature	Planted	8m x 4m	20	Good	Good	20+ years	Medium	2.4	1.75		Retain
4	Quercus palustris	Pin Oak	Exotic	Semi mature	Planted	14m x 8m	45	Good	Fair	20+ years	Medium	5.4	2.46		Retain
5	Quercus palustris	Pin Oak	Exotic	Semi mature	Planted	14m x 8m	40	Good	Poor	20+ years	Medium	4.8	2.34	Reduce stem to south by 25%	Retain
6	Acer rubrum	Red Maple	Exotic	Young	Planted	8m x 3m	13	Good	Fair	20+ years	Low	2	1.50		Retain
7	Ulmus parvifolia	Chinese Elm	Exotic	Semi mature	Planted	10m x 4m	26	Good	Fair	20+ years	Medium	3.12	1.96		Retain
8	Liquidambar styraciflua	Liquidamber	Exotic	Young	Planted	10m x 3m	14	Good	Good	20+ years	Low	2	1.51		Retain
9	Morus alba 'Pendula'	Weeping Mulberry	Exotic	Young	Planted	3m x 3m	12	Good	Good	20+ years	Low	2	1.50		Retain
10	Liquidambar styraciflua	Liquidamber	Exotic	Young	Planted	7m x 2m	10	Good	Good	20+ years	Low	2	1.50		Retain
11	Acer rubrum	Red Maple	Exotic	Young	Planted	6m x 1m	9	Good	Poor	20+ years	Low	2	1.50	Remove codominant	Retain
12	Magnolia grandiflora	Bull Bay	Exotic	Semi mature	Planted	5m x 4m	10	Fair	Fair	10-20 years	Medium	2	1.50		Retain
13	Cupressus sempervirens	Italian Cypress	Exotic	Semi mature	Planted	3m x 1m	10	Good	Fair	10-20 years	Low	2	1.50		Retain
14	Cupressus sempervirens	Italian Cypress	Exotic	Semi mature	Planted	3m x 1m	10	Good	Fair	10-20 years	Low	2	1.50		Retain
15	Liriodendron tulipifera	Tulip Tree	Exotic	Semi mature	Planted	11m x 3m	19	Good	Fair	10-20 years	Low	2.28	1.71		Retain
16	Liriodendron tulipifera	Tulip Tree	Exotic	Semi mature	Planted	10m x 5m	21	Good	Fair	10-20 years	Medium	2.52	1.79		Retain
17	Quercus palustris	Pin Oak	Exotic	Semi mature	Planted	14m x 8m	55	Good	Fair	20+ years	Medium	6.6	2.68		Retain
18	Morus nigra	Black Mulberry	Exotic	Semi mature	Planted	5m x 5m	23	Fair	Fair	10-20 years	Medium	2.76	1.86	Possibly Maclura pomifera	Retain
19	Fraxinus excelsior 'Aurea'	Golden Ash	Exotic	Semi mature	Planted	9m x 9m	18	Good	Good	20+ years	Medium	2.16	1.68		Retain
20	Quercus palustris	Pin Oak	Exotic	Semi mature	Planted	14m x 7m	40	Good	Good	20+ years	Medium	4.8	2.34		Retain
21	Betula pendula	Silver Birch	Exotic	Semi mature	Planted	11m x 3m	16	Fair	Fair	10-20 years	Medium	2	1.60		Retain
22	Phoenix canariensis	Canary Island Date Palm	Exotic	Semi mature	Planted	7m x 7m	100	Good	Good	20+ years	Medium	4.5	3.44		Retain
23	Ulmus glabra 'Camperdownii'	Weeping Elm	Exotic	Semi mature	Planted	4m x 7m	32	Good	Good	20+ years	Medium	3.84	2.13		Retain
24	Salix babylonica	Weeping Willow	Exotic	Semi mature	Planted	7m x 7m	31	Good	Fair	10-20 years	Medium	3.72	2.11		Retain
25	Malus sp.	Apple	Exotic	Semi mature	Planted	4m x 5m	20	Good	Fair	10-20 years	Low	2.4	1.75		Remove
26	Quercus robur	English Oak	Exotic	Semi mature	Planted	7m x 5m	23	Good	Good	20+ years	Medium	2.76	1.86		Retain
27	Juglans regia	Walnut	Exotic	Semi mature	Planted	5m x 8m	27	Good	Good	20+ years	Medium	3.24	1.99		Retain
28	Betula pendula	Silver Birch	Exotic	Semi mature	Planted	6m x 3m	15	Good	Poor	10-20 years	Low	2	1.55		Remove
29	Morus nigra	Black Mulberry	Exotic	Semi mature	Planted	2m x 2m	11	Good	Fair	20+ years	Low	2	1.50		Remove
30	Populus alba 'Pyramidalis'	White Fastigiate Poplar	Exotic	Mature	Planted	14m x 4m	35	Good	Fair	20+ years	Medium	4.2	2.22		Remove
31	Quercus palustris	Pin Oak	Exotic	Young	Planted	6m x 3m	13	Good	Good	20+ years	Low	2	1.50		Remove
32	Quercus palustris	Pin Oak	Exotic	Young	Planted	5m x 1m	10	Fair	Good	20+ years	Low	2	1.50		Remove
33	Quercus palustris	Pin Oak	Exotic	Young	Planted	5m x 2m	13	Fair	Good	20+ years	Low	2	1.50		Remove
34	Unknown sp.	Unknown	Exotic	Young	Planted	4m x 4m	18	Good	Fair	10-20 years	Low	2.16	1.68		Retain
35	Morus alba	Mulberry	Exotic	Semi mature	Planted	3m x 2m	9	Fair	Fair	10-20 years	Low	2	1.50		Retain
36	Cupressus sempervirens	Italian Cypress	Exotic	Semi mature	Planted	9m x 1m	15	Good	Good	20+ years	Medium	2	1.50		Retain

ID	Botanical Name	Common Name	Origin	Age	Planted/ Self-sown	H x W	DBH (cm)	Health	Structure	ULE	Retention Value	TPZ (m radius)	SRZ (m radius)	Comments	Retain/ remove
37	Cupressus sempervirens	Italian Cypress	Exotic	Semi mature	Planted	8m x 1m	14	Good	Good	20+ years	Medium	2	1.51		Retain
38	Eriobotrya japonica	Loquat	Exotic	Semi mature	Planted	4m x 3m	15	Good	Good	20+ years	Low	2	1.55		Retain
39	Prunus sp.	Plum	Exotic	Semi mature	Planted	4m x 3m	15	Fair	Fair	10-20 years	Low	2	1.55	3 x fruit trees	Remove
40	Olea europaea	European Olive	Exotic	Semi mature	Planted	5m x 3m	18	Fair	Fair	10-20 years	Low	2.16	1.68	5 fruit trees-Olive, apple and Citrus	Remove
41	Malus domestica	Apple	Exotic	Semi mature	Planted	5m x 4m	15	Fair	Fair	10-20 years	Low	2	1.55	5 fruit trees ape and pear	Remove
42	Juniperus scopulorum 'Blue Arrow'	Blue Rocky Mountain Juniper	Exotic	Semi mature	Planted	4m x 3m	14	Fair	Fair	10-20 years	Low	2	1.51	Multiple specimens	Retain
43	Quercus robur	English Oak	Exotic	Mature	Planted	18m x 20m	118	Good	Fair	20+ years	High	14.16	3.69		Retain
44	Ulmus X hollandica	Dutch Elm	Exotic	Mature	Planted	12m x 5m	54	Fair	Fair	10-20 years	Medium	6.48	2.66		Remove
45	Ulmus X hollandica	Dutch Elm	Exotic	Mature	Planted	14m x 6m	76	Fair	Poor	10-20 years	Medium	9.12	3.07		Retain
46	Quercus robur	English Oak	Exotic	Mature	Planted	17m x 22m	102	Fair	Fair	20+ years	High	12.24	3.47		Retain
47	Quercus cerris	Turkey Oak	Exotic	Mature	Planted	21m x 15m	98	Good	Fair	20+ years	High	11.76	3.42		Retain
48	Quercus robur	English Oak	Exotic	Mature	Planted	19m x 20m	96	Fair	Fair	20+ years	High	11.52	3.39	Deadwood over driveway	Retain
49	Platanus Xacerifolia	London Plane	Exotic	Semi mature	Planted	12m x 4m	26	Good	Fair	20+ years	Medium	3.12	1.96		Retain
50	Platanus Xacerifolia	London Plane	Exotic	Semi mature	Planted	11m x 5m	21	Good	Fair	20+ years	Low	2.52	1.79		Retain
51	Platanus Xacerifolia	London Plane	Exotic	Semi mature	Planted	13m x 5m	28	Good	Fair	20+ years	Low	3.36	2.02		Retain
52	Platanus Xacerifolia	London Plane	Exotic	Semi mature	Planted	12m x 5m	28	Good	Fair	20+ years	Medium	3.36	2.02		Retain
53	Platanus Xacerifolia	London Plane	Exotic	Semi mature	Planted	13m x 9m	50	Good	Fair	20+ years	Medium	6	2.57		Retain
54	Platanus Xacerifolia	London Plane	Exotic	Semi mature	Planted	13m x 5m	32	Good	Fair	20+ years	Medium	3.84	2.13		Retain
55	Platanus Xacerifolia	London Plane	Exotic	Semi mature	Planted	14m x 5m	29	Good	Fair	20+ years	Medium	3.48	2.05		Retain
56	Platanus Xacerifolia	London Plane	Exotic	Semi mature	Planted	14m x 5m	30	Good	Fair	20+ years	Medium	3.6	2.08		Retain
57	Platanus Xacerifolia	London Plane	Exotic	Semi mature	Planted	14m x 4m	26	Good	Fair	20+ years	Medium	3.12	1.96		Retain
58	Platanus Xacerifolia	London Plane	Exotic	Semi mature	Planted	12m x 4m	21	Good	Fair	20+ years	Medium	2.52	1.79		Retain
59	Pinus radiata	Monterey Pine	Exotic	Mature	Planted	22m x 18m	200	Fair	Fair	10-20 years	High	15	4.61		Retain
60	Quercus cerris	Turkey Oak	Exotic	Mature	Planted	20m x 16m	106	Good	Fair	20+ years	High	12.72	3.53	Leaning to the south	Retain
61	Pinus pinaster	Maritime Pine	Exotic	Mature	Planted	24m x 8m	126	Very Poor	Poor	1-5 years	Low	15	3.80	Tree in severe decline	Remove
62	Quercus canariensis	Algerian Oak	Exotic	Mature	Planted	18m x 22m	130	Fair	Fair	10-20 years	High	15	3.85	Large tree in neighbours. Large branch extends 10m into property	Retain
63	Quercus cerris	Turkey Oak	Exotic	Semi mature	Planted	18m x 8m	60	Good	Good	20+ years	High	7.2	2.78	In neighbours property	Retain
64	Acacia melanoxylon	Blackwood	Indigenous	Semi mature	Self-sown	10m x 1m	24	Dead	Poor	0 years	Low	2.88	1.89		Remove
65	Acacia melanoxylon	Blackwood	Indigenous	Mature	Self-sown	12m x 3m	38	Dead	Poor	0 years	Low	4.56	2.29		Remove
66	Platanus Xacerifolia	London Plane	Exotic	Semi mature	Planted	9m x 3m	15	Good	Fair	20+ years	Low	2	1.55		Remove
67	Platanus Xacerifolia	London Plane	Exotic	Young	Planted	7m x 1m	8	Good	Good	20+ years	Low	2	1.50		Retain
68	Platanus Xacerifolia	London Plane	Exotic	Semi mature	Planted	12m x 5m	26	Good	Fair	20+ years	Medium	3.12	1.96		Retain
69	Platanus Xacerifolia	London Plane	Exotic	Semi mature	Planted	12m x 5m	27	Good	Fair	20+ years	Medium	3.24	1.99		Retain
70	Platanus Xacerifolia	London Plane	Exotic	Semi mature	Planted	14m x 5m	36	Good	Fair	20+ years	Medium	4.32	2.24		Retain
71	Acer rubrum	Red Maple	Exotic	Young	Planted	7m x 3m	15	Good	Fair	20+ years	Low	2	1.55		Retain
72	Platanus Xacerifolia	London Plane	Exotic	Semi mature	Planted	12m x 4m	20	Good	Fair	20+ years	Medium	2.4	1.75		Retain
73	Platanus Xacerifolia	London Plane	Exotic	Semi mature	Planted	13m x 4m	26	Good	Fair	20+ years	Medium	3.12	1.96		Retain

ID	Botanical Name	Common Name	Origin	Age	Planted/ Self-sown	H x W	DBH (cm)	Health	Structure	ULE	Retention Value	TPZ (m radius)	SRZ (m radius)	Comments	Retain/ remove
74	Platanus Xacerifolia	London Plane	Exotic	Semi mature	Planted	10m x 3m	19	Good	Fair	20+ years	Medium	2.28	1.71		Remove
75	Platanus Xacerifolia	London Plane	Exotic	Young	Planted	3m x 1m	5	Good	Good	20+ years	Low	2	1.50		Remove
76	Quercus palustris	Pin Oak	Exotic	Young	Planted	6m x 2m	13	Good	Good	20+ years	Low	2	1.50		Remove
77	Quercus palustris	Pin Oak	Exotic	Young	Planted	6m x 2m	12	Good	Good	20+ years	Low	2	1.50		Remove
78	Quercus palustris	Pin Oak	Exotic	Young	Planted	6m x 2m	12	Good	Good	20+ years	Low	2	1.50		Remove
79	Quercus palustris	Pin Oak	Exotic	Young	Planted	6m x 2m	12	Good	Good	20+ years	Low	2	1.50		Remove
80	Quercus palustris	Pin Oak	Exotic	Young	Planted	6m x 2m	12	Good	Good	20+ years	Low	2	1.50		Remove
81	Quercus palustris	Pin Oak	Exotic	Young	Planted	6m x 2m	12	Good	Good	20+ years	Low	2	1.50		Remove
82	Quercus palustris	Pin Oak	Exotic	Young	Planted	6m x 2m	12	Good	Good	20+ years	Low	2	1.50		Remove
83	Pinus radiata	Monterey Pine	Exotic	Mature	Planted	18m x 10m	110	Good	Fair	20+ years	Medium	13.2	3.59	Dimensions estimated	Remove
84	Pinus radiata	Monterey Pine	Exotic	Semi mature	Planted	14m x 7m	59	Good	Fair	20+ years	Medium	7.08	2.76		Remove
85	Pinus radiata	Monterey Pine	Exotic	Semi mature	Planted	14m x 5m	40	Good	Fair	20+ years	Medium	4.8	2.34		Remove
86	Pinus radiata	Monterey Pine	Exotic	Semi mature	Planted	14m x 4m	38	Good	Fair	20+ years	Medium	4.56	2.29		Remove
87	Pinus radiata	Monterey Pine	Exotic	Mature	Planted	16m x 14m	80	Good	Fair	20+ years	Medium	9.6	3.14		Remove
88	Pinus radiata	Monterey Pine	Exotic	Mature	Planted	15m x 9m	70	Good	Fair	20+ years	Medium	8.4	2.97		Remove
89	Pinus radiata	Monterey Pine	Exotic	Mature	Planted	16m x 14m	90	Good	Fair	20+ years	Medium	10.8	3.30		Remove
90	Pinus radiata	Monterey Pine	Exotic	Young	Planted	13m x 5m	30	Good	Good	20+ years	Low	3.6	2.08		Remove
91	Eucalyptus ovata	Swamp Gum	Indigenous	Mature	Self-sown	10m x 12m	52	Good	Fair	20+ years	High	6.24	2.62		Remove
92	Eucalyptus ovata	Swamp Gum	Indigenous	Semi mature	Self-sown	9m x 4m	42	Good	Fair	20+ years	Medium	5.04	2.39	In reserve 1m from fence	Retain
93	Eucalyptus ovata	Swamp Gum	Indigenous	Semi mature	Self-sown	9m x 4m	39	Good	Fair	20+ years	Medium	4.68	2.32	In reserve 1m from fence	Retain
94	Eucalyptus ovata	Swamp Gum	Indigenous	Semi mature	Self-sown	15m x 12m	61	Good	Fair	20+ years	Medium	7.32	2.80		Retain
95	Eucalyptus ovata	Swamp Gum	Indigenous	Semi mature	Self-sown	8m x 5m	27	V-Poor	Poor	0 years	Low	3.24	1.99		Retain
96	Eucalyptus ovata	Swamp Gum	Indigenous	Semi mature	Self-sown	16m x 5m	54	Good	Fair	20+ years	Medium	6.48	2.66		Retain
97	Eucalyptus ovata	Swamp Gum	Indigenous	Semi mature	Self-sown	8m x 3m	28	V-Poor	Poor	0 years	Low	3.36	2.02		Retain
98	Eucalyptus ovata	Swamp Gum	Indigenous	Mature	Self-sown	12m x 14m	69	Good	Fair	20+ years	Medium	8.28	2.95		Retain
99	Eucalyptus ovata	Swamp Gum	Indigenous	Young	Self-sown	10m x 2m	23	Poor	Fair	5-10 years	Low	2.76	1.86		Retain
100	Pinus radiata	Monterey Pine	Exotic	Mature	Planted	16m x 8m	68	Good	Good	20+ years	Medium	8.16	2.93		Remove
101	Pinus radiata	Monterey Pine	Exotic	Mature	Planted	18m x 10m	69	Good	Good	20+ years	Medium	8.28	2.95		Remove
102	Pinus radiata	Monterey Pine	Exotic	Mature	Planted	16m x 10m	54	Good	Good	20+ years	Medium	6.48	2.66		Remove
103	Eucalyptus bicostata	Eurabbie	Native	Mature	Planted	18m x 8m	62	Good	Fair	10-20 years	Medium	7.44	2.82	3rd party, DBH estimated	Retain
104	Eucalyptus cladocalyx	Sugar Gum	Native	Mature	Planted	16m x 8m	44	Good	Fair	10-20 years	Medium	5.28	2.44	3rd party, DBH estimated	Retain
105	Eucalyptus bicostata	Eurabbie	Native	Mature	Planted	17m x 8m	58	Good	Fair	10-20 years	Medium	6.96	2.74	3rd party, DBH estimated	Retain
106	Eucalyptus cladocalyx	Sugar Gum	Native	Mature	Planted	22m x 9m	62	Good	Fair	10-20 years	Medium	7.44	2.82	3rd party, DBH estimated	Retain
107	Eucalyptus bicostata	Eurabbie	Native	Mature	Planted	12m x 8m	90	Poor	Poor	1-5 years	Medium	10.8	3.30	3rd party, DBH estimated	Retain
108	Eucalyptus bicostata	Eurabbie	Native	Mature	Planted	19m x 10m	78	Good	Fair	10-20 years	Medium	9.36	3.10	3rd party, DBH estimated	Retain
109	Eucalyptus bicostata	Eurabbie	Native	Mature	Planted	18m x 10m	77	Good	Good	20+ years	Medium	9.24	3.09	3rd party, DBH estimated	Retain
110	Eucalyptus bicostata	Eurabbie	Native	Mature	Planted	22m x 16m	115	Good	Fair	10-20 years	High	13.8	3.65	3rd party, DBH estimated	Retain
111	Pinus radiata	Monterey Pine	Exotic	Mature	Planted	12m x 10m	47	Good	Fair	10-20 years	Medium	5.64	2.51		Remove
112	Pinus radiata	Monterey Pine	Exotic	Mature	Planted	14m x 10m	44	Good	Good	20+ years	Medium	5.28	2.44		Remove
113	Pinus radiata	Monterey Pine	Exotic	Mature	Planted	6m x 2m	20	Dead	Poor	0 years	Low	2.4	1.75		Retain
114	Pinus radiata	Monterey Pine	Exotic	Mature	Planted	17m x 8m	50	Good	Good	20+ years	Medium	6	2.57		Remove

ID	Botanical Name	Common Name	Origin	Age	Planted/ Self-sown	H x W	DBH (cm)	Health	Structure	ULE	Retention Value	TPZ (m radius)	SRZ (m radius)	Comments	Retain/ remove
115	Pinus radiata	Monterey Pine	Exotic	Mature	Planted	18m x 10m	67	Good	Good	20+ years	Medium	8.04	2.91		Remove
116	Pinus radiata	Monterey Pine	Exotic	Mature	Planted	18m x 12m	69	Good	Good	20+ years	Medium	8.28	2.95		Remove
117	Pinus radiata	Monterey Pine	Exotic	Mature	Planted	15m x 9m	36	Good	Fair	10-20 years	Medium	4.32	2.24		Remove
118	Pinus radiata	Monterey Pine	Exotic	Mature	Planted	15m x 9m	34	Fair	Fair	10-20 years	Low	4.08	2.19	suppressed	Remove
119	Pinus radiata	Monterey Pine	Exotic	Mature	Planted	19m x 10m	55	Good	Good	20+ years	Medium	6.6	2.68		Remove
120	Pinus radiata	Monterey Pine	Exotic	Mature	Planted	9m x 6m	28	Fair	Fair	10-20 years	Low	3.36	2.02	suppressed	Remove
121	Pinus radiata	Monterey Pine	Exotic	Mature	Planted	20m x 14m	79	Good	Poor	1-5 years	Low	9.48	3.12		Remove
122	Pinus radiata	Monterey Pine	Exotic	Mature	Planted	16m x 12m	49	Good	Good	20+ years	Medium	5.88	2.55		Remove
123	Pinus radiata	Monterey Pine	Exotic	Mature	Planted	18m x 10m	49	Good	Good	20+ years	Medium	5.88	2.55		Remove
124	Pinus radiata	Monterey Pine	Exotic	Mature	Planted	17m x 8m	37	Good	Good	20+ years	Medium	4.44	2.27		Remove
125	Pinus radiata	Monterey Pine	Exotic	Mature	Planted	20m x 14m	85	Good	Fair	10-20 years	Medium	10.2	3.22		Remove
126	Pinus radiata	Monterey Pine	Exotic	Mature	Planted	19m x 14m	82	Good	Good	20+ years	Medium	9.84	3.17		Remove
127	Pinus radiata	Monterey Pine	Exotic	Mature	Planted	15m x 8m	44	Good	Good	20+ years	Medium	5.28	2.44		Remove
128	Pinus radiata	Monterey Pine	Exotic	Mature	Planted	17m x 9m	47	Good	Good	20+ years	Medium	5.64	2.51		Remove
129	Pinus radiata	Monterey Pine	Exotic	Mature	Planted	20m x 15m	72	Good	Good	20+ years	Medium	8.64	3.00		Remove
130	Pinus radiata	Monterey Pine	Exotic	Mature	Planted	17m x 12m	48	Good	Good	20+ years	Medium	5.76	2.53		Remove
131	Pinus radiata	Monterey Pine	Exotic	Mature	Planted	16m x 14m	49	Good	Good	20+ years	Medium	5.88	2.55		Remove
132	Pinus radiata	Monterey Pine	Exotic	Mature	Planted	18m x 15m	70	Good	Fair	5-10 years	Low	8.4	2.97		Remove
133	Pinus radiata	Monterey Pine	Exotic	Mature	Planted	17m x 16m	68	Good	Fair	10-20 years	Medium	8.16	2.93		Remove
134	Pinus radiata	Monterey Pine	Exotic	Mature	Planted	15m x 9m	41	Fair	Fair	10-20 years	Low	4.92	2.37	suppressed	Remove
135	Pinus radiata	Monterey Pine	Exotic	Mature	Planted	18m x 16m	79	Good	Fair	10-20 years	Medium	9.48	3.12		Remove
136	Pinus radiata	Monterey Pine	Exotic	Mature	Planted	20m x 17m	108	Good	Fair	10-20 years	Medium	12.96	3.56		Remove
137	Pinus radiata	Monterey Pine	Exotic	Mature	Planted	18m x 14m	66	Good	Good	20+ years	Medium	7.92	2.89		Remove
138	Pinus radiata	Monterey Pine	Exotic	Mature	Planted	15m x 12m	49	Good	Good	20+ years	Medium	5.88	2.55		Retain
139	Pinus radiata	Monterey Pine	Exotic	Mature	Planted	18m x 15m	80	Good	Fair	5-10 years	Low	9.6	3.14		Remove
140	Pinus radiata	Monterey Pine	Exotic	Mature	Planted	12m x 6m	29	Fair	Fair	5-10 years	Low	3.48	2.05	suppressed	Remove
141	Pinus radiata	Monterey Pine	Exotic	Mature	Planted	16m x 9m	47	Good	Good	20+ years	Medium	5.64	2.51		Remove
142	Pinus radiata	Monterey Pine	Exotic	Mature	Planted	16m x 9m	44	Good	Fair	10-20 years	Low	5.28	2.44		Remove
143	Pinus radiata	Monterey Pine	Exotic	Mature	Planted	19m x 16m	69	Good	Good	20+ years	Medium	8.28	2.95		Remove
144	Pinus radiata	Monterey Pine	Exotic	Mature	Planted	18m x 15m	79	Good	Fair	10-20 years	Medium	9.48	3.12		Remove
145	Pinus radiata	Monterey Pine	Exotic	Mature	Planted	15m x 5m	22	Fair	Fair	5-10 years	Low	2.64	1.82		Remove
146	Pinus radiata	Monterey Pine	Exotic	Mature	Planted	18m x 16m	54	Good	Good	20+ years	Medium	6.48	2.66		Remove
147	Pinus radiata	Monterey Pine	Exotic	Mature	Planted	18m x 16m	82	Good	Fair	10-20 years	Medium	9.84	3.17		Remove
148	Pinus radiata	Monterey Pine	Exotic	Mature	Planted	16m x 14m	49	Good	Fair	5-10 years	Low	5.88	2.55		Remove
149	Pinus radiata	Monterey Pine	Exotic	Mature	Planted	16m x 15m	68	Good	Good	20+ years	Medium	8.16	2.93		Remove
150	Pinus radiata	Monterey Pine	Exotic	Mature	Planted	19m x 17m	102	Good	Poor	5-10 years	Low	12.24	3.47		Remove
151	Pinus radiata	Monterey Pine	Exotic	Mature	Planted	14m x 9m	40	Good	Good	20+ years	Medium	4.8	2.34		Remove
152	Pinus radiata	Monterey Pine	Exotic	Mature	Planted	16m x 16m	67	Good	Good	20+ years	Medium	8.04	2.91		Remove
153	Pinus radiata	Monterey Pine	Exotic	Mature	Planted	18m x 16m	79	Good	Fair	10-20 years	Medium	9.48	3.12		Remove
154	Pinus radiata	Monterey Pine	Exotic	Mature	Planted	18m x 16m	78	Good	Fair	10-20 years	Medium	9.36	3.10		Remove
155	Pinus radiata	Monterey Pine	Exotic	Mature	Planted	18m x 15m	69	Good	Good	20+ years	Medium	8.28	2.95		Remove

ID	Botanical Name	Common Name	Origin	Age	Planted/ Self-sown	H x W	DBH (cm)	Health	Structure	ULE	Retention Value	TPZ (m radius)	SRZ (m radius)	Comments	Retain/ remove
156	Pinus radiata	Monterey Pine	Exotic	Mature	Planted	18m x 15m	72	Good	Fair	10-20 years	Medium	8.64	3.00		Remove
157	Pinus radiata	Monterey Pine	Exotic	Mature	Planted	17m x 16m	114	Good	Poor	5-10 years	Low	13.68	3.64		Remove
158	Pinus radiata	Monterey Pine	Exotic	Mature	Planted	14m x 16m	58	Good	Fair	10-20 years	Medium	6.96	2.74		Remove
159	Pinus radiata	Monterey Pine	Exotic	Mature	Planted	17m x 16m	70	Good	Poor	5-10 years	Low	8.4	2.97		Remove
160	Pinus radiata	Monterey Pine	Exotic	Mature	Planted	17m x 18m	103	Good	Poor	5-10 years	Low	12.36	3.49		Remove
161	Pinus radiata	Monterey Pine	Exotic	Mature	Planted	15m x 14m	67	Good	Good	20+ years	Medium	8.04	2.91		Remove
162	Pinus radiata	Monterey Pine	Exotic	Mature	Planted	12m x 9m	36	Good	Poor	5-10 years	Low	4.32	2.24		Remove
163	Pinus radiata	Monterey Pine	Exotic	Mature	Planted	16m x 18m	89	Good	Fair	10-20 years	Medium	10.68	3.28		Remove
164	Pinus radiata	Monterey Pine	Exotic	Mature	Planted	16m x 18m	88	Good	Fair	10-20 years	Medium	10.56	3.26		Remove
165	Prunus cerasifera	Cherry Plum	Exotic	Mature	Planted	4m x 3m	18	Fair	Fair	5-10 years	Low	2.16	1.68		Remove
166	Pinus radiata	Monterey Pine	Exotic	Mature	Planted	16m x 15m	67	Good	Good	20+ years	Medium	8.04	2.91		Remove
167	Pinus radiata	Monterey Pine	Exotic	Mature	Planted	15m x 16m	89	Good	Poor	5-10 years	Low	10.68	3.28		Remove
168	Pinus radiata	Monterey Pine	Exotic	Mature	Planted	16m x 16m	92	Good	Fair	20+ years	Medium	11.04	3.33		Remove
169	Pinus radiata	Monterey Pine	Exotic	Mature	Planted	16m x 9m	54	Good	Good	20+ years	Medium	6.48	2.66		Remove
170	Eucalyptus globulus	Blue Gum	Native	Semi mature	Self-sown	9m x 7m	28	Good	Good	20+ years	Low	3.36	2.02		Remove
171	Pinus radiata	Monterey Pine	Exotic	Semi mature	Planted	7m x 6m	24	Good	Good	20+ years	Low	2.88	1.89		Remove
172	Pinus radiata	Monterey Pine	Exotic	Semi mature	Planted	12m x 8m	32	Good	Good	20+ years	Low	3.84	2.13		Remove
173	Pinus radiata	Monterey Pine	Exotic	Mature	Planted	16m x 9m	40	Good	Good	20+ years	Medium	4.8	2.34		Remove
174	Pinus radiata	Monterey Pine	Exotic	Mature	Planted	18m x 18m	94	Good	Fair	10-20 years	Low	11.28	3.36		Remove
175	Pinus radiata	Monterey Pine	Exotic	Mature	Planted	15m x 10m	39	Fair	Fair	10-20 years	Low	4.68	2.32		Remove
176	Pinus radiata	Monterey Pine	Exotic	Mature	Planted	18m x 18m	99	Good	Fair	10-20 years	Medium	11.88	3.43		Remove
177	Pinus radiata	Monterey Pine	Exotic	Mature	Planted	18m x 18m	86	Good	Fair	10-20 years	Medium	10.32	3.23		Remove
178	Pinus radiata	Monterey Pine	Exotic	Mature	Planted	19m x 18m	106	Good	Good	20+ years	Medium	12.72	3.53		Remove
179	Pinus radiata	Monterey Pine	Exotic	Semi mature	Planted	8m x 6m	28	Good	Fair	5-10 years	Low	3.36	2.02	suppressed	Remove
180	Pinus radiata	Monterey Pine	Exotic	Mature	Planted	17m x 18m	101	Good	Good	20+ years	Medium	12.12	3.46		Remove
181	Pinus radiata	Monterey Pine	Exotic	Mature	Planted	16m x 18m	96	Good	Good	20+ years	Medium	11.52	3.39		Remove
182	Pinus radiata	Monterey Pine	Exotic	Semi mature	Planted	12m x 9m	45	Good	Good	20+ years	Low	5.4	2.46		Remove
183	Pinus radiata	Monterey Pine	Exotic	Semi mature	Planted	9m x 6m	29	Good	Good	20+ years	Low	3.48	2.05		Remove
184	Pinus radiata	Monterey Pine	Exotic	Mature	Planted	16m x 9m	56	Good	Good	20+ years	Medium	6.72	2.70		Remove
185	Pinus radiata	Monterey Pine	Exotic	Mature	Planted	17m x 12m	69	Good	Good	20+ years	Medium	8.28	2.95		Remove
186	Pinus radiata	Monterey Pine	Exotic	Mature	Planted	14m x 9m	46	Good	Poor	5-10 years	Low	5.52	2.49		Remove
187	Pinus radiata	Monterey Pine	Exotic	Mature	Planted	17m x 18m	98	Good	Poor	5-10 years	Low	11.76	3.42		Remove
188	Pinus radiata	Monterey Pine	Exotic	Mature	Planted	17m x 9m	48	Good	Fair	10-20 years	Low	5.76	2.53		Remove
189	Pinus radiata	Monterey Pine	Exotic	Mature	Planted	17m x 10m	54	Good	Good	20+ years	Medium	6.48	2.66		Remove
190	Pinus radiata	Monterey Pine	Exotic	Mature	Planted	18m x 10m	56	Good	Good	20+ years	Medium	6.72	2.70		Remove
191	Pinus radiata	Monterey Pine	Exotic	Mature	Planted	18m x 12m	60	Good	Fair	20+ years	Low	7.2	2.78		Remove
192	Pinus radiata	Monterey Pine	Exotic	Mature	Planted	15m x 10m	49	Good	Poor	5-10 years	Low	5.88	2.55	Many codominant stems	Remove
193	Pinus radiata	Monterey Pine	Exotic	Mature	Planted	16m x 16m	77	Good	Fair	10-20 years	Medium	9.24	3.09		Remove
194	Pinus radiata	Monterey Pine	Exotic	Mature	Planted	16m x 15m	66	Fair	Fair	5-10 years	Low	7.92	2.89		Remove
195	Pinus radiata	Monterey Pine	Exotic	Semi mature	Planted	10m x 6m	28	Good	Fair	20+ years	Low	3.36	2.02		Remove
196	Pinus radiata	Monterey Pine	Exotic	Mature	Planted	17m x 14m	72	Good	Good	20+ years	Medium	8.64	3.00		Remove

ID	Botanical Name	Common Name	Origin	Age	Planted/ Self-sown	H x W	DBH (cm)	Health	Structure	ULE	Retention Value	TPZ (m radius)	SRZ (m radius)	Comments	Retain/ remove
197	Pinus radiata	Monterey Pine	Exotic	Mature	Planted	15m x 8m	52	Good	Poor	5-10 years	Low	6.24	2.62		Remove
198	Pinus radiata	Monterey Pine	Exotic	Mature	Planted	14m x 8m	39	Good	Fair	10-20 years	Low	4.68	2.32	suppressed	Remove
199	Pinus radiata	Monterey Pine	Exotic	Mature	Planted	18m x 18m	98	Good	Fair	20+ years	Medium	11.76	3.42		Remove
200	Pinus radiata	Monterey Pine	Exotic	Semi mature	Planted	12m x 9m	30	Fair	Fair	5-10 years	Low	3.6	2.08	suppressed	Remove
201	Pinus radiata	Monterey Pine	Exotic	Mature	Planted	18m x 14m	79	Good	Fair	5-10 years	Low	9.48	3.12		Remove
202	Pinus radiata	Monterey Pine	Exotic	Mature	Planted	18m x 18m	93	Good	Poor	5-10 years	Low	11.16	3.34		Remove
203	Pinus radiata	Monterey Pine	Exotic	Mature	Planted	18m x 16m	89	Good	Poor	5-10 years	Low	10.68	3.28		Remove
204	Pinus radiata	Monterey Pine	Exotic	Mature	Planted	17m x 16m	77	Good	Fair	10-20 years	Low	9.24	3.09		Remove
205	Pinus radiata	Monterey Pine	Exotic	Mature	Planted	15m x 14m	68	Good	Good	10-20 years	Medium	8.16	2.93		Remove
206	Pinus radiata	Monterey Pine	Exotic	Mature	Planted	17m x 12m	59	Good	Good	20+ years	Medium	7.08	2.76		Remove
207	Pinus radiata	Monterey Pine	Exotic	Mature	Planted	16m x 10m	48	Good	Fair	10-20 years	Low	5.76	2.53		Remove
208	Pinus radiata	Monterey Pine	Exotic	Mature	Planted	22m x 18m	112	Good	Poor	5-10 years	Low	13.44	3.61		Remove
209	Pinus radiata	Monterey Pine	Exotic	Mature	Planted	20m x 18m	89	Good	Good	20+ years	Medium	10.68	3.28		Remove
210	Pinus radiata	Monterey Pine	Exotic	Mature	Planted	17m x 16m	78	Good	Good	20+ years	Medium	9.36	3.10		Remove
211	Pinus radiata	Monterey Pine	Exotic	Mature	Planted	17m x 16m	72	Good	Good	20+ years	Medium	8.64	3.00		Remove
212	Pinus radiata	Monterey Pine	Exotic	Mature	Planted	17m x 16m	92	Good	Fair	5-10 years	Low	11.04	3.33		Remove
213	Pinus radiata	Monterey Pine	Exotic	Mature	Planted	16m x 16m	82	Fair	Fair	5-10 years	Low	9.84	3.17		Remove
214	Pinus radiata	Monterey Pine	Exotic	Semi mature	Planted	7m x 6m	28	Good	Good	20+ years	Low	3.36	2.02		Remove
215	Pinus radiata	Monterey Pine	Exotic	Semi mature	Planted	6m x 5m	25	Good	Good	20+ years	Low	3	1.92		Remove
216	Pinus radiata	Monterey Pine	Exotic	Mature	Planted	17m x 16m	69	Good	Fair	10-20 years	Low	8.28	2.95		Remove
217	Pinus radiata	Monterey Pine	Exotic	Mature	Planted	18m x 16m	91	Good	Poor	5-10 years	Low	10.92	3.31		Remove
218	Pinus radiata	Monterey Pine	Exotic	Young	Planted	6m x 3m	18	Good	Good	20+ years	Low	2.16	1.68	Group of 3 individuals	Remove
219	Pinus radiata	Monterey Pine	Exotic	Mature	Planted	18m x 16m	98	Good	Poor	5-10 years	Low	11.76	3.42		Remove
220	Pinus radiata	Monterey Pine	Exotic	Mature	Planted	15m x 14m	78	Good	Fair	10-20 years	Low	9.36	3.10		Remove
221	Pinus radiata	Monterey Pine	Exotic	Mature	Planted	16m x 16m	101	Good	Poor	5-10 years	Low	12.12	3.46		Remove
222	Pinus radiata	Monterey Pine	Exotic	Mature	Planted	14m x 12m	48	Good	Good	20+ years	Medium	5.76	2.53		Remove
223	Pinus radiata	Monterey Pine	Exotic	Mature	Planted	14m x 10m	52	Good	Good	20+ years	Medium	6.24	2.62		Remove
224	Pinus radiata	Monterey Pine	Exotic	Mature	Planted	17m x 16m	96	Good	Poor	5-10 years	Low	11.52	3.39		Remove
225	Pinus radiata	Monterey Pine	Exotic	Mature	Planted	17m x 16m	89	Good	Fair	5-10 years	Low	10.68	3.28		Remove
226	Pinus radiata	Monterey Pine	Exotic	Mature	Planted	16m x 14m	67	Good	Good	20+ years	Medium	8.04	2.91		Remove
227	Pinus radiata	Monterey Pine	Exotic	Mature	Planted	18m x 16m	98	Good	Poor	10-20 years	Low	11.76	3.42		Remove
228	Pinus radiata	Monterey Pine	Exotic	Mature	Planted	18m x 15m	77	Good	Poor	5-10 years	Low	9.24	3.09		Remove
229	Pinus radiata	Monterey Pine	Exotic	Mature	Planted	18m x 16m	100	Good	Fair	10-20 years	Medium	12	3.44		Remove
230	Pinus radiata	Monterey Pine	Exotic	Semi mature	Planted	6m x 6m	25	Fair	Fair	5-10 years	Low	3	1.92	suppressed	Remove

*See Appendix 11 Individual Tree Details for individual reports and photos

9 References

AS 4373, 2007, *Australian Standard, Pruning Amenity Trees*, 2nd Edition Standards Australia

AS 4970, 2009, *Australian Standard, Protection of Trees on Development Sites*, Standards Australia.

Matheny, N. & Clark, J. 1998 *Trees and development – a technical guide to preservation of trees during land development*. International Society of Arboriculture, Champaign, IL USA.

10 Appendices

10.1 Definitions

Botanical name:

The genus, species and common name.

Canopy dimensions

Height (approximate) and width (measured) of the canopy in metres.

DBH

Diameter at breast height (measured at 1.4m above ground level).

Tree Origin

Term	Definition
Exotic	The species originates in a country other than Australia.
Native	The species originates within Australia.
Indigenous	The species originates within the local environs.

Health

Term	Definition
Excellent	The tree is demonstrating excellent or exceptional growth. The tree should exhibit a full canopy of foliage and be free of pest and disease problems.
Good	The tree is demonstrating good or exceptional growth. The tree should exhibit a full canopy of foliage, and have only minor pest or diseases problems.
Fair	The tree is in reasonable condition and growing well. The tree should exhibit an adequate canopy of foliage. There may be some deadwood present in the crown. Some grazing by insects or possums may be evident.
Poor	The tree is not growing to its full capacity; extension growth of the laterals is minimal. The canopy may be thinning or sparse. Large amounts of deadwood may be evident throughout the crown. Significant pest and disease problems may be evident or symptoms of stress indicating tree decline.
Very Poor	The tree appears to be in a state of decline. The tree is not growing to its full capacity. The canopy may be very thin and sparse. A significant volume of deadwood may be present in the canopy or pest and disease problems may be causing a severe decline in tree health.
Dead	The tree is dead.

Structure

Term	Definition
Good	The tree has a well-defined and balanced crown. Branch unions appear to be strong, with no defects evident in the trunk or the branches. Major limbs are well defined. The tree is considered a good example of the species.
Fair	The tree has some minor problems in the structure of the crown. The crown may be slightly out of balance, and some branch unions may be exhibiting minor structural faults. If the tree has a single trunk, it may be on a slight lean or exhibiting minor defects.
Poor	The tree may have a poorly structured crown. The crown may be unbalanced or exhibit large gaps. Major limbs may not be well defined. Branches may be rubbing or crossing over. Branch unions may be poor or faulty at the point of attachment. The tree may have suffered root damage.
Very Poor	The tree has a poorly structured crown. The crown is unbalanced or exhibit large gaps with possibly large sections of deadwood. Major limbs may not be well defined. Branches may be rubbing or crossing over. Branch unions may be poor or faulty at the point of attachment. Branches may exhibit large cracks that are likely to fail in the future. The tree may have suffered major root damage.
Failed	The tree has a very poorly structured crown. A section of the tree has failed or is in imminent danger of failure.

Useful Life Expectancy (ULE) Rating

Useful Life Expectancy is approximately how long a tree can be retained safely and usefully in the landscape.

Term	Definition
0 years	The tree is considered dangerous in the location and has no significant amenity value.
Less than 5 years	The tree, under normal circumstances and without extra stresses being imposed on it, should be safe and have value for up to five years, but will need to be replaced. During this period, normal inspections and maintenance will be required. If possible, replacement trees should be planted.
5 – 10 years	The tree, under normal circumstances and without extra stresses being imposed on it, should be safe and of value for up to ten years. During this period, normal inspections and maintenance will be required.
10– 20 years	The tree, under normal circumstances and without extra stresses being imposed on it, should be safe and of value for up to twenty years. During this period, normal inspections and maintenance will be required.
Greater than 20 years	The tree, under normal circumstances and without extra stresses being imposed on it, should be safe and of value for greater than 20 years. During this period, normal inspections and maintenance will be required.

11 Individual Tree Details

Tree Number: 1

Botanical Name: *Phoenix canariensis*
Common Name: Canary Island Date Palm
Origin: Exotic
Tree Age: Semi mature
H x W: 9m x 8m
Health: Good
Structure: Fair
ULE: 20+ years
Retention Value: Medium
Defects: None
Comments:

DBH (cm): 90
TPZ (m): 5
SRZ (m): 3.30

Tree Number: 2

Botanical Name: *Thuja occidentalis*
Common Name: White Cedar
Origin: Exotic
Tree Age: Semi mature
H x W: 5m x 2m
Health: Good
Structure: Good
ULE: 20+ years
Retention Value: Medium
Defects: Codominant stems
Comments:

DBH (cm): 15
TPZ (m): 2
SRZ (m): 1.55

Tree Number: 3

Botanical Name: *Liriodendron tulipifera*
Common Name: Tulip Tree
Origin: Exotic
Tree Age: Semi mature
H x W: 8m x 4m
Health: Good
Structure: Good
ULE: 20+ years
Retention Value: Medium
Defects: Deadwood throughout the canopy
Comments:

DBH (cm): 20
TPZ (m): 2.4
SRZ (m): 1.75

Tree Number: 4

Botanical Name:	*Quercus palustris*
Common Name:	Pin Oak
Origin:	Exotic
Tree Age:	Semi mature
H x W:	14m x 8m
Health:	Good
Structure:	Fair
ULE:	20+ years
Retention Value:	Medium
Defects:	None
Comments:	

DBH (cm): 45
TPZ (m): 5.4
SRZ (m): 2.46

Tree Number: 5

Botanical Name:	*Quercus palustris*
Common Name:	Pin Oak
Origin:	Exotic
Tree Age:	Semi mature
H x W:	14m x 8m
Health:	Good
Structure:	Poor
ULE:	20+ years
Retention Value:	Medium
Defects:	Codominant stems with included union
Comments:	Reduce stem to south by 25%

DBH (cm): 40
TPZ (m): 4.8
SRZ (m): 2.34

Tree Number: 6

Botanical Name:	*Acer rubrum*
Common Name:	Red Maple
Origin:	Exotic
Tree Age:	Young
H x W:	8m x 3m
Health:	Good
Structure:	Fair
ULE:	20+ years
Retention Value:	Low
Defects:	None
Comments:	

DBH (cm): 13
TPZ (m): 2
SRZ (m): 1.50

Tree Number: 7

Botanical Name: *Ulmus parvifolia*
Common Name: Chinese Elm
Origin: Exotic
Tree Age: Semi mature
H x W: 10m x 4m
Health: Good
Structure: Fair
ULE: 20+ years
Retention Value: Medium
Defects: Codominant stems
Comments:

DBH (cm): 26
TPZ (m): 3.12
SRZ (m): 1.96

Tree Number: 8

Botanical Name: *Liquidambar styraciflua*
Common Name: Liquidamber
Origin: Exotic
Tree Age: Young
H x W: 10m x 3m
Health: Good
Structure: Good
ULE: 20+ years
Retention Value: Low
Defects: None
Comments:

DBH (cm): 14
TPZ (m): 2
SRZ (m): 1.51

Tree Number: 9

Botanical Name: *Morus alba 'Pendula'*
Common Name: Weeping Mulberry
Origin: Exotic
Tree Age: Young
H x W: 3m x 3m
Health: Good
Structure: Good
ULE: 20+ years
Retention Value: Low
Defects: None
Comments:

DBH (cm): 12
TPZ (m): 2
SRZ (m): 1.50

Tree Number: 10

Botanical Name:	*Liquidambar styraciflua*
Common Name:	Liquidamber
Origin:	Exotic
Tree Age:	Young
H x W:	7m x 2m
Health:	Good
Structure:	Good
ULE:	20+ years
Retention Value:	Low
Defects:	None
Comments:	

DBH (cm): 10
TPZ (m): 2
SRZ (m): 1.50

Tree Number: 11

Botanical Name:	*Acer rubrum*
Common Name:	Red Maple
Origin:	Exotic
Tree Age:	Young
H x W:	6m x 1m
Health:	Good
Structure:	Poor
ULE:	20+ years
Retention Value:	Low
Defects:	Codominant stems with included union
Comments:	Remove codominant

DBH (cm): 9
TPZ (m): 2
SRZ (m): 1.50

Tree Number: 12

Botanical Name:	*Magnolia grandiflora*
Common Name:	Bull Bay
Origin:	Exotic
Tree Age:	Semi mature
H x W:	5m x 4m
Health:	Fair
Structure:	Fair
ULE:	10-20 years
Retention Value:	Medium
Defects:	None
Comments:	

DBH (cm): 10
TPZ (m): 2
SRZ (m): 1.50

Tree Number: 13

Botanical Name:	*Cupressus sempervirens*
Common Name:	Italian Cypress
Origin:	Exotic
Tree Age:	Semi mature
H x W:	3m x 1m
Health:	Good
Structure:	Fair
ULE:	10-20 years
Retention Value:	Low
Defects:	Lopped canopy
Comments:	

DBH (cm): 10
TPZ (m): 2
SRZ (m): 1.50

Tree Number: 14

Botanical Name:	*Cupressus sempervirens*
Common Name:	Italian Cypress
Origin:	Exotic
Tree Age:	Semi mature
H x W:	3m x 1m
Health:	Good
Structure:	Fair
ULE:	10-20 years
Retention Value:	Low
Defects:	Lopped canopy
Comments:	

DBH (cm): 10
TPZ (m): 2
SRZ (m): 1.50

Tree Number: 15

Botanical Name:	*Liriodendron tulipifera*
Common Name:	Tulip Tree
Origin:	Exotic
Tree Age:	Semi mature
H x W:	11m x 3m
Health:	Good
Structure:	Fair
ULE:	10-20 years
Retention Value:	Low
Defects:	None
Comments:	

DBH (cm): 19
TPZ (m): 2.28
SRZ (m): 1.71

Tree Number: 16

Botanical Name:	*Liriodendron tulipifera*
Common Name:	Tulip Tree
Origin:	Exotic
Tree Age:	Semi mature
H x W:	10m x 5m
Health:	Good
Structure:	Fair
ULE:	10-20 years
Retention Value:	Medium
Defects:	None
Comments:	

DBH (cm): 21
TPZ (m): 2.52
SRZ (m): 1.79

Tree Number: 17

Botanical Name:	*Quercus palustris*
Common Name:	Pin Oak
Origin:	Exotic
Tree Age:	Semi mature
H x W:	14m x 8m
Health:	Good
Structure:	Fair
ULE:	20+ years
Retention Value:	Medium
Defects:	Broken branches throughout the canopy
Comments:	

DBH (cm): 55
TPZ (m): 6.6
SRZ (m): 2.68

Tree Number: 18

Botanical Name:	*Morus nigra*
Common Name:	Black Mulberry
Origin:	Exotic
Tree Age:	Semi mature
H x W:	5m x 5m
Health:	Fair
Structure:	Fair
ULE:	10-20 years
Retention Value:	Medium
Defects:	Codominant decayed stems
Comments:	Possibly Maclura pomifera

DBH (cm): 23
TPZ (m): 2.76
SRZ (m): 1.86

Tree Number: 19

Botanical Name:	*Fraxinus excelsior 'Aurea'*
Common Name:	Golden Ash
Origin:	Exotic
Tree Age:	Semi mature
H x W:	9m x 9m
Health:	Good
Structure:	Good
ULE:	20+ years
Retention Value:	Medium
Defects:	None
Comments:	

DBH (cm): 18
TPZ (m): 2.16
SRZ (m): 1.68

Tree Number: 20

Botanical Name:	*Quercus palustris*
Common Name:	Pin Oak
Origin:	Exotic
Tree Age:	Semi mature
H x W:	14m x 7m
Health:	Good
Structure:	Good
ULE:	20+ years
Retention Value:	Medium
Defects:	None
Comments:	

DBH (cm): 40
TPZ (m): 4.8
SRZ (m): 2.34

Tree Number: 21

Botanical Name:	*Betula pendula*
Common Name:	Silver Birch
Origin:	Exotic
Tree Age:	Semi mature
H x W:	11m x 3m
Health:	Fair
Structure:	Fair
ULE:	10-20 years
Retention Value:	Medium
Defects:	None
Comments:	

DBH (cm): 16
TPZ (m): 2
SRZ (m): 1.60

Tree Number: 22

Botanical Name:	*Phoenix canariensis*
Common Name:	Canary Island Date Palm
Origin:	Exotic
Tree Age:	Semi mature
H x W:	7m x 7m
Health:	Good
Structure:	Good
ULE:	20+ years
Retention Value:	Medium
Defects:	None
Comments:	

DBH (cm): 100
TPZ (m): 4.5
SRZ (m): 3.44

Tree Number: 23

Botanical Name:	*Ulmus glabra 'Camperdownii'*
Common Name:	Weeping Elm
Origin:	Exotic
Tree Age:	Semi mature
H x W:	4m x 7m
Health:	Good
Structure:	Good
ULE:	20+ years
Retention Value:	Medium
Defects:	None
Comments:	

DBH (cm): 32
TPZ (m): 3.84
SRZ (m): 2.13

Tree Number: 24

Botanical Name:	*Salix babylonica*
Common Name:	Weeping Willow
Origin:	Exotic
Tree Age:	Semi mature
H x W:	7m x 7m
Health:	Good
Structure:	Fair
ULE:	10-20 years
Retention Value:	Medium
Defects:	None
Comments:	

DBH (cm): 31
TPZ (m): 3.72
SRZ (m): 2.11

Tree Number: 25

Botanical Name:	*Malus sp.*
Common Name:	Apple
Origin:	Exotic
Tree Age:	Semi mature
H x W:	4m x 5m
Health:	Good
Structure:	Fair
ULE:	10-20 years
Retention Value:	Low
Defects:	None
Comments:	

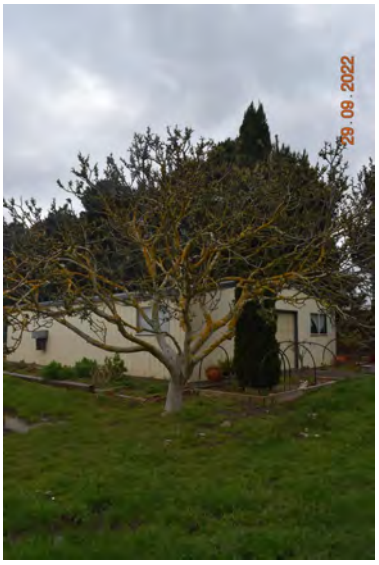
DBH (cm): 20
TPZ (m): 2.4
SRZ (m): 1.75

Tree Number: 26

Botanical Name:	*Quercus robur*
Common Name:	English Oak
Origin:	Exotic
Tree Age:	Semi mature
H x W:	7m x 5m
Health:	Good
Structure:	Good
ULE:	20+ years
Retention Value:	Medium
Defects:	None
Comments:	

DBH (cm): 23
TPZ (m): 2.76
SRZ (m): 1.86

Tree Number: 27



Botanical Name:	*Juglans regia*
Common Name:	Walnut
Origin:	Exotic
Tree Age:	Semi mature
H x W:	5m x 8m
Health:	Good
Structure:	Good
ULE:	20+ years
Retention Value:	Medium
Defects:	None
Comments:	

DBH (cm): 27
TPZ (m): 3.24
SRZ (m): 1.99

Tree Number: 28

Botanical Name:	*Betula pendula*
Common Name:	Silver Birch
Origin:	Exotic
Tree Age:	Semi mature
H x W:	6m x 3m
Health:	Good
Structure:	Poor
ULE:	10-20 years
Retention Value:	Low
Defects:	Codominant stems
Comments:	

DBH (cm): 15
TPZ (m): 2
SRZ (m): 1.55

Tree Number: 29

Botanical Name:	*Morus nigra*
Common Name:	Black Mulberry
Origin:	Exotic
Tree Age:	Semi mature
H x W:	2m x 2m
Health:	Good
Structure:	Fair
ULE:	20+ years
Retention Value:	Low
Defects:	None
Comments:	

DBH (cm): 11
TPZ (m): 2
SRZ (m): 1.50

Tree Number: 30

Botanical Name:	*Populus alba 'Pyramidalis'*
Common Name:	White Fastigiate Poplar
Origin:	Exotic
Tree Age:	Mature
H x W:	14m x 4m
Health:	Good
Structure:	Fair
ULE:	20+ years
Retention Value:	Medium
Defects:	None
Comments:	

DBH (cm): 35
TPZ (m): 4.2
SRZ (m): 2.22

Tree Number: 31

Botanical Name:	*Quercus palustris*
Common Name:	Pin Oak
Origin:	Exotic
Tree Age:	Young
H x W:	6m x 3m
Health:	Good
Structure:	Good
ULE:	20+ years
Retention Value:	Low
Defects:	None
Comments:	

DBH (cm): 13
TPZ (m): 2
SRZ (m): 1.50

Tree Number: 32

Botanical Name:	*Quercus palustris*
Common Name:	Pin Oak
Origin:	Exotic
Tree Age:	Young
H x W:	5m x 1m
Health:	Fair
Structure:	Good
ULE:	20+ years
Retention Value:	Low
Defects:	None
Comments:	

DBH (cm): 10
TPZ (m): 2
SRZ (m): 1.50

Tree Number: 33

Botanical Name:	*Quercus palustris*
Common Name:	Pin Oak
Origin:	Exotic
Tree Age:	Young
H x W:	5m x 2m
Health:	Fair
Structure:	Good
ULE:	20+ years
Retention Value:	Low
Defects:	None
Comments:	

DBH (cm): 13
TPZ (m): 2
SRZ (m): 1.50

Tree Number: 34

Botanical Name:	*Unknown sp.*
Common Name:	Unknown
Origin:	Exotic
Tree Age:	Young
H x W:	4m x 4m
Health:	Good
Structure:	Fair
ULE:	10-20 years
Retention Value:	Low
Defects:	Codominant stems
Comments:	

DBH (cm): 18
TPZ (m): 2.16
SRZ (m): 1.68

Tree Number: 35

Botanical Name:	*Morus alba*
Common Name:	Mulberry
Origin:	Exotic
Tree Age:	Semi mature
H x W:	3m x 2m
Health:	Fair
Structure:	Fair
ULE:	10-20 years
Retention Value:	Low
Defects:	Lopped main stem
Comments:	

DBH (cm): 9
TPZ (m): 2
SRZ (m): 1.50

Tree Number: 36

Botanical Name:	*Cupressus sempervirens*
Common Name:	Italian Cypress
Origin:	Exotic
Tree Age:	Semi mature
H x W:	9m x 1m
Health:	Good
Structure:	Good
ULE:	20+ years
Retention Value:	Medium
Defects:	None
Comments:	

DBH (cm): 15
TPZ (m): 2
SRZ (m): 1.55

Tree Number: 37

Botanical Name:	*Cupressus sempervirens*
Common Name:	Italian Cypress
Origin:	Exotic
Tree Age:	Semi mature
H x W:	8m x 1m
Health:	Good
Structure:	Good
ULE:	20+ years
Retention Value:	Medium
Defects:	None
Comments:	

DBH (cm): 14
TPZ (m): 2
SRZ (m): 1.51

Tree Number: 38

Botanical Name:	*Eriobotrya japonica*
Common Name:	Loquat
Origin:	Exotic
Tree Age:	Semi mature
H x W:	4m x 3m
Health:	Good
Structure:	Good
ULE:	20+ years
Retention Value:	Low
Defects:	None
Comments:	

DBH (cm): 15
TPZ (m): 2
SRZ (m): 1.55

Tree Number: 39

Botanical Name:	*Prunus sp.*
Common Name:	Plum
Origin:	Exotic
Tree Age:	Semi mature
H x W:	4m x 3m
Health:	Fair
Structure:	Fair
ULE:	10-20 years
Retention Value:	Low
Defects:	None
Comments:	3 x fruit trees

DBH (cm): 15
TPZ (m): 2
SRZ (m): 1.55

Tree Number: 40

Botanical Name:	*Olea europaea*
Common Name:	European Olive
Origin:	Exotic
Tree Age:	Semi mature
H x W:	5m x 3m
Health:	Fair
Structure:	Fair
ULE:	10-20 years
Retention Value:	Low
Defects:	None
Comments:	5 fruit trees-Olive, apple and Citrus

DBH (cm): 18
TPZ (m): 2.16
SRZ (m): 1.68

Tree Number: 41

Botanical Name:	*Malus domestica*
Common Name:	Apple
Origin:	Exotic
Tree Age:	Semi mature
H x W:	5m x 4m
Health:	Fair
Structure:	Fair
ULE:	10-20 years
Retention Value:	Low
Defects:	None
Comments:	5 fruit trees ape and pear

DBH (cm): 15
TPZ (m): 2
SRZ (m): 1.55

Tree Number: 42

Botanical Name:	*Juniperus scopulorum 'Blue Arrow'*
Common Name:	Blue Rocky Mountain Juniper
Origin:	Exotic
Tree Age:	Semi mature
H x W:	4m x 3m
Health:	Fair
Structure:	Fair
ULE:	10-20 years
Retention Value:	Low
Defects:	None
Comments:	Multiple Specimens

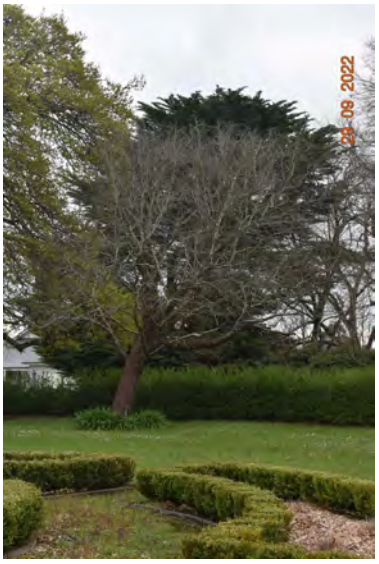
DBH (cm): 14
TPZ (m): 2
SRZ (m): 1.51

Tree Number: 43

Botanical Name:	*Quercus robur*
Common Name:	English Oak
Origin:	Exotic
Tree Age:	Mature
H x W:	18m x 20m
Health:	Good
Structure:	Fair
ULE:	20+ years
Retention Value:	High
Defects:	None
Comments:	

DBH (cm): 118
TPZ (m): 14.16
SRZ (m): 3.69

Tree Number: 44



Botanical Name:	*Ulmus X hollandica*
Common Name:	Dutch Elm
Origin:	Exotic
Tree Age:	Mature
H x W:	12m x 5m
Health:	Fair
Structure:	Fair
ULE:	10-20 years
Retention Value:	Medium
Defects:	Leaning main stem
Comments:	

DBH (cm): 54
TPZ (m): 6.48
SRZ (m): 2.66

Tree Number: 45

Botanical Name:	*Ulmus X hollandica*
Common Name:	Dutch Elm
Origin:	Exotic
Tree Age:	Mature
H x W:	14m x 6m
Health:	Fair
Structure:	Poor
ULE:	10-20 years
Retention Value:	Medium
Defects:	Decayed stem with deadwood throughout canopy
Comments:	

DBH (cm): 76
TPZ (m): 9.12
SRZ (m): 3.07

Tree Number: 46

Botanical Name:	*Quercus robur*
Common Name:	English Oak
Origin:	Exotic
Tree Age:	Mature
H x W:	17m x 22m
Health:	Fair
Structure:	Fair
ULE:	20+ years
Retention Value:	High

DBH (cm): 102
TPZ (m): 12.24
SRZ (m): 3.47

Defects: Deadwood throughout the canopy

Comments:

Tree Number: 47

Botanical Name:	*Quercus cerris*
Common Name:	Turkey Oak
Origin:	Exotic
Tree Age:	Mature
H x W:	21m x 15m
Health:	Good
Structure:	Fair
ULE:	20+ years
Retention Value:	High

DBH (cm): 98
TPZ (m): 11.76
SRZ (m): 3.42

Defects: None

Comments:

Tree Number: 48

Botanical Name:	*Quercus robur*
Common Name:	English Oak
Origin:	Exotic
Tree Age:	Mature
H x W:	19m x 20m
Health:	Fair
Structure:	Fair
ULE:	20+ years
Retention Value:	High

DBH (cm): 96
TPZ (m): 11.52
SRZ (m): 3.39

Defects: Deadwood throughout the canopy

Comments: Deadwood overdriveway

Tree Number: 49

Botanical Name:	*Platanus Xacerifolia*
Common Name:	London Plane
Origin:	Exotic
Tree Age:	Semi mature
H x W:	12m x 4m
Health:	Good
Structure:	Fair
ULE:	20+ years
Retention Value:	Medium
Defects:	None
Comments:	

DBH (cm): 26
TPZ (m): 3.12
SRZ (m): 1.96

Tree Number: 50

Botanical Name:	*Platanus Xacerifolia*
Common Name:	London Plane
Origin:	Exotic
Tree Age:	Semi mature
H x W:	11m x 5m
Health:	Good
Structure:	Fair
ULE:	20+ years
Retention Value:	Low
Defects:	None
Comments:	

DBH (cm): 21
TPZ (m): 2.52
SRZ (m): 1.79

Tree Number: 51

Botanical Name:	*Platanus Xacerifolia*
Common Name:	London Plane
Origin:	Exotic
Tree Age:	Semi mature
H x W:	13m x 5m
Health:	Good
Structure:	Fair
ULE:	20+ years
Retention Value:	Low
Defects:	None
Comments:	

DBH (cm): 28
TPZ (m): 3.36
SRZ (m): 2.02

Tree Number: 52

Botanical Name:	*Platanus Xacerifolia*
Common Name:	London Plane
Origin:	Exotic
Tree Age:	Semi mature
H x W:	12m x 5m
Health:	Good
Structure:	Fair
ULE:	20+ years
Retention Value:	Medium
Defects:	None
Comments:	

DBH (cm): 28
TPZ (m): 3.36
SRZ (m): 2.02

Tree Number: 53

Botanical Name:	*Platanus Xacerifolia*
Common Name:	London Plane
Origin:	Exotic
Tree Age:	Semi mature
H x W:	13m x 9m
Health:	Good
Structure:	Fair
ULE:	20+ years
Retention Value:	Medium
Defects:	Codominant stems
Comments:	

DBH (cm): 50
TPZ (m): 6
SRZ (m): 2.57

Tree Number: 54

Botanical Name:	*Platanus Xacerifolia*
Common Name:	London Plane
Origin:	Exotic
Tree Age:	Semi mature
H x W:	13m x 5m
Health:	Good
Structure:	Fair
ULE:	20+ years
Retention Value:	Medium
Defects:	None
Comments:	

DBH (cm): 32
TPZ (m): 3.84
SRZ (m): 2.13

Tree Number: 55

Botanical Name:	*Platanus Xacerifolia*
Common Name:	London Plane
Origin:	Exotic
Tree Age:	Semi mature
H x W:	14m x 5m
Health:	Good
Structure:	Fair
ULE:	20+ years
Retention Value:	Medium
Defects:	None
Comments:	

DBH (cm): 29
TPZ (m): 3.48
SRZ (m): 2.05

Tree Number: 56

Botanical Name:	*Platanus Xacerifolia*
Common Name:	London Plane
Origin:	Exotic
Tree Age:	Semi mature
H x W:	14m x 5m
Health:	Good
Structure:	Fair
ULE:	20+ years
Retention Value:	Medium
Defects:	None
Comments:	

DBH (cm): 30
TPZ (m): 3.6
SRZ (m): 2.08

Tree Number: 57

Botanical Name:	*Platanus Xacerifolia*
Common Name:	London Plane
Origin:	Exotic
Tree Age:	Semi mature
H x W:	14m x 4m
Health:	Good
Structure:	Fair
ULE:	20+ years
Retention Value:	Medium
Defects:	None
Comments:	

DBH (cm): 26
TPZ (m): 3.12
SRZ (m): 1.96

Tree Number: 58

Botanical Name: *Platanus Xacerifolia*
Common Name: London Plane
Origin: Exotic
Tree Age: Semi mature
H x W: 12m x 4m
Health: Good
Structure: Fair
ULE: 20+ years
Retention Value: Medium
Defects: None
Comments:

DBH (cm): 21
TPZ (m): 2.52
SRZ (m): 1.79

Tree Number: 59

Botanical Name: *Pinus radiata*
Common Name: Monterey Pine
Origin: Exotic
Tree Age: Mature
H x W: 22m x 18m
Health: Fair
Structure: Fair
ULE: 10-20 years
Retention Value: High
Defects: Deadwood throughout the canopy
Comments:

DBH (cm): 200
TPZ (m): 15
SRZ (m): 4.61

Tree Number: 60

Botanical Name: *Quercus cerris*
Common Name: Turkey Oak
Origin: Exotic
Tree Age: Mature
H x W: 20m x 16m
Health: Good
Structure: Fair
ULE: 20+ years
Retention Value: High
Defects: Leaning main stem
Comments: Leaning to the south

DBH (cm): 106
TPZ (m): 12.72
SRZ (m): 3.53

Tree Number: 61

Botanical Name:	*Pinus pinaster*
Common Name:	Maritime Pine
Origin:	Exotic
Tree Age:	Mature
H x W:	24m x 8m
Health:	Very Poor
Structure:	Poor
ULE:	1-5 years
Retention Value:	Low
Defects:	Deadwood throughout the canopy
Comments:	Tree in severe decline

DBH (cm): 126
TPZ (m): 15
SRZ (m): 3.80

Tree Number: 62

Botanical Name:	*Quercus canariensis*
Common Name:	Algerian Oak
Origin:	Exotic
Tree Age:	Mature
H x W:	18m x 22m
Health:	Fair
Structure:	Fair
ULE:	10-20 years
Retention Value:	High
Defects:	Deadwood and extended branches in canopy
Comments:	Large tree in neighbouring property. Large branch extends 10m into property

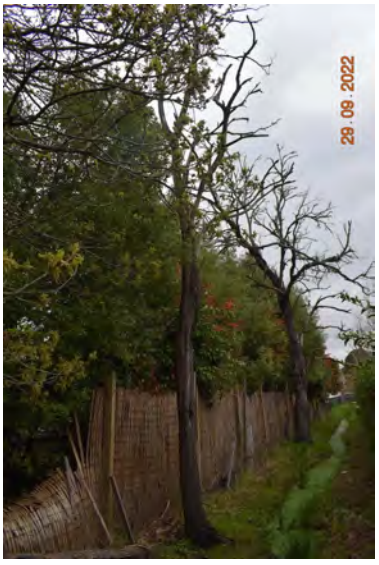
DBH (cm): 130
TPZ (m): 15
SRZ (m): 3.85

Tree Number: 63

Botanical Name:	*Quercus cerris*
Common Name:	Turkey Oak
Origin:	Exotic
Tree Age:	Semi mature
H x W:	18m x 8m
Health:	Good
Structure:	Good
ULE:	20+ years
Retention Value:	High
Defects:	None
Comments:	In neighbours property

DBH (cm): 60
TPZ (m): 7.2
SRZ (m): 2.78

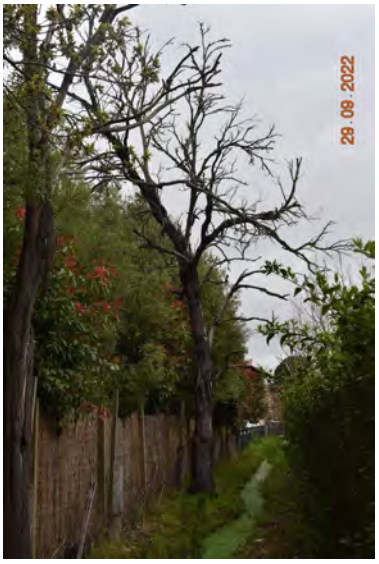
Tree Number: 64



Botanical Name:	*Acacia melanoxylon*
Common Name:	Blackwood
Origin:	Indigenous
Tree Age:	Semi mature
H x W:	10m x 1m
Health:	Dead
Structure:	Poor
ULE:	0 years
Retention Value:	Low
Defects:	Decay in main stem and deadwood in canopy
Comments:	<40cm @ 1.3m exempt

DBH (cm): 24
TPZ (m): 2.88
SRZ (m): 1.89

Tree Number: 65



Botanical Name:	*Acacia melanoxylon*
Common Name:	Blackwood
Origin:	Indigenous
Tree Age:	Mature
H x W:	12m x 3m
Health:	Dead
Structure:	Poor
ULE:	0 years
Retention Value:	Low
Defects:	Decay in main stem and deadwood in canopy
Comments:	<40cm @ 1.3m exempt

DBH (cm): 38
TPZ (m): 4.56
SRZ (m): 2.29

Tree Number: 66

Botanical Name:	*Platanus Xacerifolia*
Common Name:	London Plane
Origin:	Exotic
Tree Age:	Semi mature
H x W:	9m x 3m
Health:	Good
Structure:	Fair
ULE:	20+ years
Retention Value:	Low
Defects:	None
Comments:	

DBH (cm): 15
TPZ (m): 2
SRZ (m): 1.55

Tree Number: 67

Botanical Name:	*Platanus Xacerifolia*
Common Name:	London Plane
Origin:	Exotic
Tree Age:	Young
H x W:	7m x 1m
Health:	Good
Structure:	Good
ULE:	20+ years
Retention Value:	Low
Defects:	None
Comments:	

DBH (cm): 8
TPZ (m): 2
SRZ (m): 1.50

Tree Number: 68

Botanical Name:	*Platanus Xacerifolia*
Common Name:	London Plane
Origin:	Exotic
Tree Age:	Semi mature
H x W:	12m x 5m
Health:	Good
Structure:	Fair
ULE:	20+ years
Retention Value:	Medium
Defects:	None
Comments:	

DBH (cm): 26
TPZ (m): 3.12
SRZ (m): 1.96

Tree Number: 69

Botanical Name:	*Platanus Xacerifolia*
Common Name:	London Plane
Origin:	Exotic
Tree Age:	Semi mature
H x W:	12m x 5m
Health:	Good
Structure:	Fair
ULE:	20+ years
Retention Value:	Medium
Defects:	None
Comments:	

DBH (cm): 27
TPZ (m): 3.24
SRZ (m): 1.99

Tree Number: 70

Botanical Name:	*Platanus Xacerifolia*
Common Name:	London Plane
Origin:	Exotic
Tree Age:	Semi mature
H x W:	14m x 5m
Health:	Good
Structure:	Fair
ULE:	20+ years
Retention Value:	Medium
Defects:	None
Comments:	

DBH (cm): 36
TPZ (m): 4.32
SRZ (m): 2.24

Tree Number: 71

Botanical Name:	*Acer rubrum*
Common Name:	Red Maple
Origin:	Exotic
Tree Age:	Young
H x W:	7m x 3m
Health:	Good
Structure:	Fair
ULE:	20+ years
Retention Value:	Low
Defects:	Included union
Comments:	

DBH (cm): 15
TPZ (m): 2
SRZ (m): 1.55

Tree Number: 72

Botanical Name:	*Platanus Xacerifolia*
Common Name:	London Plane
Origin:	Exotic
Tree Age:	Semi mature
H x W:	12m x 4m
Health:	Good
Structure:	Fair
ULE:	20+ years
Retention Value:	Medium
Defects:	None
Comments:	

DBH (cm): 20
TPZ (m): 2.4
SRZ (m): 1.75

Tree Number: 73

Botanical Name:	*Platanus Xacerifolia*
Common Name:	London Plane
Origin:	Exotic
Tree Age:	Semi mature
H x W:	13m x 4m
Health:	Good
Structure:	Fair
ULE:	20+ years
Retention Value:	Medium
Defects:	None
Comments:	

DBH (cm): 26
TPZ (m): 3.12
SRZ (m): 1.96

Tree Number: 74

Botanical Name:	*Platanus Xacerifolia*
Common Name:	London Plane
Origin:	Exotic
Tree Age:	Semi mature
H x W:	10m x 3m
Health:	Good
Structure:	Fair
ULE:	20+ years
Retention Value:	Medium
Defects:	None
Comments:	

DBH (cm): 19
TPZ (m): 2.28
SRZ (m): 1.71

Tree Number: 75

Botanical Name:	*Platanus Xacerifolia*
Common Name:	London Plane
Origin:	Exotic
Tree Age:	Young
H x W:	3m x 1m
Health:	Good
Structure:	Good
ULE:	20+ years
Retention Value:	Low
Defects:	None
Comments:	

DBH (cm): 5
TPZ (m): 2
SRZ (m): 1.50

Tree Number: 76

Botanical Name:	*Quercus palustris*
Common Name:	Pin Oak
Origin:	Exotic
Tree Age:	Young
H x W:	6m x 2m
Health:	Good
Structure:	Good
ULE:	20+ years
Retention Value:	Low
Defects:	None
Comments:	

DBH (cm): 13
TPZ (m): 2
SRZ (m): 1.50

Tree Number: 77

Botanical Name:	*Quercus palustris*
Common Name:	Pin Oak
Origin:	Exotic
Tree Age:	Young
H x W:	6m x 2m
Health:	Good
Structure:	Good
ULE:	20+ years
Retention Value:	Low
Defects:	None
Comments:	

DBH (cm): 12
TPZ (m): 2
SRZ (m): 1.50

Tree Number: 78

Botanical Name:	*Quercus palustris*
Common Name:	Pin Oak
Origin:	Exotic
Tree Age:	Young
H x W:	6m x 2m
Health:	Good
Structure:	Good
ULE:	20+ years
Retention Value:	Low
Defects:	None
Comments:	

DBH (cm): 12
TPZ (m): 2
SRZ (m): 1.50

Tree Number: 79

Botanical Name:	*Quercus palustris*
Common Name:	Pin Oak
Origin:	Exotic
Tree Age:	Young
H x W:	6m x 2m
Health:	Good
Structure:	Good
ULE:	20+ years
Retention Value:	Low
Defects:	None
Comments:	

DBH (cm): 12
TPZ (m): 2
SRZ (m): 1.50

Tree Number: 80

Botanical Name:	*Quercus palustris*
Common Name:	Pin Oak
Origin:	Exotic
Tree Age:	Young
H x W:	6m x 2m
Health:	Good
Structure:	Good
ULE:	20+ years
Retention Value:	Low
Defects:	None
Comments:	

DBH (cm): 12
TPZ (m): 2
SRZ (m): 1.50

Tree Number: 81

Botanical Name:	*Quercus palustris*
Common Name:	Pin Oak
Origin:	Exotic
Tree Age:	Young
H x W:	6m x 2m
Health:	Good
Structure:	Good
ULE:	20+ years
Retention Value:	Low
Defects:	None
Comments:	

DBH (cm): 12
TPZ (m): 2
SRZ (m): 1.50

Tree Number: 82

Botanical Name:	*Quercus palustris*
Common Name:	Pin Oak
Origin:	Exotic
Tree Age:	Young
H x W:	6m x 2m
Health:	Good
Structure:	Good
ULE:	20+ years
Retention Value:	Low
Defects:	None
Comments:	

DBH (cm): 12
TPZ (m): 2
SRZ (m): 1.50

Tree Number: 83

Botanical Name:	*Pinus radiata*
Common Name:	Monterey Pine
Origin:	Exotic
Tree Age:	Mature
H x W:	18m x 10m
Health:	Good
Structure:	Fair
ULE:	20+ years
Retention Value:	Medium
Defects:	Codominant stems
Comments:	Dimensions estimated

DBH (cm): 110
TPZ (m): 13.2
SRZ (m): 3.59

Tree Number: 84

Botanical Name:	*Pinus radiata*
Common Name:	Monterey Pine
Origin:	Exotic
Tree Age:	Semi mature
H x W:	14m x 7m
Health:	Good
Structure:	Fair
ULE:	20+ years
Retention Value:	Medium
Defects:	Codominant stems
Comments:	

DBH (cm): 59
TPZ (m): 7.08
SRZ (m): 2.76

Tree Number: 85

Botanical Name:	*Pinus radiata*
Common Name:	Monterey Pine
Origin:	Exotic
Tree Age:	Semi mature
H x W:	14m x 5m
Health:	Good
Structure:	Fair
ULE:	20+ years
Retention Value:	Medium
Defects:	None
Comments:	

DBH (cm): 40
TPZ (m): 4.8
SRZ (m): 2.34

Tree Number: 86

Botanical Name:	*Pinus radiata*
Common Name:	Monterey Pine
Origin:	Exotic
Tree Age:	Semi mature
H x W:	14m x 4m
Health:	Good
Structure:	Fair
ULE:	20+ years
Retention Value:	Medium
Defects:	None
Comments:	

DBH (cm): 38
TPZ (m): 4.56
SRZ (m): 2.29

Tree Number: 87

Botanical Name:	*Pinus radiata*
Common Name:	Monterey Pine
Origin:	Exotic
Tree Age:	Mature
H x W:	16m x 14m
Health:	Good
Structure:	Fair
ULE:	20+ years
Retention Value:	Medium
Defects:	None
Comments:	

DBH (cm): 80
TPZ (m): 9.6
SRZ (m): 3.14

Tree Number: 88

Botanical Name:	*Pinus radiata*
Common Name:	Monterey Pine
Origin:	Exotic
Tree Age:	Mature
H x W:	15m x 9m
Health:	Good
Structure:	Fair
ULE:	20+ years
Retention Value:	Medium
Defects:	None
Comments:	

DBH (cm): 70
TPZ (m): 8.4
SRZ (m): 2.97

Tree Number: 89

Botanical Name:	*Pinus radiata*
Common Name:	Monterey Pine
Origin:	Exotic
Tree Age:	Mature
H x W:	16m x 14m
Health:	Good
Structure:	Fair
ULE:	20+ years
Retention Value:	Medium
Defects:	None
Comments:	

DBH (cm): 90
TPZ (m): 10.8
SRZ (m): 3.30

Tree Number: 90

Botanical Name:	*Pinus radiata*
Common Name:	Monterey Pine
Origin:	Exotic
Tree Age:	Young
H x W:	13m x 5m
Health:	Good
Structure:	Good
ULE:	20+ years
Retention Value:	Low
Defects:	None
Comments:	

DBH (cm): 30
TPZ (m): 3.6
SRZ (m): 2.08

Tree Number: 91

Botanical Name:	*Eucalyptus ovata*
Common Name:	Swamp Gum
Origin:	Indigenous
Tree Age:	Mature
H x W:	10m x 12m
Health:	Good
Structure:	Fair
ULE:	20+ years
Retention Value:	High
Defects:	None
Comments:	

DBH (cm): 52
TPZ (m): 6.24
SRZ (m): 2.62

Tree Number: 92

Botanical Name:	*Eucalyptus ovata*
Common Name:	Swamp Gum
Origin:	Indigenous
Tree Age:	Semi mature
H x W:	9m x 4m
Health:	Good
Structure:	Fair
ULE:	20+ years
Retention Value:	Medium
Defects:	Codominant stems
Comments:	In reserve 1m from fence

DBH (cm): 42
TPZ (m): 5.04
SRZ (m): 2.39

Tree Number: 93

Botanical Name:	*Eucalyptus ovata*
Common Name:	Swamp Gum
Origin:	Indigenous
Tree Age:	Semi mature
H x W:	9m x 4m
Health:	Good
Structure:	Fair
ULE:	20+ years
Retention Value:	Medium
Defects:	Codominant stems
Comments:	In reserve 1m from fence

DBH (cm): 39
TPZ (m): 4.68
SRZ (m): 2.32

Tree Number: 94

Botanical Name:	*Eucalyptus ovata*
Common Name:	Swamp Gum
Origin:	Indigenous
Tree Age:	Semi mature
H x W:	15m x 12m
Health:	Good
Structure:	Fair
ULE:	20+ years
Retention Value:	Medium

DBH (cm): 61
TPZ (m): 7.32
SRZ (m): 2.80

Defects: Codominant stems with included union

Comments:

Tree Number: 95

Botanical Name:	*Eucalyptus ovata*
Common Name:	Swamp Gum
Origin:	Indigenous
Tree Age:	Semi mature
H x W:	8m x 5m
Health:	Very Poor
Structure:	Poor
ULE:	0 years
Retention Value:	Low

DBH (cm): 27
TPZ (m): 3.24
SRZ (m): 1.99

Defects: Leaning main stem and deadwood in canopy

Comments:

Tree Number: 96

Botanical Name:	*Eucalyptus ovata*
Common Name:	Swamp Gum
Origin:	Indigenous
Tree Age:	Semi mature
H x W:	16m x 5m
Health:	Good
Structure:	Fair
ULE:	20+ years
Retention Value:	Medium

DBH (cm): 54
TPZ (m): 6.48
SRZ (m): 2.66

Defects: Codominant stems with included union

Comments:

Tree Number: 97

Botanical Name:	*Eucalyptus ovata*
Common Name:	Swamp Gum
Origin:	Indigenous
Tree Age:	Semi mature
H x W:	8m x 3m
Health:	Very Poor
Structure:	Poor
ULE:	0 years
Retention Value:	Low

DBH (cm): 28
TPZ (m): 3.36
SRZ (m): 2.02

Defects: Leaning main stem and deadwood in canopy

Comments:

Tree Number: 98

Botanical Name:	*Eucalyptus ovata*
Common Name:	Swamp Gum
Origin:	Indigenous
Tree Age:	Mature
H x W:	12m x 14m
Health:	Good
Structure:	Fair
ULE:	20+ years
Retention Value:	Medium

DBH (cm): 69
TPZ (m): 8.28
SRZ (m): 2.95

Defects: Codominant stems with extended branches throughout canopy

Comments:

Tree Number: 99

Botanical Name:	*Eucalyptus ovata*
Common Name:	Swamp Gum
Origin:	Indigenous
Tree Age:	Young
H x W:	10m x 2m
Health:	Poor
Structure:	Fair
ULE:	5-10 years
Retention Value:	Low

DBH (cm): 23
TPZ (m): 2.76
SRZ (m): 1.86

Defects: Deadwood throughout the canopy

Comments:

Tree Number: 100

Botanical Name:	*Pinus radiata*
Common Name:	Monterey Pine
Origin:	Exotic
Tree Age:	Mature
H x W:	16m x 8m
Health:	Good
Structure:	Good
ULE:	20+ years
Retention Value:	Medium

DBH (cm): 68
TPZ (m): 8.16
SRZ (m): 2.93

Defects: Deadwood throughout the canopy

Comments:

Tree Number: 101

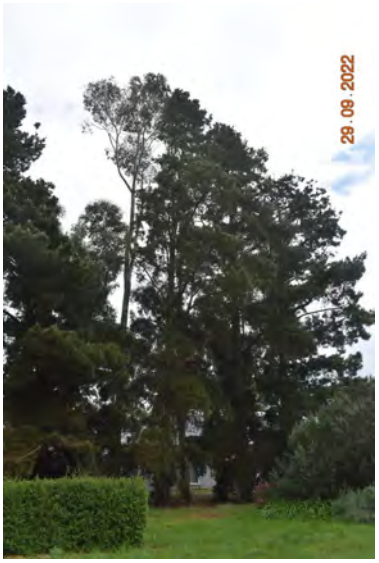
Botanical Name:	*Pinus radiata*
Common Name:	Monterey Pine
Origin:	Exotic
Tree Age:	Mature
H x W:	18m x 10m
Health:	Good
Structure:	Good
ULE:	20+ years
Retention Value:	Medium

DBH (cm): 69
TPZ (m): 8.28
SRZ (m): 2.95

Defects: Deadwood throughout the canopy

Comments:

Tree Number: 102



Botanical Name:	*Pinus radiata*
Common Name:	Monterey Pine
Origin:	Exotic
Tree Age:	Mature
H x W:	16m x 10m
Health:	Good
Structure:	Good
ULE:	20+ years
Retention Value:	Medium

DBH (cm): 54
TPZ (m): 6.48
SRZ (m): 2.66

Defects: None

Comments:

Tree Number: 103

Botanical Name:	*Eucalyptus bicostata*
Common Name:	Eurabbie
Origin:	Native
Tree Age:	Mature
H x W:	18m x 8m
Health:	Good
Structure:	Fair
ULE:	10-20 years
Retention Value:	Medium
Defects:	Lopped main stem
Comments:	Third party ownership DBH estimated

DBH (cm): 62
TPZ (m): 7.44
SRZ (m): 2.82

Tree Number: 104

Botanical Name:	*Eucalyptus cladocalyx*
Common Name:	Sugar Gum
Origin:	Native
Tree Age:	Mature
H x W:	16m x 8m
Health:	Good
Structure:	Fair
ULE:	10-20 years
Retention Value:	Medium
Defects:	Codominant stems
Comments:	Third party ownership DBH estimated

DBH (cm): 44
TPZ (m): 5.28
SRZ (m): 2.44

Tree Number: 105

Botanical Name:	*Eucalyptus bicostata*
Common Name:	Eurabbie
Origin:	Native
Tree Age:	Mature
H x W:	17m x 8m
Health:	Good
Structure:	Fair
ULE:	10-20 years
Retention Value:	Medium
Defects:	Lopped canopy
Comments:	Third party ownership DBH estimated

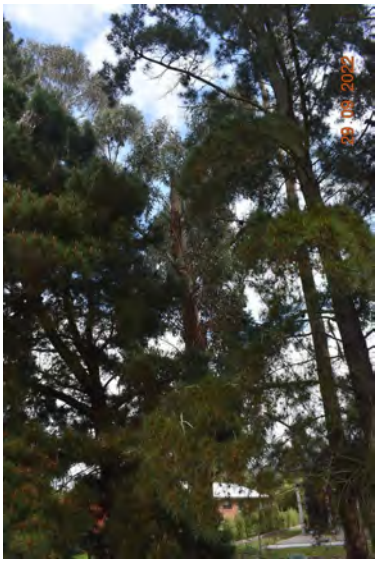
DBH (cm): 58
TPZ (m): 6.96
SRZ (m): 2.74

Tree Number: 106

Botanical Name:	*Eucalyptus cladocalyx*
Common Name:	Sugar Gum
Origin:	Native
Tree Age:	Mature
H x W:	22m x 9m
Health:	Good
Structure:	Fair
ULE:	10-20 years
Retention Value:	Medium
Defects:	Codominant stems
Comments:	Third party ownership DBH estimated

DBH (cm): 62
TPZ (m): 7.44
SRZ (m): 2.82

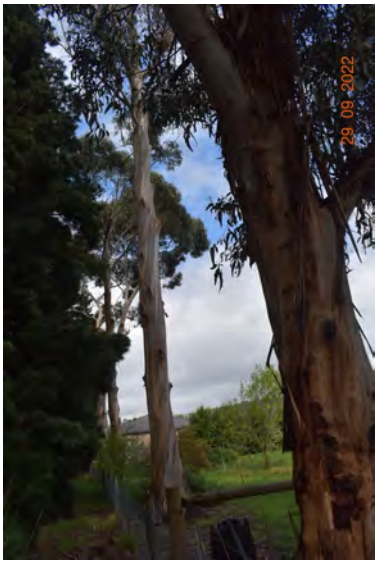
Tree Number: 107



Botanical Name:	*Eucalyptus bicostata*
Common Name:	Eurabbie
Origin:	Native
Tree Age:	Mature
H x W:	12m x 8m
Health:	Poor
Structure:	Poor
ULE:	1-5 years
Retention Value:	Medium
Defects:	Lopped main stem with cavity and bracket fungi
Comments:	Third party ownership DBH estimated

DBH (cm): 90
TPZ (m): 10.8
SRZ (m): 3.30

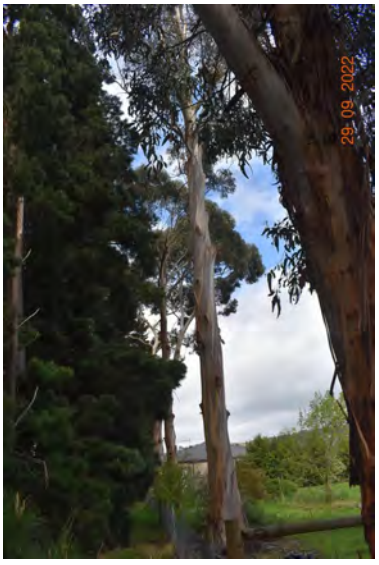
Tree Number: 108



Botanical Name:	*Eucalyptus bicostata*
Common Name:	Eurabbie
Origin:	Native
Tree Age:	Mature
H x W:	19m x 10m
Health:	Good
Structure:	Fair
ULE:	10-20 years
Retention Value:	Medium
Defects:	Deadwood throughout the canopy
Comments:	Third party ownership DBH estimated

DBH (cm): 78
TPZ (m): 9.36
SRZ (m): 3.10

Tree Number: 109



Botanical Name:	*Eucalyptus bicostata*
Common Name:	Eurabbie
Origin:	Native
Tree Age:	Mature
H x W:	18m x 10m
Health:	Good
Structure:	Good
ULE:	20+ years
Retention Value:	Medium
Defects:	None
Comments:	Third party ownership DBH estimated

DBH (cm): 77
TPZ (m): 9.24
SRZ (m): 3.09

Tree Number: 110

Botanical Name:	*Eucalyptus bicostata*
Common Name:	Eurabbie
Origin:	Native
Tree Age:	Mature
H x W:	22m x 16m
Health:	Good
Structure:	Fair
ULE:	10-20 years
Retention Value:	High
Defects:	Extended branches and deadwood throughout the canopy
Comments:	Third party ownership DBH estimated

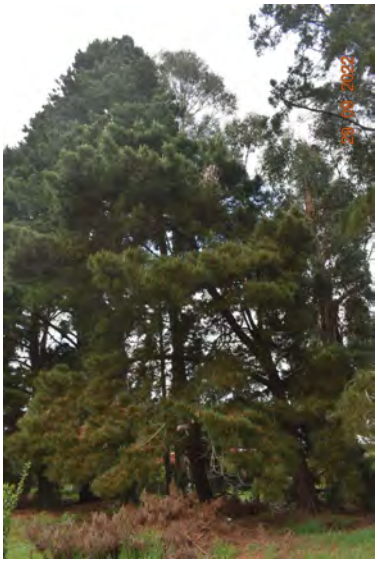
DBH (cm): 115
TPZ (m): 13.8
SRZ (m): 3.65

Tree Number: 111

Botanical Name:	*Pinus radiata*
Common Name:	Monterey Pine
Origin:	Exotic
Tree Age:	Mature
H x W:	12m x 10m
Health:	Good
Structure:	Fair
ULE:	10-20 years
Retention Value:	Medium
Defects:	Leaning main stem
Comments:	

DBH (cm): 47
TPZ (m): 5.64
SRZ (m): 2.51

Tree Number: 112



Botanical Name:	*Pinus radiata*
Common Name:	Monterey Pine
Origin:	Exotic
Tree Age:	Mature
H x W:	14m x 10m
Health:	Good
Structure:	Good
ULE:	20+ years
Retention Value:	Medium
Defects:	Leaning main stem
Comments:	

DBH (cm): 44
TPZ (m): 5.28
SRZ (m): 2.44

Tree Number: 113

Botanical Name:	*Pinus radiata*
Common Name:	Monterey Pine
Origin:	Exotic
Tree Age:	Mature
H x W:	6m x 2m
Health:	Dead
Structure:	Poor
ULE:	0 years
Retention Value:	Low
Defects:	Decay in main stem and deadwood in canopy
Comments:	

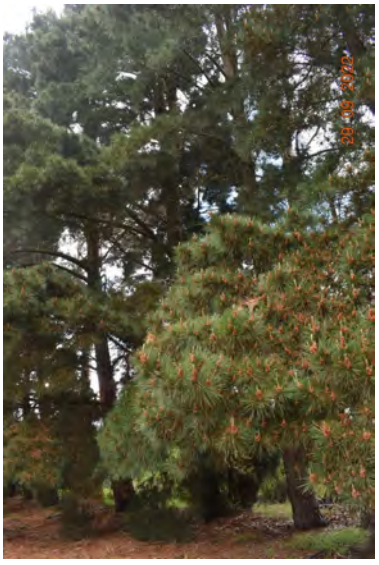
DBH (cm): 20
TPZ (m): 2.4
SRZ (m): 1.75

Tree Number: 114

Botanical Name:	*Pinus radiata*
Common Name:	Monterey Pine
Origin:	Exotic
Tree Age:	Mature
H x W:	17m x 8m
Health:	Good
Structure:	Good
ULE:	20+ years
Retention Value:	Medium
Defects:	Deadwood throughout the canopy
Comments:	

DBH (cm): 50
TPZ (m): 6
SRZ (m): 2.57

Tree Number: 115



Botanical Name:	*Pinus radiata*
Common Name:	Monterey Pine
Origin:	Exotic
Tree Age:	Mature
H x W:	18m x 10m
Health:	Good
Structure:	Good
ULE:	20+ years
Retention Value:	Medium

DBH (cm): 67
TPZ (m): 8.04
SRZ (m): 2.91

Defects: Deadwood throughout the canopy

Comments:

Tree Number: 116

Botanical Name:	*Pinus radiata*
Common Name:	Monterey Pine
Origin:	Exotic
Tree Age:	Mature
H x W:	18m x 12m
Health:	Good
Structure:	Good
ULE:	20+ years
Retention Value:	Medium

DBH (cm): 69
TPZ (m): 8.28
SRZ (m): 2.95

Defects: Deadwood throughout the canopy

Comments:

Tree Number: 117

Botanical Name:	*Pinus radiata*
Common Name:	Monterey Pine
Origin:	Exotic
Tree Age:	Mature
H x W:	15m x 9m
Health:	Good
Structure:	Fair
ULE:	10-20 years
Retention Value:	Medium

DBH (cm): 36
TPZ (m): 4.32
SRZ (m): 2.24

Defects: Codominant stems with included union

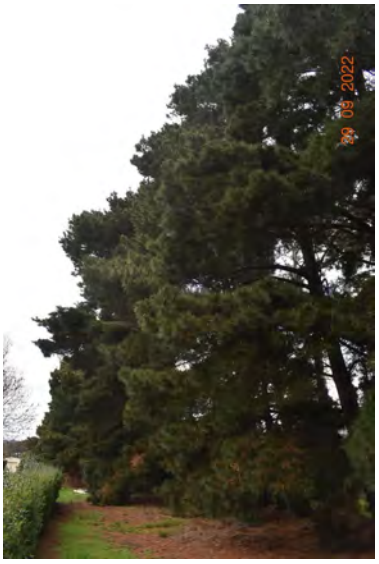
Comments:

Tree Number: 118

Botanical Name:	*Pinus radiata*
Common Name:	Monterey Pine
Origin:	Exotic
Tree Age:	Mature
H x W:	15m x 9m
Health:	Fair
Structure:	Fair
ULE:	10-20 years
Retention Value:	Low
Defects:	Deadwood throughout the canopy
Comments:	suppessed

DBH (cm): 34
TPZ (m): 4.08
SRZ (m): 2.19

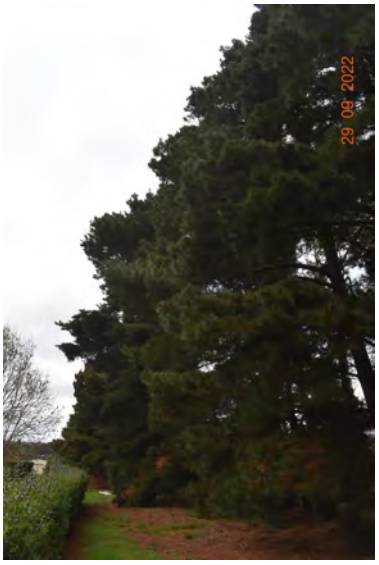
Tree Number: 119



Botanical Name:	*Pinus radiata*
Common Name:	Monterey Pine
Origin:	Exotic
Tree Age:	Mature
H x W:	19m x 10m
Health:	Good
Structure:	Good
ULE:	20+ years
Retention Value:	Medium
Defects:	Leaning main stem
Comments:	

DBH (cm): 55
TPZ (m): 6.6
SRZ (m): 2.68

Tree Number: 120



Botanical Name:	*Pinus radiata*
Common Name:	Monterey Pine
Origin:	Exotic
Tree Age:	Mature
H x W:	9m x 6m
Health:	Fair
Structure:	Fair
ULE:	10-20 years
Retention Value:	Low
Defects:	Codominant stems
Comments:	suppessed

DBH (cm): 28
TPZ (m): 3.36
SRZ (m): 2.02

Tree Number: 121

Botanical Name:	*Pinus radiata*
Common Name:	Monterey Pine
Origin:	Exotic
Tree Age:	Mature
H x W:	20m x 14m
Health:	Good
Structure:	Poor
ULE:	1-5 years
Retention Value:	Low
Defects:	Leaning main stem with evidence of ground heave
Comments:	

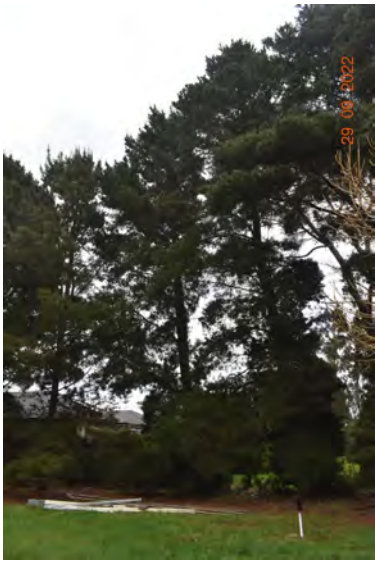
DBH (cm): 79
TPZ (m): 9.48
SRZ (m): 3.12

Tree Number: 122

Botanical Name:	*Pinus radiata*
Common Name:	Monterey Pine
Origin:	Exotic
Tree Age:	Mature
H x W:	16m x 12m
Health:	Good
Structure:	Good
ULE:	20+ years
Retention Value:	Medium
Defects:	Leaning main stem
Comments:	

DBH (cm): 49
TPZ (m): 5.88
SRZ (m): 2.55

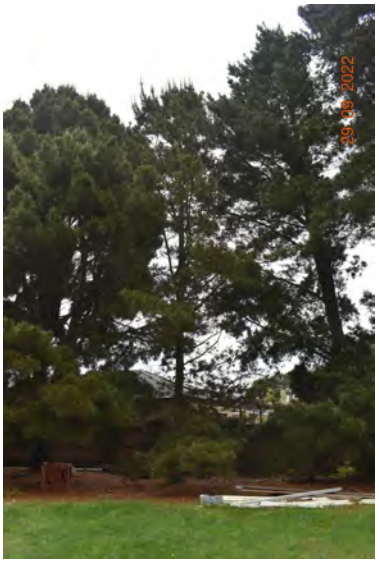
Tree Number: 123



Botanical Name:	*Pinus radiata*
Common Name:	Monterey Pine
Origin:	Exotic
Tree Age:	Mature
H x W:	18m x 10m
Health:	Good
Structure:	Good
ULE:	20+ years
Retention Value:	Medium
Defects:	Leaning main stem
Comments:	

DBH (cm): 49
TPZ (m): 5.88
SRZ (m): 2.55

Tree Number: 124



Botanical Name:	*Pinus radiata*
Common Name:	Monterey Pine
Origin:	Exotic
Tree Age:	Mature
H x W:	17m x 8m
Health:	Good
Structure:	Good
ULE:	20+ years
Retention Value:	Medium
Defects:	None
Comments:	

DBH (cm): 37
TPZ (m): 4.44
SRZ (m): 2.27

Tree Number: 125

Botanical Name:	*Pinus radiata*
Common Name:	Monterey Pine
Origin:	Exotic
Tree Age:	Mature
H x W:	20m x 14m
Health:	Good
Structure:	Fair
ULE:	10-20 years
Retention Value:	Medium
Defects:	Codominant included main stems with dead, included codominant branches throughout the canopy
Comments:	

DBH (cm): 85
TPZ (m): 10.2
SRZ (m): 3.22

Tree Number: 126

Botanical Name:	*Pinus radiata*
Common Name:	Monterey Pine
Origin:	Exotic
Tree Age:	Mature
H x W:	19m x 14m
Health:	Good
Structure:	Good
ULE:	20+ years
Retention Value:	Medium
Defects:	Deadwood throughout the canopy
Comments:	

DBH (cm): 82
TPZ (m): 9.84
SRZ (m): 3.17

Tree Number: 127

Botanical Name:	*Pinus radiata*
Common Name:	Monterey Pine
Origin:	Exotic
Tree Age:	Mature
H x W:	15m x 8m
Health:	Good
Structure:	Good
ULE:	20+ years
Retention Value:	Medium
Defects:	None
Comments:	

DBH (cm): 44
TPZ (m): 5.28
SRZ (m): 2.44

Tree Number: 128

Botanical Name:	*Pinus radiata*
Common Name:	Monterey Pine
Origin:	Exotic
Tree Age:	Mature
H x W:	17m x 9m
Health:	Good
Structure:	Good
ULE:	20+ years
Retention Value:	Medium
Defects:	Deadwood throughout the canopy
Comments:	

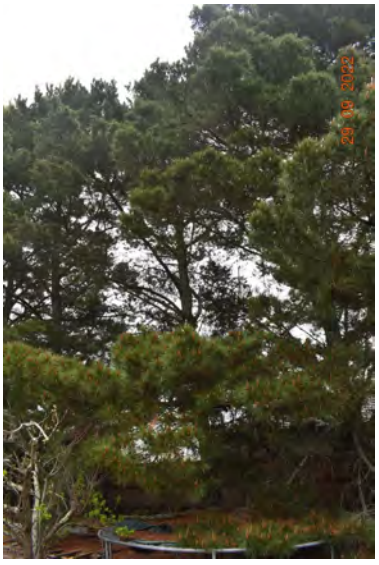
DBH (cm): 47
TPZ (m): 5.64
SRZ (m): 2.51

Tree Number: 129

Botanical Name:	*Pinus radiata*
Common Name:	Monterey Pine
Origin:	Exotic
Tree Age:	Mature
H x W:	20m x 15m
Health:	Good
Structure:	Good
ULE:	20+ years
Retention Value:	Medium
Defects:	Deadwood throughout the canopy
Comments:	

DBH (cm): 72
TPZ (m): 8.64
SRZ (m): 3.00

Tree Number: 130



Botanical Name:	*Pinus radiata*
Common Name:	Monterey Pine
Origin:	Exotic
Tree Age:	Mature
H x W:	17m x 12m
Health:	Good
Structure:	Good
ULE:	20+ years
Retention Value:	Medium

DBH (cm): 48
TPZ (m): 5.76
SRZ (m): 2.53

Defects: Deadwood throughout the canopy

Comments:

Tree Number: 131

Botanical Name:	*Pinus radiata*
Common Name:	Monterey Pine
Origin:	Exotic
Tree Age:	Mature
H x W:	16m x 14m
Health:	Good
Structure:	Good
ULE:	20+ years
Retention Value:	Medium

DBH (cm): 49
TPZ (m): 5.88
SRZ (m): 2.55

Defects: Deadwood throughout the canopy

Comments:

Tree Number: 132

Botanical Name:	*Pinus radiata*
Common Name:	Monterey Pine
Origin:	Exotic
Tree Age:	Mature
H x W:	18m x 15m
Health:	Good
Structure:	Fair
ULE:	5-10 years
Retention Value:	Low

DBH (cm): 70
TPZ (m): 8.4
SRZ (m): 2.97

Defects: Included codominant main stems and included codominant canopy branches

Comments:

Tree Number: 133

Botanical Name:	*Pinus radiata*
Common Name:	Monterey Pine
Origin:	Exotic
Tree Age:	Mature
H x W:	17m x 16m
Health:	Good
Structure:	Fair
ULE:	10-20 years
Retention Value:	Medium
Defects:	Lopped branches and deadwood throughout canopy
Comments:	

DBH (cm): 68
TPZ (m): 8.16
SRZ (m): 2.93

Tree Number: 134

Botanical Name:	*Pinus radiata*
Common Name:	Monterey Pine
Origin:	Exotic
Tree Age:	Mature
H x W:	15m x 9m
Health:	Fair
Structure:	Fair
ULE:	10-20 years
Retention Value:	Low
Defects:	Deadwood throughout the canopy
Comments:	suppessed

DBH (cm): 41
TPZ (m): 4.92
SRZ (m): 2.37

Tree Number: 135

Botanical Name:	*Pinus radiata*
Common Name:	Monterey Pine
Origin:	Exotic
Tree Age:	Mature
H x W:	18m x 16m
Health:	Good
Structure:	Fair
ULE:	10-20 years
Retention Value:	Medium
Defects:	Included codominant main stem and dead canopy branches
Comments:	

DBH (cm): 79
TPZ (m): 9.48
SRZ (m): 3.12

Tree Number: 136

Botanical Name:	*Pinus radiata*
Common Name:	Monterey Pine
Origin:	Exotic
Tree Age:	Mature
H x W:	20m x 17m
Health:	Good
Structure:	Fair
ULE:	10-20 years
Retention Value:	Medium
Defects:	Included codominant main stem and dead, extended canopy branches
Comments:	

DBH (cm):	108
TPZ (m):	12.96
SRZ (m):	3.56

Tree Number: 137

Botanical Name:	*Pinus radiata*
Common Name:	Monterey Pine
Origin:	Exotic
Tree Age:	Mature
H x W:	18m x 14m
Health:	Good
Structure:	Good
ULE:	20+ years
Retention Value:	Medium
Defects:	Leaning main stem and deadwood in canopy
Comments:	

DBH (cm):	66
TPZ (m):	7.92
SRZ (m):	2.89

Tree Number: 138

Botanical Name:	*Pinus radiata*
Common Name:	Monterey Pine
Origin:	Exotic
Tree Age:	Mature
H x W:	15m x 12m
Health:	Good
Structure:	Good
ULE:	20+ years
Retention Value:	Medium
Defects:	Deadwood throughout the canopy
Comments:	

DBH (cm):	49
TPZ (m):	5.88
SRZ (m):	2.55

Tree Number: 139

Botanical Name:	*Pinus radiata*
Common Name:	Monterey Pine
Origin:	Exotic
Tree Age:	Mature
H x W:	18m x 15m
Health:	Good
Structure:	Fair
ULE:	5-10 years
Retention Value:	Low
Defects:	Codominant included main stems with dead, included codominant branches throughout the canopy
Comments:	

DBH (cm): 80
TPZ (m): 9.6
SRZ (m): 3.14

Tree Number: 140

Botanical Name:	*Pinus radiata*
Common Name:	Monterey Pine
Origin:	Exotic
Tree Age:	Mature
H x W:	12m x 6m
Health:	Fair
Structure:	Fair
ULE:	5-10 years
Retention Value:	Low
Defects:	None
Comments:	suppessed

DBH (cm): 29
TPZ (m): 3.48
SRZ (m): 2.05

Tree Number: 141

Botanical Name:	*Pinus radiata*
Common Name:	Monterey Pine
Origin:	Exotic
Tree Age:	Mature
H x W:	16m x 9m
Health:	Good
Structure:	Good
ULE:	20+ years
Retention Value:	Medium
Defects:	Deadwood throughout the canopy
Comments:	

DBH (cm): 47
TPZ (m): 5.64
SRZ (m): 2.51

Tree Number: 142

Botanical Name:	*Pinus radiata*
Common Name:	Monterey Pine
Origin:	Exotic
Tree Age:	Mature
H x W:	16m x 9m
Health:	Good
Structure:	Fair
ULE:	10-20 years
Retention Value:	Low
Defects:	Codominant and dead canopy branches
Comments:	

DBH (cm): 44
TPZ (m): 5.28
SRZ (m): 2.44

Tree Number: 143

Botanical Name:	*Pinus radiata*
Common Name:	Monterey Pine
Origin:	Exotic
Tree Age:	Mature
H x W:	19m x 16m
Health:	Good
Structure:	Good
ULE:	20+ years
Retention Value:	Medium
Defects:	Deadwood throughout the canopy
Comments:	

DBH (cm): 69
TPZ (m): 8.28
SRZ (m): 2.95

Tree Number: 144

Botanical Name:	*Pinus radiata*
Common Name:	Monterey Pine
Origin:	Exotic
Tree Age:	Mature
H x W:	18m x 15m
Health:	Good
Structure:	Fair
ULE:	10-20 years
Retention Value:	Medium
Defects:	Codominant main stem and dead,codominant branches throughout the canopy
Comments:	

DBH (cm): 79
TPZ (m): 9.48
SRZ (m): 3.12

Tree Number: 145

Botanical Name: *Pinus radiata*
Common Name: Monterey Pine
Origin: Exotic
Tree Age: Mature
H x W: 15m x 5m
Health: Fair
Structure: Fair
ULE: 5-10 years
Retention Value: Low

DBH (cm): 22
TPZ (m): 2.64
SRZ (m): 1.82

Defects: Deadwood throughout the canopy

Comments:

Tree Number: 146

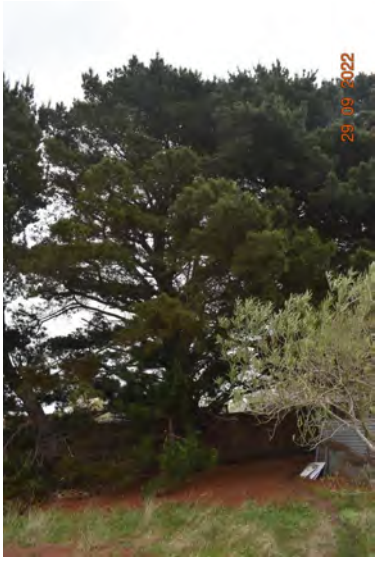
Botanical Name: *Pinus radiata*
Common Name: Monterey Pine
Origin: Exotic
Tree Age: Mature
H x W: 18m x 16m
Health: Good
Structure: Good
ULE: 20+ years
Retention Value: Medium

DBH (cm): 54
TPZ (m): 6.48
SRZ (m): 2.66

Defects: Deadwood throughout the canopy

Comments:

Tree Number: 147



Botanical Name: *Pinus radiata*
Common Name: Monterey Pine
Origin: Exotic
Tree Age: Mature
H x W: 18m x 16m
Health: Good
Structure: Fair
ULE: 10-20 years
Retention Value: Medium

DBH (cm): 82
TPZ (m): 9.84
SRZ (m): 3.17

Defects: Codominant main stem and dead,codominant branches throughout the canopy

Comments:

Tree Number: 148

Botanical Name:	*Pinus radiata*
Common Name:	Monterey Pine
Origin:	Exotic
Tree Age:	Mature
H x W:	16m x 14m
Health:	Good
Structure:	Fair
ULE:	5-10 years
Retention Value:	Low
Defects:	Leaning main stem and deadwood throughout canopy
Comments:	

DBH (cm): 49
TPZ (m): 5.88
SRZ (m): 2.55

Tree Number: 149

Botanical Name:	*Pinus radiata*
Common Name:	Monterey Pine
Origin:	Exotic
Tree Age:	Mature
H x W:	16m x 15m
Health:	Good
Structure:	Good
ULE:	20+ years
Retention Value:	Medium
Defects:	Deadwood throughout the canopy
Comments:	

DBH (cm): 68
TPZ (m): 8.16
SRZ (m): 2.93

Tree Number: 150

Botanical Name:	*Pinus radiata*
Common Name:	Monterey Pine
Origin:	Exotic
Tree Age:	Mature
H x W:	19m x 17m
Health:	Good
Structure:	Poor
ULE:	5-10 years
Retention Value:	Low
Defects:	Codominant included main stems with dead, included codominant branches throughout the canopy
Comments:	

DBH (cm): 102
TPZ (m): 12.24
SRZ (m): 3.47

Tree Number: 151

Botanical Name:	*Pinus radiata*
Common Name:	Monterey Pine
Origin:	Exotic
Tree Age:	Mature
H x W:	14m x 9m
Health:	Good
Structure:	Good
ULE:	20+ years
Retention Value:	Medium

DBH (cm): 40
TPZ (m): 4.8
SRZ (m): 2.34

Defects: Deadwood throughout the canopy

Comments:

Tree Number: 152

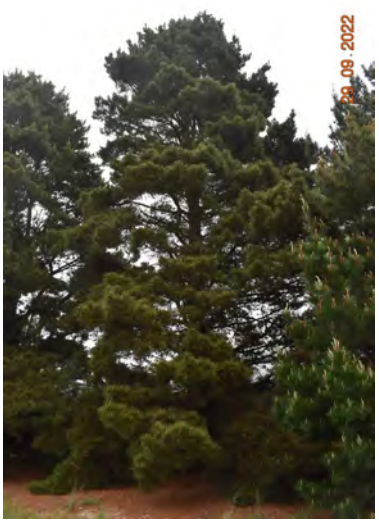
Botanical Name:	*Pinus radiata*
Common Name:	Monterey Pine
Origin:	Exotic
Tree Age:	Mature
H x W:	16m x 16m
Health:	Good
Structure:	Good
ULE:	20+ years
Retention Value:	Medium

DBH (cm): 67
TPZ (m): 8.04
SRZ (m): 2.91

Defects: Deadwood throughout the canopy

Comments:

Tree Number: 153



Botanical Name:	*Pinus radiata*
Common Name:	Monterey Pine
Origin:	Exotic
Tree Age:	Mature
H x W:	18m x 16m
Health:	Good
Structure:	Fair
ULE:	10-20 years
Retention Value:	Medium

DBH (cm): 79
TPZ (m): 9.48
SRZ (m): 3.12

Defects: Deadwood in canopy and codominant stems with included union

Comments:

Tree Number: 154

Botanical Name:	*Pinus radiata*
Common Name:	Monterey Pine
Origin:	Exotic
Tree Age:	Mature
H x W:	18m x 16m
Health:	Good
Structure:	Fair
ULE:	10-20 years
Retention Value:	Medium
Defects:	Codominant stems with included union
Comments:	

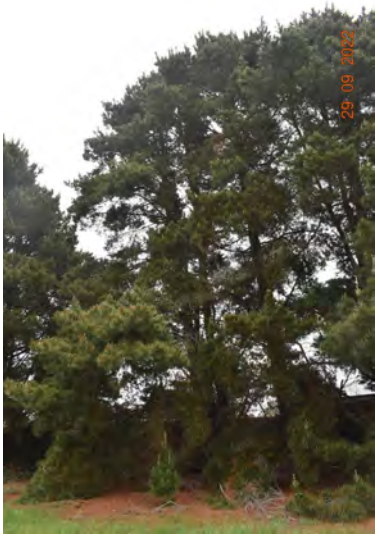
DBH (cm): 78
TPZ (m): 9.36
SRZ (m): 3.10

Tree Number: 155

Botanical Name:	*Pinus radiata*
Common Name:	Monterey Pine
Origin:	Exotic
Tree Age:	Mature
H x W:	18m x 15m
Health:	Good
Structure:	Good
ULE:	20+ years
Retention Value:	Medium
Defects:	Deadwood throughout the canopy
Comments:	

DBH (cm): 69
TPZ (m): 8.28
SRZ (m): 2.95

Tree Number: 156



Botanical Name:	*Pinus radiata*
Common Name:	Monterey Pine
Origin:	Exotic
Tree Age:	Mature
H x W:	18m x 15m
Health:	Good
Structure:	Fair
ULE:	10-20 years
Retention Value:	Medium
Defects:	Deadwood in canopy and codominant stems with included union
Comments:	

DBH (cm): 72
TPZ (m): 8.64
SRZ (m): 3.00

Tree Number: 157

Botanical Name:	*Pinus radiata*
Common Name:	Monterey Pine
Origin:	Exotic
Tree Age:	Mature
H x W:	17m x 16m
Health:	Good
Structure:	Poor
ULE:	5-10 years
Retention Value:	Low
Defects:	Codominant included main stems with dead, included codominant branches throughout the canopy
Comments:	

DBH (cm): 114
TPZ (m): 13.68
SRZ (m): 3.64

Tree Number: 158

Botanical Name:	*Pinus radiata*
Common Name:	Monterey Pine
Origin:	Exotic
Tree Age:	Mature
H x W:	14m x 16m
Health:	Good
Structure:	Fair
ULE:	10-20 years
Retention Value:	Medium
Defects:	Codominant main stems and deadwood throughout the canopy
Comments:	

DBH (cm): 58
TPZ (m): 6.96
SRZ (m): 2.74

Tree Number: 159

Botanical Name:	*Pinus radiata*
Common Name:	Monterey Pine
Origin:	Exotic
Tree Age:	Mature
H x W:	17m x 16m
Health:	Good
Structure:	Poor
ULE:	5-10 years
Retention Value:	Low
Defects:	Deadwood in canopy and codominant stems with included union
Comments:	

DBH (cm): 70
TPZ (m): 8.4
SRZ (m): 2.97

Tree Number: 160

Botanical Name:	*Pinus radiata*
Common Name:	Monterey Pine
Origin:	Exotic
Tree Age:	Mature
H x W:	17m x 18m
Health:	Good
Structure:	Poor
ULE:	5-10 years
Retention Value:	Low
Defects:	Included codominant main stem and dead canopy branches
Comments:	

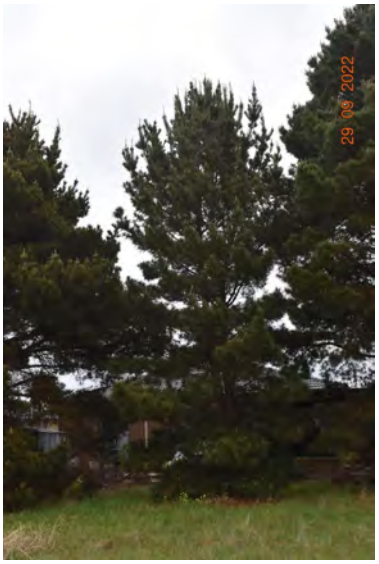
DBH (cm): 103
TPZ (m): 12.36
SRZ (m): 3.49

Tree Number: 161

Botanical Name:	*Pinus radiata*
Common Name:	Monterey Pine
Origin:	Exotic
Tree Age:	Mature
H x W:	15m x 14m
Health:	Good
Structure:	Good
ULE:	20+ years
Retention Value:	Medium
Defects:	Deadwood throughout the canopy
Comments:	

DBH (cm): 67
TPZ (m): 8.04
SRZ (m): 2.91

Tree Number: 162



Botanical Name:	*Pinus radiata*
Common Name:	Monterey Pine
Origin:	Exotic
Tree Age:	Mature
H x W:	12m x 9m
Health:	Good
Structure:	Poor
ULE:	5-10 years
Retention Value:	Low
Defects:	Codominant stems with included union
Comments:	

DBH (cm): 36
TPZ (m): 4.32
SRZ (m): 2.24

Tree Number: 163

Botanical Name:	*Pinus radiata*
Common Name:	Monterey Pine
Origin:	Exotic
Tree Age:	Mature
H x W:	16m x 18m
Health:	Good
Structure:	Fair
ULE:	10-20 years
Retention Value:	Medium
Defects:	Codominant main stems and deadwood and extended branches throughout the canopy
Comments:	

DBH (cm): 89
TPZ (m): 10.68
SRZ (m): 3.28

Tree Number: 164

Botanical Name:	*Pinus radiata*
Common Name:	Monterey Pine
Origin:	Exotic
Tree Age:	Mature
H x W:	16m x 18m
Health:	Good
Structure:	Fair
ULE:	10-20 years
Retention Value:	Medium
Defects:	Deadwood in canopy and codominant stems with included union
Comments:	

DBH (cm): 88
TPZ (m): 10.56
SRZ (m): 3.26

Tree Number: 165

Botanical Name:	*Prunus cerasifera*
Common Name:	Cherry Plum
Origin:	Exotic
Tree Age:	Mature
H x W:	4m x 3m
Health:	Fair
Structure:	Fair
ULE:	5-10 years
Retention Value:	Low
Defects:	Codominant stems
Comments:	

DBH (cm): 18
TPZ (m): 2.16
SRZ (m): 1.68

Tree Number: 166

Botanical Name:	*Pinus radiata*
Common Name:	Monterey Pine
Origin:	Exotic
Tree Age:	Mature
H x W:	16m x 15m
Health:	Good
Structure:	Good
ULE:	20+ years
Retention Value:	Medium
Defects:	Deadwood throughout the canopy
Comments:	

DBH (cm): 67
TPZ (m): 8.04
SRZ (m): 2.91

Tree Number: 167

Botanical Name:	*Pinus radiata*
Common Name:	Monterey Pine
Origin:	Exotic
Tree Age:	Mature
H x W:	15m x 16m
Health:	Good
Structure:	Poor
ULE:	5-10 years
Retention Value:	Low
Defects:	Codominant included main stems with dead, included codominant branches throughout the canopy
Comments:	

DBH (cm): 89
TPZ (m): 10.68
SRZ (m): 3.28

Tree Number: 168

Botanical Name:	*Pinus radiata*
Common Name:	Monterey Pine
Origin:	Exotic
Tree Age:	Mature
H x W:	16m x 16m
Health:	Good
Structure:	Fair
ULE:	20+ years
Retention Value:	Medium
Defects:	Codominant stems with decay and deadwood and extended branches throughout the canopy
Comments:	

DBH (cm): 92
TPZ (m): 11.04
SRZ (m): 3.33

Tree Number: 169

Botanical Name:	*Pinus radiata*
Common Name:	Monterey Pine
Origin:	Exotic
Tree Age:	Mature
H x W:	16m x 9m
Health:	Good
Structure:	Good
ULE:	20+ years
Retention Value:	Medium
Defects:	None
Comments:	

DBH (cm): 54
TPZ (m): 6.48
SRZ (m): 2.66

Tree Number: 170

Botanical Name:	*Eucalyptus globulus*
Common Name:	Blue Gum
Origin:	Native
Tree Age:	Semi mature
H x W:	9m x 7m
Health:	Good
Structure:	Good
ULE:	20+ years
Retention Value:	Low
Defects:	None
Comments:	

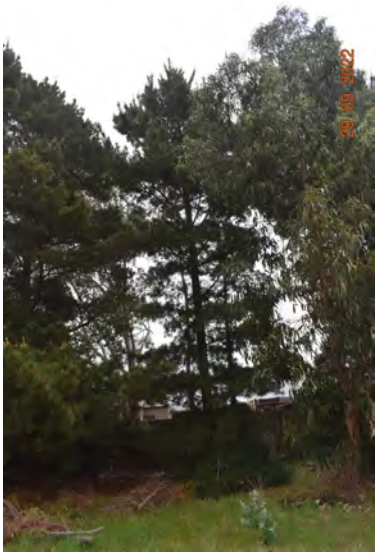
DBH (cm): 28
TPZ (m): 3.36
SRZ (m): 2.02

Tree Number: 171

Botanical Name:	*Pinus radiata*
Common Name:	Monterey Pine
Origin:	Exotic
Tree Age:	Semi mature
H x W:	7m x 6m
Health:	Good
Structure:	Good
ULE:	20+ years
Retention Value:	Low
Defects:	None
Comments:	

DBH (cm): 24
TPZ (m): 2.88
SRZ (m): 1.89

Tree Number: 172



Botanical Name:	*Pinus radiata*
Common Name:	Monterey Pine
Origin:	Exotic
Tree Age:	Semi mature
H x W:	12m x 8m
Health:	Good
Structure:	Good
ULE:	20+ years
Retention Value:	Low
Defects:	None
Comments:	

DBH (cm): 32
TPZ (m): 3.84
SRZ (m): 2.13

Tree Number: 173

Botanical Name:	*Pinus radiata*
Common Name:	Monterey Pine
Origin:	Exotic
Tree Age:	Mature
H x W:	16m x 9m
Health:	Good
Structure:	Good
ULE:	20+ years
Retention Value:	Medium
Defects:	None
Comments:	

DBH (cm): 40
TPZ (m): 4.8
SRZ (m): 2.34

Tree Number: 174

Botanical Name:	*Pinus radiata*
Common Name:	Monterey Pine
Origin:	Exotic
Tree Age:	Mature
H x W:	18m x 18m
Health:	Good
Structure:	Fair
ULE:	10-20 years
Retention Value:	Low
Defects:	Codominant, leaning stems with deadwood throughout the canopy
Comments:	

DBH (cm): 94
TPZ (m): 11.28
SRZ (m): 3.36

Tree Number: 175

Botanical Name:	*Pinus radiata*
Common Name:	Monterey Pine
Origin:	Exotic
Tree Age:	Mature
H x W:	15m x 10m
Health:	Fair
Structure:	Fair
ULE:	10-20 years
Retention Value:	Low
Defects:	Deadwood throughout the canopy
Comments:	

DBH (cm): 39
TPZ (m): 4.68
SRZ (m): 2.32

Tree Number: 176

Botanical Name:	*Pinus radiata*
Common Name:	Monterey Pine
Origin:	Exotic
Tree Age:	Mature
H x W:	18m x 18m
Health:	Good
Structure:	Fair
ULE:	10-20 years
Retention Value:	Medium
Defects:	Codominant stems with decay and deadwood and extended branches throughout the canopy
Comments:	

DBH (cm): 99
TPZ (m): 11.88
SRZ (m): 3.43

Tree Number: 177

Botanical Name:	*Pinus radiata*
Common Name:	Monterey Pine
Origin:	Exotic
Tree Age:	Mature
H x W:	18m x 18m
Health:	Good
Structure:	Fair
ULE:	10-20 years
Retention Value:	Medium
Defects:	Deadwood and extended branches in canopy
Comments:	

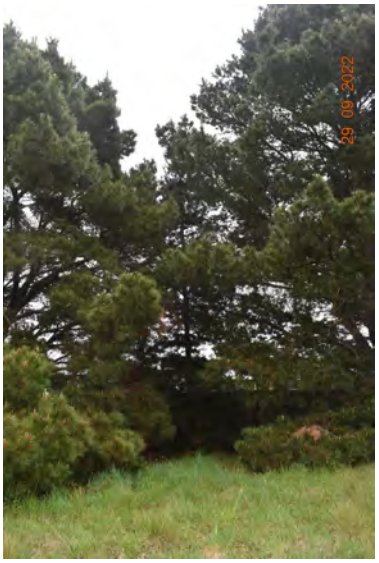
DBH (cm): 86
TPZ (m): 10.32
SRZ (m): 3.23

Tree Number: 178

Botanical Name:	*Pinus radiata*
Common Name:	Monterey Pine
Origin:	Exotic
Tree Age:	Mature
H x W:	19m x 18m
Health:	Good
Structure:	Good
ULE:	20+ years
Retention Value:	Medium
Defects:	Codominant main stem and codominant branches and deadwood throughout the canopy
Comments:	

DBH (cm): 106
TPZ (m): 12.72
SRZ (m): 3.53

Tree Number: 179



Botanical Name:	*Pinus radiata*
Common Name:	Monterey Pine
Origin:	Exotic
Tree Age:	Semi mature
H x W:	8m x 6m
Health:	Good
Structure:	Fair
ULE:	5-10 years
Retention Value:	Low
Defects:	None
Comments:	suppessed

DBH (cm): 28
TPZ (m): 3.36
SRZ (m): 2.02

Tree Number: 180

Botanical Name:	*Pinus radiata*
Common Name:	Monterey Pine
Origin:	Exotic
Tree Age:	Mature
H x W:	17m x 18m
Health:	Good
Structure:	Good
ULE:	20+ years
Retention Value:	Medium
Defects:	Deadwood throughout the canopy
Comments:	

DBH (cm): 101
TPZ (m): 12.12
SRZ (m): 3.46

Tree Number: 181

Botanical Name:	*Pinus radiata*
Common Name:	Monterey Pine
Origin:	Exotic
Tree Age:	Mature
H x W:	16m x 18m
Health:	Good
Structure:	Good
ULE:	20+ years
Retention Value:	Medium
Defects:	Deadwood throughout the canopy
Comments:	

DBH (cm): 96
TPZ (m): 11.52
SRZ (m): 3.39

Tree Number: 182

Botanical Name:	*Pinus radiata*
Common Name:	Monterey Pine
Origin:	Exotic
Tree Age:	Semi mature
H x W:	12m x 9m
Health:	Good
Structure:	Good
ULE:	20+ years
Retention Value:	Low
Defects:	None
Comments:	

DBH (cm): 45
TPZ (m): 5.4
SRZ (m): 2.46

Tree Number: 183

Botanical Name:	*Pinus radiata*
Common Name:	Monterey Pine
Origin:	Exotic
Tree Age:	Semi mature
H x W:	9m x 6m
Health:	Good
Structure:	Good
ULE:	20+ years
Retention Value:	Low
Defects:	None
Comments:	

DBH (cm): 29
TPZ (m): 3.48
SRZ (m): 2.05

Tree Number: 184

Botanical Name:	*Pinus radiata*
Common Name:	Monterey Pine
Origin:	Exotic
Tree Age:	Mature
H x W:	16m x 9m
Health:	Good
Structure:	Good
ULE:	20+ years
Retention Value:	Medium
Defects:	None
Comments:	

DBH (cm): 56
TPZ (m): 6.72
SRZ (m): 2.70

Tree Number: 185

Botanical Name:	*Pinus radiata*
Common Name:	Monterey Pine
Origin:	Exotic
Tree Age:	Mature
H x W:	17m x 12m
Health:	Good
Structure:	Good
ULE:	20+ years
Retention Value:	Medium
Defects:	Deadwood throughout the canopy
Comments:	

DBH (cm): 69
TPZ (m): 8.28
SRZ (m): 2.95

Tree Number: 186

Botanical Name:	*Pinus radiata*
Common Name:	Monterey Pine
Origin:	Exotic
Tree Age:	Mature
H x W:	14m x 9m
Health:	Good
Structure:	Poor
ULE:	5-10 years
Retention Value:	Low
Defects:	Lopped main stem and deadwood in canopy
Comments:	

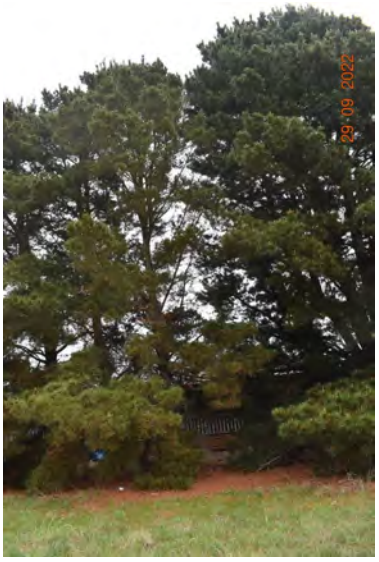
DBH (cm): 46
TPZ (m): 5.52
SRZ (m): 2.49

Tree Number: 187

Botanical Name:	*Pinus radiata*
Common Name:	Monterey Pine
Origin:	Exotic
Tree Age:	Mature
H x W:	17m x 18m
Health:	Good
Structure:	Poor
ULE:	5-10 years
Retention Value:	Low
Defects:	Codominant included main stems with dead, included codominant branches throughout the canopy
Comments:	

DBH (cm): 98
TPZ (m): 11.76
SRZ (m): 3.42

Tree Number: 188



Botanical Name:	*Pinus radiata*
Common Name:	Monterey Pine
Origin:	Exotic
Tree Age:	Mature
H x W:	17m x 9m
Health:	Good
Structure:	Fair
ULE:	10-20 years
Retention Value:	Low
Defects:	Leaning main stem and deadwood in canopy
Comments:	

DBH (cm): 48
TPZ (m): 5.76
SRZ (m): 2.53

Tree Number: 189

Botanical Name:	*Pinus radiata*
Common Name:	Monterey Pine
Origin:	Exotic
Tree Age:	Mature
H x W:	17m x 10m
Health:	Good
Structure:	Good
ULE:	20+ years
Retention Value:	Medium
Defects:	None
Comments:	

DBH (cm): 54
TPZ (m): 6.48
SRZ (m): 2.66

Tree Number: 190

Botanical Name:	*Pinus radiata*
Common Name:	Monterey Pine
Origin:	Exotic
Tree Age:	Mature
H x W:	18m x 10m
Health:	Good
Structure:	Good
ULE:	20+ years
Retention Value:	Medium
Defects:	Deadwood throughout the canopy
Comments:	

DBH (cm): 56
TPZ (m): 6.72
SRZ (m): 2.70

Tree Number: 191

Botanical Name:	*Pinus radiata*
Common Name:	Monterey Pine
Origin:	Exotic
Tree Age:	Mature
H x W:	18m x 12m
Health:	Good
Structure:	Fair
ULE:	20+ years
Retention Value:	Low
Defects:	Leaning main stem and deadwood throughout canopy
Comments:	

DBH (cm): 60
TPZ (m): 7.2
SRZ (m): 2.78

Tree Number: 192

Botanical Name:	*Pinus radiata*
Common Name:	Monterey Pine
Origin:	Exotic
Tree Age:	Mature
H x W:	15m x 10m
Health:	Good
Structure:	Poor
ULE:	5-10 years
Retention Value:	Low
Defects:	Included codominant main stems and included codominant canopy branches
Comments:	Multiple codominant stems

DBH (cm): 49
TPZ (m): 5.88
SRZ (m): 2.55

Tree Number: 193

Botanical Name:	*Pinus radiata*
Common Name:	Monterey Pine
Origin:	Exotic
Tree Age:	Mature
H x W:	16m x 16m
Health:	Good
Structure:	Fair
ULE:	10-20 years
Retention Value:	Medium

DBH (cm): 77
TPZ (m): 9.24
SRZ (m): 3.09

Defects: Extended branches and deadwood throughout the canopy

Comments:

Tree Number: 194

Botanical Name:	*Pinus radiata*
Common Name:	Monterey Pine
Origin:	Exotic
Tree Age:	Mature
H x W:	16m x 15m
Health:	Fair
Structure:	Fair
ULE:	5-10 years
Retention Value:	Low

DBH (cm): 66
TPZ (m): 7.92
SRZ (m): 2.89

Defects: Codominant and dead canopy branches

Comments:

Tree Number: 195

Botanical Name:	*Pinus radiata*
Common Name:	Monterey Pine
Origin:	Exotic
Tree Age:	Semi mature
H x W:	10m x 6m
Health:	Good
Structure:	Fair
ULE:	20+ years
Retention Value:	Low

DBH (cm): 28
TPZ (m): 3.36
SRZ (m): 2.02

Defects: Codominant stem and canopy branches

Comments:

Tree Number: 196

Botanical Name:	*Pinus radiata*
Common Name:	Monterey Pine
Origin:	Exotic
Tree Age:	Mature
H x W:	17m x 14m
Health:	Good
Structure:	Good
ULE:	20+ years
Retention Value:	Medium

DBH (cm): 72
TPZ (m): 8.64
SRZ (m): 3.00

Defects: Deadwood throughout the canopy

Comments:

Tree Number: 197

Botanical Name:	*Pinus radiata*
Common Name:	Monterey Pine
Origin:	Exotic
Tree Age:	Mature
H x W:	15m x 8m
Health:	Good
Structure:	Poor
ULE:	5-10 years
Retention Value:	Low

DBH (cm): 52
TPZ (m): 6.24
SRZ (m): 2.62

Defects: Codominant included main stems with dead, included codominant branches throughout the canopy

Comments:

Tree Number: 198

Botanical Name:	*Pinus radiata*
Common Name:	Monterey Pine
Origin:	Exotic
Tree Age:	Mature
H x W:	14m x 8m
Health:	Good
Structure:	Fair
ULE:	10-20 years
Retention Value:	Low

DBH (cm): 39
TPZ (m): 4.68
SRZ (m): 2.32

Defects: Deadwood throughout the canopy

Comments: suppressed

Tree Number: 199

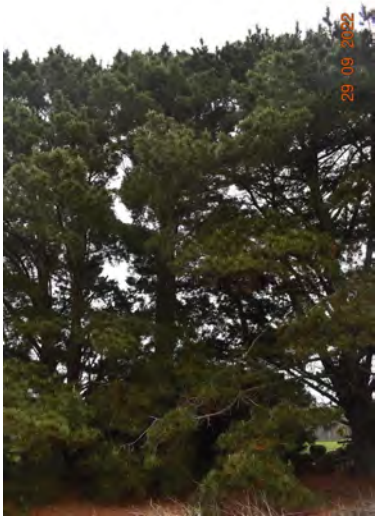
Botanical Name:	*Pinus radiata*
Common Name:	Monterey Pine
Origin:	Exotic
Tree Age:	Mature
H x W:	18m x 18m
Health:	Good
Structure:	Fair
ULE:	20+ years
Retention Value:	Medium

DBH (cm):	98
TPZ (m):	11.76
SRZ (m):	3.42

Defects: Codominant main stems and deadwood and extended branches throughout the canopy

Comments:

Tree Number: 200



Botanical Name:	*Pinus radiata*
Common Name:	Monterey Pine
Origin:	Exotic
Tree Age:	Semi mature
H x W:	12m x 9m
Health:	Fair
Structure:	Fair
ULE:	5-10 years
Retention Value:	Low

DBH (cm):	30
TPZ (m):	3.6
SRZ (m):	2.08

Defects: Deadwood throughout the canopy

Comments: suppessed

Tree Number: 201

Botanical Name:	*Pinus radiata*
Common Name:	Monterey Pine
Origin:	Exotic
Tree Age:	Mature
H x W:	18m x 14m
Health:	Good
Structure:	Fair
ULE:	5-10 years
Retention Value:	Low

DBH (cm):	79
TPZ (m):	9.48
SRZ (m):	3.12

Defects: Deadwood in canopy and codominant stems with included union

Comments:

Tree Number: 202

Botanical Name:	*Pinus radiata*
Common Name:	Monterey Pine
Origin:	Exotic
Tree Age:	Mature
H x W:	18m x 18m
Health:	Good
Structure:	Poor
ULE:	5-10 years
Retention Value:	Low
Defects:	Deadwood in canopy and codominant stems with included union
Comments:	

DBH (cm): 93
TPZ (m): 11.16
SRZ (m): 3.34

Tree Number: 203

Botanical Name:	*Pinus radiata*
Common Name:	Monterey Pine
Origin:	Exotic
Tree Age:	Mature
H x W:	18m x 16m
Health:	Good
Structure:	Poor
ULE:	5-10 years
Retention Value:	Low
Defects:	Codominant included main stems with dead, included codominant branches throughout the canopy
Comments:	

DBH (cm): 89
TPZ (m): 10.68
SRZ (m): 3.28

Tree Number: 204

Botanical Name:	*Pinus radiata*
Common Name:	Monterey Pine
Origin:	Exotic
Tree Age:	Mature
H x W:	17m x 16m
Health:	Good
Structure:	Fair
ULE:	10-20 years
Retention Value:	Low
Defects:	Codominant main stem and deadwood in canopy
Comments:	

DBH (cm): 77
TPZ (m): 9.24
SRZ (m): 3.09

Tree Number: 205

Botanical Name:	*Pinus radiata*
Common Name:	Monterey Pine
Origin:	Exotic
Tree Age:	Mature
H x W:	15m x 14m
Health:	Good
Structure:	Good
ULE:	10-20 years
Retention Value:	Medium

DBH (cm): 68
TPZ (m): 8.16
SRZ (m): 2.93

Defects: Deadwood throughout the canopy

Comments:

Tree Number: 206

Botanical Name:	*Pinus radiata*
Common Name:	Monterey Pine
Origin:	Exotic
Tree Age:	Mature
H x W:	17m x 12m
Health:	Good
Structure:	Good
ULE:	20+ years
Retention Value:	Medium

DBH (cm): 59
TPZ (m): 7.08
SRZ (m): 2.76

Defects: Deadwood throughout the canopy

Comments:

Tree Number: 207

Botanical Name:	*Pinus radiata*
Common Name:	Monterey Pine
Origin:	Exotic
Tree Age:	Mature
H x W:	16m x 10m
Health:	Good
Structure:	Fair
ULE:	10-20 years
Retention Value:	Low

DBH (cm): 48
TPZ (m): 5.76
SRZ (m): 2.53

Defects: Codominant included stems and dead branches throughout the canopy

Comments:

Tree Number: 208

Botanical Name:	*Pinus radiata*
Common Name:	Monterey Pine
Origin:	Exotic
Tree Age:	Mature
H x W:	22m x 18m
Health:	Good
Structure:	Poor
ULE:	5-10 years
Retention Value:	Low
Defects:	Codominant included main stems and dead extended canopy branches
Comments:	

DBH (cm): 112
TPZ (m): 13.44
SRZ (m): 3.61

Tree Number: 209

Botanical Name:	*Pinus radiata*
Common Name:	Monterey Pine
Origin:	Exotic
Tree Age:	Mature
H x W:	20m x 18m
Health:	Good
Structure:	Good
ULE:	20+ years
Retention Value:	Medium
Defects:	Deadwood throughout the canopy
Comments:	

DBH (cm): 89
TPZ (m): 10.68
SRZ (m): 3.28

Tree Number: 210

Botanical Name:	*Pinus radiata*
Common Name:	Monterey Pine
Origin:	Exotic
Tree Age:	Mature
H x W:	17m x 16m
Health:	Good
Structure:	Good
ULE:	20+ years
Retention Value:	Medium
Defects:	Deadwood throughout the canopy
Comments:	

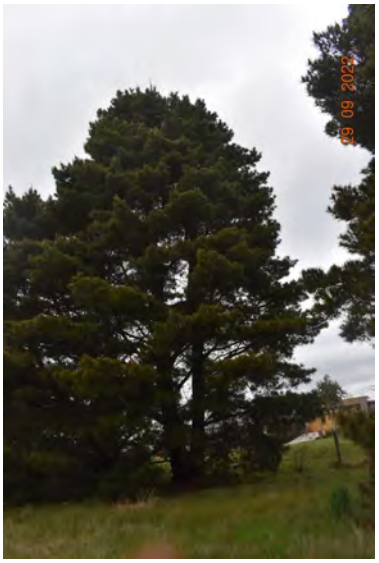
DBH (cm): 78
TPZ (m): 9.36
SRZ (m): 3.10

Tree Number: 211

Botanical Name:	*Pinus radiata*
Common Name:	Monterey Pine
Origin:	Exotic
Tree Age:	Mature
H x W:	17m x 16m
Health:	Good
Structure:	Good
ULE:	20+ years
Retention Value:	Medium
Defects:	Deadwood throughout the canopy
Comments:	

DBH (cm): 72
TPZ (m): 8.64
SRZ (m): 3.00

Tree Number: 212



Botanical Name:	*Pinus radiata*
Common Name:	Monterey Pine
Origin:	Exotic
Tree Age:	Mature
H x W:	17m x 16m
Health:	Good
Structure:	Fair
ULE:	5-10 years
Retention Value:	Low
Defects:	Codominant, leaning stems with included unions
Comments:	

DBH (cm): 92
TPZ (m): 11.04
SRZ (m): 3.33

Tree Number: 213

Botanical Name:	*Pinus radiata*
Common Name:	Monterey Pine
Origin:	Exotic
Tree Age:	Mature
H x W:	16m x 16m
Health:	Fair
Structure:	Fair
ULE:	5-10 years
Retention Value:	Low
Defects:	Deadwood throughout the canopy
Comments:	

DBH (cm): 82
TPZ (m): 9.84
SRZ (m): 3.17

Tree Number: 214

Botanical Name:	*Pinus radiata*
Common Name:	Monterey Pine
Origin:	Exotic
Tree Age:	Semi mature
H x W:	7m x 6m
Health:	Good
Structure:	Good
ULE:	20+ years
Retention Value:	Low
Defects:	None
Comments:	

DBH (cm): 28
TPZ (m): 3.36
SRZ (m): 2.02

Tree Number: 215

Botanical Name:	*Pinus radiata*
Common Name:	Monterey Pine
Origin:	Exotic
Tree Age:	Semi mature
H x W:	6m x 5m
Health:	Good
Structure:	Good
ULE:	20+ years
Retention Value:	Low
Defects:	None
Comments:	

DBH (cm): 25
TPZ (m): 3
SRZ (m): 1.92

Tree Number: 216

Botanical Name:	*Pinus radiata*
Common Name:	Monterey Pine
Origin:	Exotic
Tree Age:	Mature
H x W:	17m x 16m
Health:	Good
Structure:	Fair
ULE:	10-20 years
Retention Value:	Low
Defects:	Codominant main stem and deadwood in canopy
Comments:	

DBH (cm): 69
TPZ (m): 8.28
SRZ (m): 2.95

Tree Number: 217

Botanical Name:	*Pinus radiata*
Common Name:	Monterey Pine
Origin:	Exotic
Tree Age:	Mature
H x W:	18m x 16m
Health:	Good
Structure:	Poor
ULE:	5-10 years
Retention Value:	Low
Defects:	Codominant included main stems and dead extended canopy branches
Comments:	

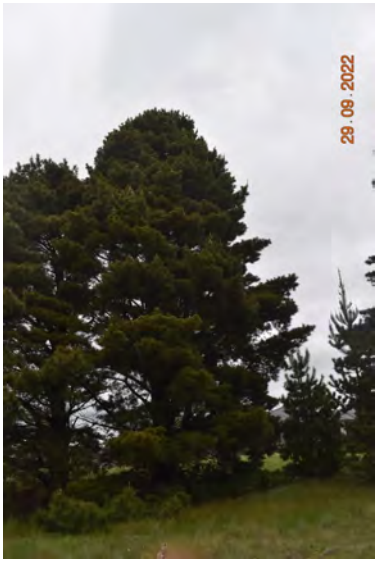
DBH (cm): 91
TPZ (m): 10.92
SRZ (m): 3.31

Tree Number: 218

Botanical Name:	*Pinus radiata*
Common Name:	Monterey Pine
Origin:	Exotic
Tree Age:	Young
H x W:	6m x 3m
Health:	Good
Structure:	Good
ULE:	20+ years
Retention Value:	Low
Defects:	None
Comments:	Group of approximately 3 individuals

DBH (cm): 18
TPZ (m): 2.16
SRZ (m): 1.68

Tree Number: 219



Botanical Name:	*Pinus radiata*
Common Name:	Monterey Pine
Origin:	Exotic
Tree Age:	Mature
H x W:	18m x 16m
Health:	Good
Structure:	Poor
ULE:	5-10 years
Retention Value:	Low
Defects:	Codominant included main stems with dead, included codominant branches throughout the canopy
Comments:	

DBH (cm): 98
TPZ (m): 11.76
SRZ (m): 3.42

Tree Number: 220

Botanical Name:	*Pinus radiata*
Common Name:	Monterey Pine
Origin:	Exotic
Tree Age:	Mature
H x W:	15m x 14m
Health:	Good
Structure:	Fair
ULE:	10-20 years
Retention Value:	Low
Defects:	Codominant and dead canopy branches
Comments:	

DBH (cm): 78
TPZ (m): 9.36
SRZ (m): 3.10

Tree Number: 221

Botanical Name:	*Pinus radiata*
Common Name:	Monterey Pine
Origin:	Exotic
Tree Age:	Mature
H x W:	16m x 16m
Health:	Good
Structure:	Poor
ULE:	5-10 years
Retention Value:	Low
Defects:	Codominant included main stems with dead, included codominant branches throughout the canopy
Comments:	

DBH (cm): 101
TPZ (m): 12.12
SRZ (m): 3.46

Tree Number: 222

Botanical Name:	*Pinus radiata*
Common Name:	Monterey Pine
Origin:	Exotic
Tree Age:	Mature
H x W:	14m x 12m
Health:	Good
Structure:	Good
ULE:	20+ years
Retention Value:	Medium
Defects:	Deadwood throughout the canopy
Comments:	

DBH (cm): 48
TPZ (m): 5.76
SRZ (m): 2.53

Tree Number: 223

Botanical Name:	*Pinus radiata*
Common Name:	Monterey Pine
Origin:	Exotic
Tree Age:	Mature
H x W:	14m x 10m
Health:	Good
Structure:	Good
ULE:	20+ years
Retention Value:	Medium
Defects:	Deadwood throughout the canopy
Comments:	

DBH (cm): 52
TPZ (m): 6.24
SRZ (m): 2.62

Tree Number: 224

Botanical Name:	*Pinus radiata*
Common Name:	Monterey Pine
Origin:	Exotic
Tree Age:	Mature
H x W:	17m x 16m
Health:	Good
Structure:	Poor
ULE:	5-10 years
Retention Value:	Low
Defects:	Included codominant main stem and dead, extended canopy branches
Comments:	

DBH (cm): 96
TPZ (m): 11.52
SRZ (m): 3.39

Tree Number: 225

Botanical Name:	*Pinus radiata*
Common Name:	Monterey Pine
Origin:	Exotic
Tree Age:	Mature
H x W:	17m x 16m
Health:	Good
Structure:	Fair
ULE:	5-10 years
Retention Value:	Low
Defects:	Included codominant main stem and dead canopy branches
Comments:	

DBH (cm): 89
TPZ (m): 10.68
SRZ (m): 3.28

Tree Number: 226

Botanical Name:	*Pinus radiata*
Common Name:	Monterey Pine
Origin:	Exotic
Tree Age:	Mature
H x W:	16m x 14m
Health:	Good
Structure:	Good
ULE:	20+ years
Retention Value:	Medium
Defects:	None
Comments:	

DBH (cm): 67
TPZ (m): 8.04
SRZ (m): 2.91

Tree Number: 227

Botanical Name:	*Pinus radiata*
Common Name:	Monterey Pine
Origin:	Exotic
Tree Age:	Mature
H x W:	18m x 16m
Health:	Good
Structure:	Poor
ULE:	10-20 years
Retention Value:	Low
Defects:	Codominant stems and codominant cincluded dead canopy branches
Comments:	

DBH (cm): 98
TPZ (m): 11.76
SRZ (m): 3.42

Tree Number: 228

Botanical Name:	*Pinus radiata*
Common Name:	Monterey Pine
Origin:	Exotic
Tree Age:	Mature
H x W:	18m x 15m
Health:	Good
Structure:	Poor
ULE:	5-10 years
Retention Value:	Low
Defects:	Codominant included main stems with dead, included codominant branches throughout the canopy
Comments:	

DBH (cm): 77
TPZ (m): 9.24
SRZ (m): 3.09

Tree Number: 229

Botanical Name:	*Pinus radiata*
Common Name:	Monterey Pine
Origin:	Exotic
Tree Age:	Mature
H x W:	18m x 16m
Health:	Good
Structure:	Fair
ULE:	10-20 years
Retention Value:	Medium
Defects:	Codominant stem and canopy branches
Comments:	

DBH (cm): 100
TPZ (m): 12
SRZ (m): 3.44

Tree Number: 230

Botanical Name:	*Pinus radiata*
Common Name:	Monterey Pine
Origin:	Exotic
Tree Age:	Semi mature
H x W:	6m x 6m
Health:	Fair
Structure:	Fair
ULE:	5-10 years
Retention Value:	Low
Defects:	Codominant canopy branches
Comments:	suppessed

DBH (cm): 25
TPZ (m): 3
SRZ (m): 1.92

AMENDMENT TO GISBORNE DEVELOPMENT PLAN 4A | 75 WILLOWBANK ROAD, GISBORNE

Appendix H Stormwater Management Plan

SAM AND ANGELA GIUDICE

B.C.S. Consulting **Engineers** Pty. Ltd.
A.C.N. 119 809 675 A.B.N. 28 283 904 297

79 Aitken Street
Gisborne Vic 3437

P: 03 5428 3266
E: jonbuckle@bcsengineers.com.au

75 WILLOWBANK ROAD GISBORNE

STORMWATER MANAGEMENT REPORT

NOVEMBER 29, 2021

S & A GUIDICE

MACEDON RANGES PLANNING SCHEME
DEVELOPMENT PLAN: DP/2009/12/C
Date: 20/11/2023
Authorised Officer: Jack Wiltshire
Page: 213 of 221 SIGNED:

Contents

1. INTRODUCTION

BCS Consulting Engineers have been engaged by S & A Guidice to provide a Stormwater Management Report for a proposed 50 lot residential development at 75 Willowbank Road, Gisborne. In doing so this report will outline the steps required to achieve objectives of safe urban development and the responsibility to protect existing waterways and infrastructure. Specifically, the report will outline how existing water quality and stormwater runoff will be conserved. Calculations will also be provided to demonstrate the development's ability to safely convey storms in the range of 1% Average Exceedance Probability (AEP) through the road reserves.

75 Willowbank Road is 5.95 ha in area and located to the south east of the main Gisborne Township. The land currently contains an existing residence close to the north boundary with Willowbank Road and a large amount of open pervious land to the south.

The area is affected by the Central Creek Drainage Scheme No. 6851 which is managed by Melbourne Water. The scheme requires developers to pay a monetary contribution to the construction and maintenance of stormwater treatment facilities downstream of the site.

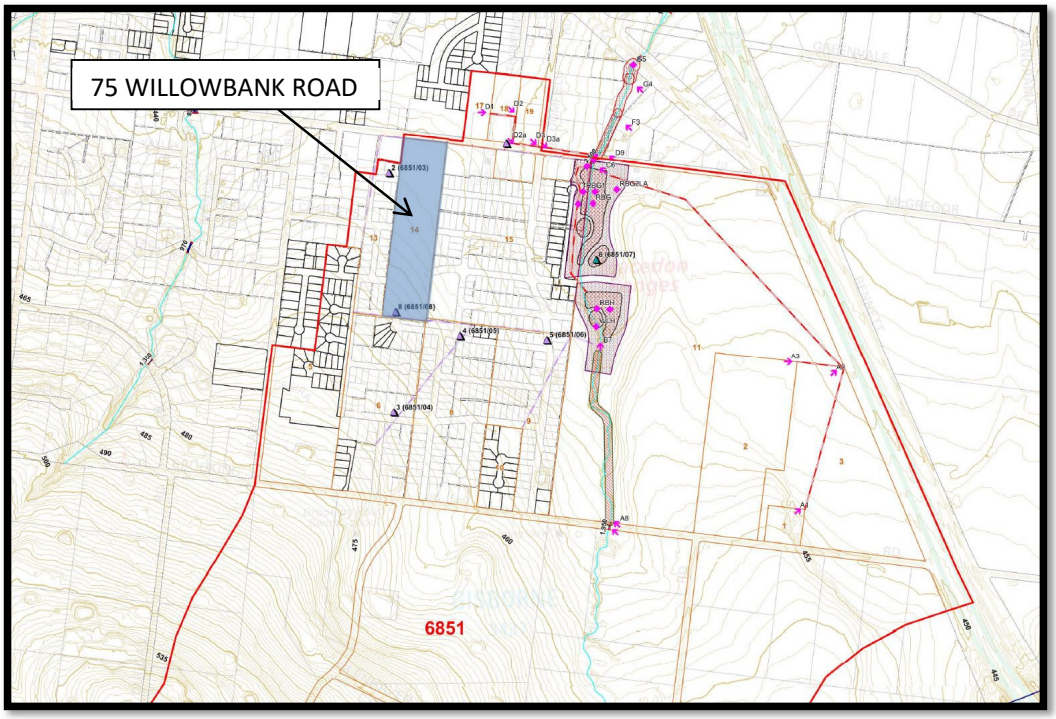


Figure 1: Central Creek Drainage Scheme plan with subject site.

2. PROPOSED DEVELOPMENT

This development will subdivide the single parcel into 50 residential lots, varying between 405 and 1205 square metres in area. The existing residence will remain and be contained on a new lot of size 8998 square metres.

The development will tie into the existing developments on all sides allowing the connection of 3 roads running east to west. Road reserve and roadway widths will reflect those in the surrounding developments.

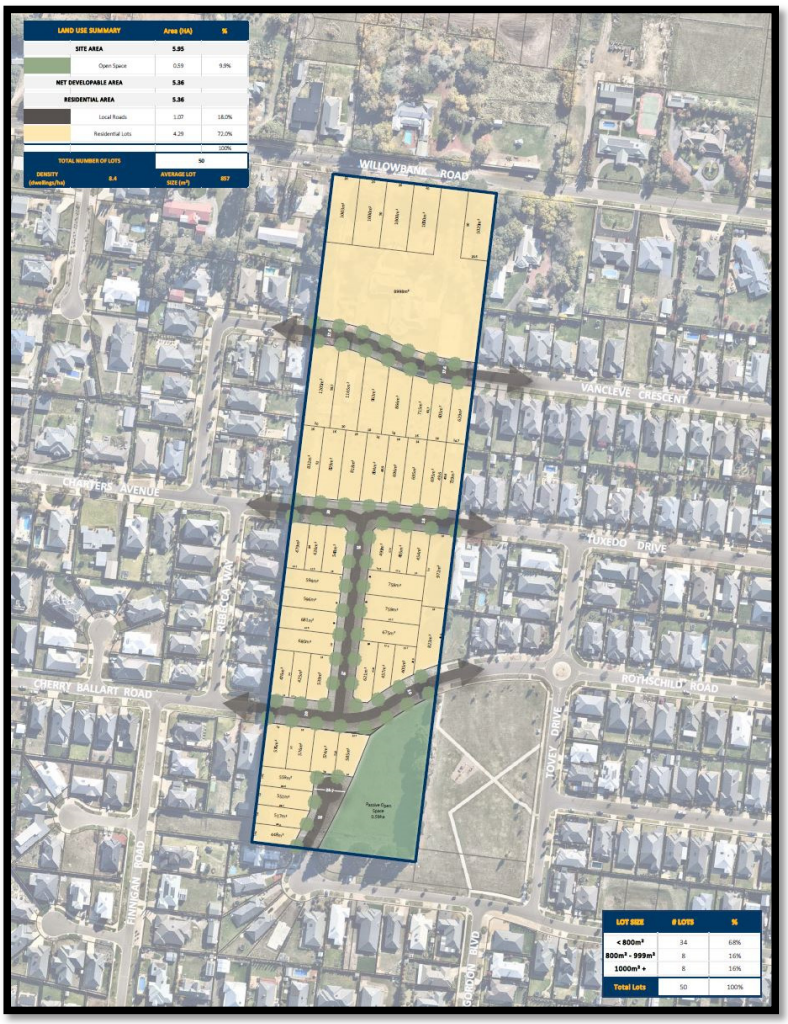


Figure 2: Proposed subdivision at 75 Willowbank Road.

MACEDON RANGES PLANNING SCHEME
DEVELOPMENT PLAN: DP/2009/12/C
Date: 20/11/2023
Authorised Officer: Jack Wiltshire
Page: 216 of 221 SIGNED:

3. MELBOURNE WATER DRAINAGE SCHEME

The proposed development is required to ensure that stormwater runoff from the increased urban area does not negatively affect downstream environments. Similarly, the development is required to ensure that pollutants from stormwater runoff are removed as would happen in the existing grassland area.

The Melbourne Water Drainage Scheme allows the developer to pay a one off monetary contribution to the construction and maintenance of downstream water treatment and detention facilities in lieu of constructing facilities on the property.

The development is proposing to forego the construction of any significant treatment facilities within the development and pay the full monetary contribution to the relevant authority for both hydraulic and water quality.

4. FLOOD ANALYSIS

The development is bordered on all sides by existing urban residential development with several roads terminating at the property boundaries. It is currently proposed to continue the existing roadways through the development, joining the unfinished roads in an east-west direction. Each of these roadways will carry overland flows in a 1% AEP storm through the site and into the existing road network. A catchment analysis has been undertaken using Vicmap Elevation contours supplied by Department of Environment, Land, Water & Planning and is shown in Appendix A.

It is estimated that the southernmost road ('Road C' as shown in Appendix A) contains the largest catchment at 10.2 hectares. This road was used as a basis for overland flow assessment.

A road reserve cross section similar to neighbouring developments was used to identify the impact of these overland flows and ensure that safety objectives have been met. Hydraulic and hydrologic computations regarding the expected flows are shown in Appendix B. Results found that during a 1% AEP storm the total peak flow would be approximately 1.85m3/s. Given that the underground pipe system is designed for a 10% AEP storm it is expected that the total overland flow found at 'Road C' is 0.7m3/s.

Melbourne Water safety objectives and the flood analysis results are summarised below.

Parameters	**Result**	**Melbourne Water guidelines**
Water velocity, V_{av}	1.96 m/s	-
Water max depth, d_{max}	0.25m	-
Water max width	1.4m	-
Average depth, d_{av}	0.13m	0.3m
$V_{av}.d_{av}$	0.25m^2/s	0.35m^2/s

Melbourne Water guidelines can be found at https://www.melbournewater.com.au/building-and-works/developer-guides-and-resources/standards-and-specifications/floodway-safety.

5. CONCLUSION

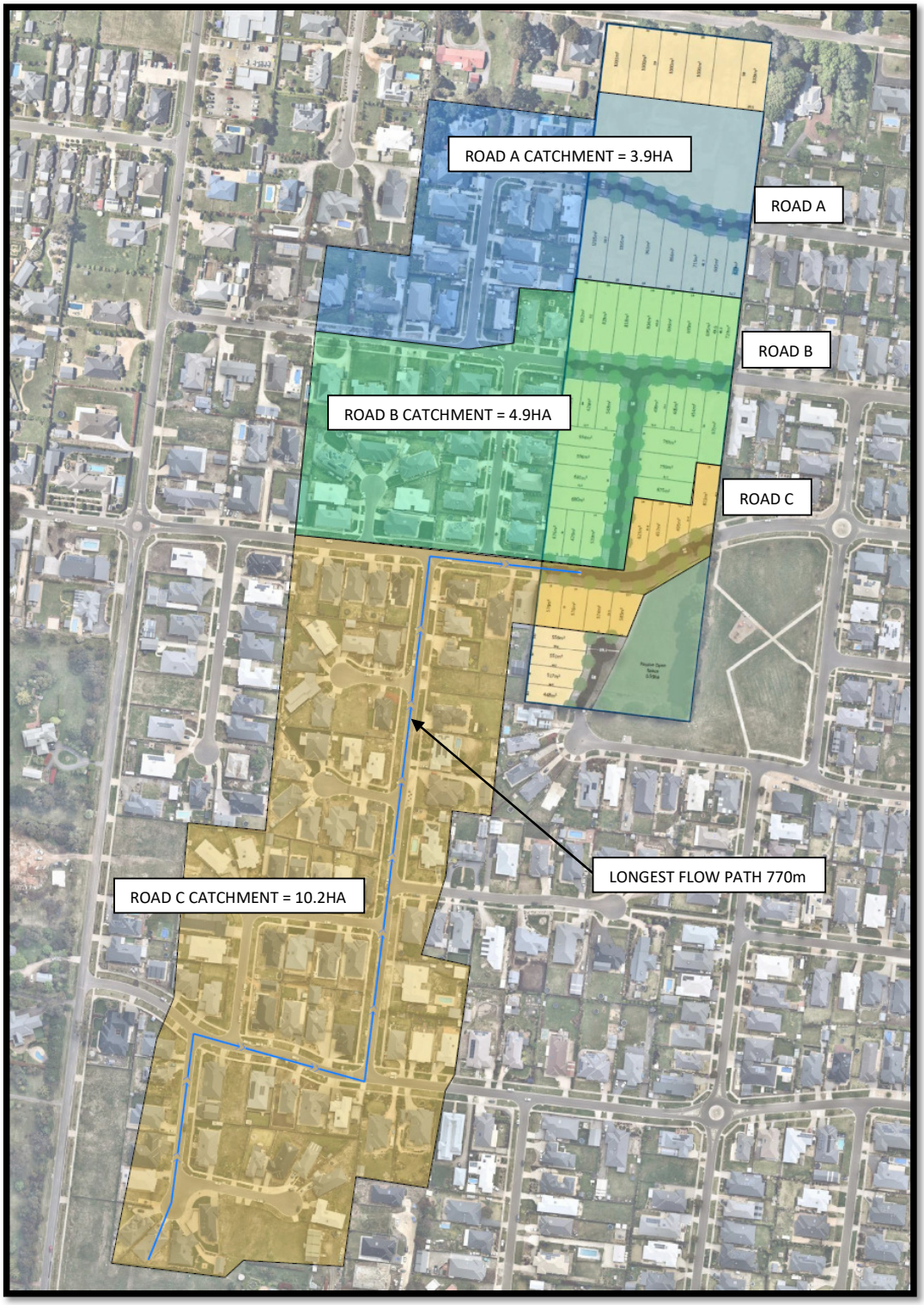
This report has identified a stormwater management strategy for the proposed 50 lot subdivision at 75 Willowbank Road.

The development will meet its stormwater treatment and storage requirements by contributing to the Melbourne Water Central Creek Drainage Scheme.

The upstream catchment for the development was analysed to ensure the roadways can safely convey overland flow during a 1% AEP storm event.

7. APPENDICES

APPENDIX A – STORMWATER CATCHMENT PLAN



APPENDIX B – HYDRAULIC COMPUTATIONS

Consulting Engineers Pty.Ltd.
A.B.N. 28 283 904 297

JOB No: 13255

CLIENT: S + A Guidice

PROJECT: 75 Willowbank Road

PAGE: 1

79 Aitken Street
Gisborne 3437
Phone: (03) 5428 3266
Em:info@bcsengineers.com.au

Date: 19/11/21

Stormwater Flood Analysis

This analysis aims to verify the capability of all proposed roads to contain and convey 1% AEP stormwater flows through the development safely

Catchment Analysis

Road A = 39,000m², 3.9 ha
Road B = 49,000m², 4.9 ha
Road C = 102,000m², 10.2 ha

Adopt 10.2ha as worst case.

Peak Flow

$Q = \frac{CIA}{360}$

As per IDM V 5.35
a) Residential lots >600m² to 1000m² C = 0.7
b) Residential road reserves C = 0.75

Adopt C = 0.75

Time of Concentration
Assume 1m/s flow velocity + 7min residential time
Catchment max flow path = 770m
t_c = 770s + 7min = 19.8min

I = 87.2 mm/h For 20min storm 1% AEP

$Q = \frac{CIA}{360}$

$= \frac{0.75 \times 87.2 \cdot 10.2}{360}$

$= 1.85\ m^3/s$

Reduction for stormwater taken through pipe flow.

10% AEP storm
I = 54.2 mm/h

$Q = \frac{0.75 \times 54.2 \times 10.2}{360} = 1.15\ m^3/s$

Total peak overland flow = 1.85m³/s − 1.15m³/s
= 0.70m³/s

MACEDON RANGES PLANNING SCHEME
DEVELOPMENT PLAN: DP/2009/12/C
Date: 20/11/2023
Authorised Officer: Jack Wiltshire
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Consulting Engineers Pty.Ltd.
A.B.N. 28 283 904 297

JOB No: 13255

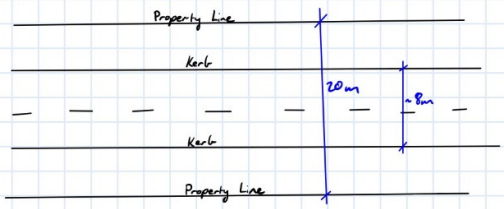
CLIENT: S + A Guidice

PROJECT: 75 Willowbank Road

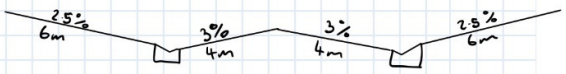
PAGE: 2
79 Aitken Street
Gisborne 3437
Phone: (03) 5428 3266
Em:info@bcsengineers.com.au

Date: 19/11/21

Road Flow Capacity

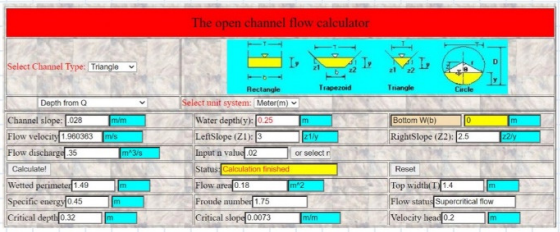


Typical Cross Section



Total Peak Overland flow = $0.70 m^3/s$ $0.35 m^3/s$ each kerb
Manning's Coefficient = 0.020 for roadways - Melbourne Water (Floodway Safety Criteria)

Data entered into open channel calculator.



Velocity = 1.96 m/s
Water depth = 0.25 m
Water width = 1.4m

Average depth (d_{av}) = 0.13m < 0.3m ✓ Acheives Melbourne Water Floodway Criteria

$V_{av} \times d_{av}$ = $0.25 m^2/s$ < $0.35 m^2/s$ ✓ Acheives Melbourne Water Floodway Criteria

Development is capable of safely handling 1% AEP storm.

MACEDON RANGES PLANNING SCHEME
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