Attachment 9 – Discussion between Arborman and Council's Arborist.

Ref: 2018-0030

19 June 2020

Ms Melanie Scott Senior Statutory Planner Adelaide Hills Council PO Box 44 **Woodside SA 5244** 



Suite 12 154 Fullarton Road ROSE PARK SA 5067

> 08 8333 7999 www.urps.com.au ABN 55 640 546 010

Dear Melanie

### Development Application Number 19/322/473 – 20 Pomona Road, Stirling

Below is our response to your email dated 21 May 2020. This is to be read in conjunction with the following information:

- Letter from the Architect, Brianne Mills, of Alexander Brown Architects dated 15 June 2020.
- Letter from an independent planning consultant, Kieron Barnes, Director at Planning Studio dated 16 June 2020.
- Updated plans from Alexander Brown Architects.
- Updated Civil and Earthworks Plan from KP Squared Engineering.

### Zone Intent

We believe the proposal has reasonably balanced the desires of the Development Plan to increase dwelling density and variety in housing whilst satisfying qualitative provisions regarding siting and design.

It must be remembered that the Zone seeks new development forms to take advantage of nearby public transport and services available in nearby centre zones. Arguably, a lesser density than what is proposed would further depart from the important Zone intent.

### Plan Inconsistencies

The architect and engineer have now reviewed the plans further and we now attached updated revisions.

Please note that the 3D images provided by Alexander Brown Architects are "illustrative only". As is common through the assessment of Development Applications, the 3D render portrays the most realistic image of the proposal.

#### Bulk, Scale and Height

Several factors have dictated the height of the proposed dwellings, for example the need for a driveway with a gradient that can service CFS vehicles.

Notwithstanding this, I do not consider the bulk, scale or height of the development to be unpleasant or imposing upon the streetscape. I also do not consider the visual impact of the development unreasonable upon 18 Pomona Road.

The majority of all dwellings satisfy height guidelines entirely, and some are lower than 8 metres given proposed excavation. Any height encroachments above 8 metres will not be prominently visible from Pomona Road given their considerable setback. In addition, any components above 8 metres satisfy setback guidelines to not impose unreasonable visual, overshadowing or privacy impacts.

#### Stormwater

KP Squared Engineering has reviewed your comments and discussed these with you directly.

Importantly, the proposed stormwater management system includes provision of two 25,000 litre detention tanks in addition to individual retention tanks for respective dwellings. These combine to ensure the proposed stormwater management system meets the requirements for the proposed development and provides a controlled discharge from the land.

We remain confused by the "overland flow" issue because there is no policy regarding this and our engineer has no standard to go by.

You advised our engineer there are substantial issues with the flow of storm water from other properties through this site, despite no watercourses being present on the site or in the locality. We have no evidence of this and you have not provided any via flood mapping.

Our engineer has advised that this issue requires detailed catchment studies of the locality and flood mapping which would need to be undertaken by a specialist hydrological engineer.

This is a significant amount of work and cost to our client in which there is no policy guidance as to what 'test' we are required to meet. If other properties are not managing their water appropriately, this is not a matter that our development application should somehow seek to rectify.

#### Sunlight to Private Open Space

The design of the dwellings promote a high level of residential occupant amenity. We understand this is not disputed. The attached letter from Alexander Brown Architects explains the design approach, particularly in relation to anticipated occupants and access to sunlight.

#### Vegetation

The applicant has sought a considerable amount of arboricultural and ecological advice. This has confirmed retention of 5 street trees and a SEB (Significant Environmental Benefit) contribution of \$76,260.35 to the Native Vegetation Council.

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## ADELAIDE HILLS COUNCIL RECEIVED: 19/06/2020

An application for the proposed tree removal was submitted to the Native Vegetation Council at the request of The Adelaide Hills Council. We are of the opinion that the clearance application will be approved subject to approval of the development application and payment of the SEB contribution. The Native Vegetation Council will not decide this application until Council resolves the Development Application.

Once again, in relation to tree removal, I reiterate that the Zone seeks increased densities above those now proposed, along with a compact built form and reduced boundary setbacks. The achievement of the Zone ultimately generates the removal of trees on the land.

Further, it is important to note that a reduction in the number of allotments will not substantially improve tree retention given their position on the land as well as the need to ensure safe and convenient vehicle movements.

#### Summary

I remain of the view that the proposal warrants Development Plan Consent.

The proposal satisfies the vast majority of quantitative and qualitative guidelines, particularly with respect to zone intent, density, site area, frontage, variety of dwellings, design and appearance, boundary setbacks, site coverage, private open space, storage, overshadowing and privacy, on-site car parking and vehicle manoeuvring, waste management and bin collection, bushfire safety requirements, acoustics and crime prevention.

There is also acceptable levels of excavation and fill. While there is tree removal, given the circumstances of the site and locality, as well as the intent of the Zone (which clearly favours housing diversity and increasing density, <u>not</u> conservation), we consider this an acceptable trade off noting the provision of replacement landscaping proposed together with the substantial monetary contribution from the applicant to the Native Vegetation Council.

We would like this matter presented to the next CAP meeting. We would be grateful to receive your support given the high level of Development Plan compliance proposed.

Feel free to call me on 0417 080 596 if you have any queries.

Yours sincerely

Matthew King RPIA Managing Director

Final submission before CAP\COD5 v2 200527-ADELAIDE HILLS COUNCIL RECEIVED: 19/06/2020





15<sup>th</sup> of June 2020

Matthew King

Managing Director URPS Suite 12 / 154 Fullarton Road, ROSE PARK, SA 5067

RE: 20 Pomona Road, Stirling SA

Dear Matthew,

Since the beginning of this project there has always been 5 main objectives which needed to be achieved. These are discussed below.

 Provide a cost-effective housing product which would offer Stirling a different housing model(s) for retirees who would like to stay within the area, yet are looking to downsize from their current property. The location for this type of product is ideal because it is within walking distance to the Stirling town centre.

Each dwelling has its living and master bedroom on a single level. Secondary bedrooms are located on separate levels. This was specifically designed to minimise the need to use stairs in **occupant's** daily activities and allowing for the secondary bedrooms 'zone' to be shut down if not used, therefore saving on heating and cooling. To cater **for the over 60's demography** each dwelling also has the option for a lift to be retro-fitted if required.

2. Considering the substantial fall across the site (from corner to corner), minimise cut/fill and overall bulk by stepping the dwellings rather than levelling the site.

This was a major challenge because we also needed to consider access for a CFS truck on the site, the gradient of that access **road**, **and the gradient of each dwellings' drive**. After much consultation with KP Squared Engineering, it was determined that the best outcome to accommodate the central driveway was to have a 1m high step between the garage finished floor for each rear dwelling (residence 04-09). This would minimise the amount of cut and fill. The alternative was to flatten out the back of the site which would mean either residence 04 would sit much higher or residence 08 and 09 would be much lower. Option 1 would compromise the south-western neighbour significantly and option 2 would compromise dwelling 09 and 08 substantially. Working with the slope of the site was the best option.

3. Existing verge trees and a newly planted camelia hedge along the front boundary are contributing to the current streetscape. Maintaining these is key to screening some of the harder surfaces and built form.

We acknowledge that an abundance of trees is one of the main reasons why Stirling is such a desirable place. I am sure council also acknowledged the fact that some trees would be lost if they were to re-zone areas around the centre to allow for greater infill of development.

Maintaining existing and planting new foliage, specifically within the front of the site, was established as one way we could maintain a high-quality level of greenery to the street. Retaining walls were necessary, therefore, having a good quality selection for the front walls (sandstone appearance) would also contribute to the front streetscape.

Furthermore, the garages were internalised so that bedroom and living spaces were directed towards the street to offer greater articulation and interest. As a result, there are no garages facing the street at all.

Lastly, a greater separation between the front 3 dwellings was employed to get views through to the back, creating additional articulation and providing landscaping opportunities between dwellings.

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4. The south eastern freeway is located within close proximity to the north of the site, this can generate a lot of noise if the wind is in the right direction. To ensure quality of the private open spaces, internal outdoor entertaining areas were integrated so as to block some of this noise.

This allows living spaces to open doors up to an entertaining area that faces away from the noise source. Even though north facing and street facing balconies are typically preferred, for this specific location we felt it is necessary to offer an alternative entertaining space which was sheltered from the noise. This was prioritised over having a greater front setback because it would offer greater amenity to the dwellings.

5. Stirling is an extremely cold environment during the winter months compared to the Adelaide plains. Ensuring access to northern light for living spaces is important.

We acknowledge that the private open spaces to Dwellings 04 - 09 do lack in the amount of sunlight that touches the proposed ground levels. Our position was that during these colder months, it would be better for the internal living spaces on the upper ground and first floor to receive north light, rather than the rear POS.

If we were to adopt the same design as residence 08 and 09 onto allotments 04-07 this would remove the central courtyard, increase the rear POS and allow greater access to sunlight when sitting out the back during the middle of Winter. However, by introducing the central courtyard, we were able to maximise the amount of north facing glazing (increase heat gain) and minimise south facing glazing (reduce heat loss) which reduces reliance on heating during the middle of the day. It also maximises the amount of natural light to enter this space, making it a more comfortable space.

I also note, that from August until May, the dwellings receive ample sunlight to the rear and central courtyard. Therefore, I accept it is a compromise to forgo sunlight in the rear yard to have a more comfortable living space during winter, however, I would prioritise the amenity of the internal living space above the external.

Kind regards,

Milla

Brianne Mills Architect

Suite 6 611 Magill Road Magill SA 5072 Page 2 of 2



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PO Box 32 Bridgewater SA 5155 0438 741 747 kieron@planningstudio.com.au www.planningstudio.com.au

16 June 2020

Mr Matthew King Managing Director URPS Suite 12 154 Fullarton Road ROSE PARK SA 5067

Via email: <u>matthew@urps.com.au</u>

#### Dear Matthew,

Re: High Level Planning Review – Residential Development at 20 Pomona Road, Stirling (DA 19/322/473)

#### Introduction

We refer to your request for Planning Studio to undertake a high-level planning review of the proposed residential development at 20 Pomona Road, Stirling which is currently being assessed by the Adelaide Hills Council (Development Application 19/322/473). More specifically, you have requested that we provide an opinion on the strategic intent of the Mixed Residential Zone in the Council's Development Plan. You have also asked us to consider a number of key issues that have been raised by the Council in the context of the strategic direction provided by the Mixed Residential Zone.

In preparing this opinion, we have:

- Inspected the subject land and locality;
- Reviewed the proposal plans and associated information;
- Undertaken a high-level review of the provisions of the Mixed Residential Zone in the Adelaide Hills Council Development Plan; and
- Reviewed preliminary feedback on the proposal provided by the Council.

Please note that we have not undertaken a full assessment of the proposed development. Rather, we have focussed on the strategic intent of the Mixed Residential Zone in the context of the proposed development and the key issues raised by the Council.

#### The Proposed Development

We note that the Council has described the proposed development as follows:

Community title land division (1 into 9), three (3) dwellings and a residential flat building comprising six (6) dwellings, removal of 5 regulated trees and 1 significant tree, retaining walls to a maximum height 2.8m, combined fence and retaining walls to a maximum height 4.7m and associated earthworks

Based on the plans prepared by Alexander Brown Architects, three community title allotments will face Pomona Road with areas of approximately 500m<sup>2</sup> and frontages ranging from 17.15m to 19.58m. A further six community title allotments ranging in size from 414m<sup>2</sup> to 267m<sup>2</sup> will be located to the rear (south) of the site. Vehicular access will be provided to all nine allotments via a 'common driveway' which connects to Pomona Road at the north-western corner of the site.



The dwellings on the allotments fronting Pomona Road will be two-storeys in height and will feature a contemporary design incorporating a range of building materials. Garaging will be provided at the rear of the dwellings with vehicular access via the internal driveway. The dwellings will feature relatively generous front setbacks to Pomona Road which, when combined with the single, shared access point and rear garaging, will allow for the provision of an unbroken strip of landscaping which will reduce the visual impact of the development when viewed from Pomona Road.

A residential flat building comprising six dwellings (attached by party walls) will be constructed at the rear (south) of the site. The dwellings will 'step down' the land from east to west with garaging provided at the front of the dwellings to enable vehicular access from the internal driveway.

While the dwellings will feature split level designs, significant earthworks and retaining walls will still be required across the site to provide benched areas for the dwellings and to create the internal driveway.

It is noted that the proposal also seeks the removal of 34 remnant trees which are predominantly located along the Pomona Road frontage of the site. Accordingly, an application has been submitted to the Native Vegetation Council for assessment against the *Native Vegetation Act 1991*. Given that a number of these trees are either Regulated or Significant trees under the *Development Act 1993*, approval for their removal is also sought via the current Development Application.

#### Mixed Residential Zone

The Mixed Residential Zone is a relatively recent addition to the Adelaide Hills Council Development Plan which, we understand, was introduced in October 2017 via the 'Township & Urban Areas Development Plan Amendment (Part 1)'. The Zone covers a number of properties on the edge of the District Centre Zone in Stirling as well as the Local Centre Zone in Crafers. These properties were previously zoned Country Living where land division to create allotments less than 4,000m was a noncomplying form of development. We further understand that the Mixed Residential Zone was introduced by the Council to facilitate additional housing opportunities in close proximity to the town centres. In this way, the Council hoped to encourage a wider variety of housing types and densities for the community within easy walking distance of existing shops, services and public transport.

The strategic intent of the Mixed Residential Zone is reflected in Objectives 1 and 3 of the Zone as well as the Desired Character Statement:

- Obj 1 A residential zone comprising a range of dwelling densities integrated with areas of open space, neighbouring centres or public transport nodes.
- Obj 3 Development that supports the viability of community services and infrastructure

#### Desired Character (Extract)

Development within the zone will comprise a range of dwelling types (such as townhouses, semidetached dwellings, and residential flat buildings) at densities which take advantage of nearby public transport and the services available within the adjacent centre zones.

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The strategic intent of the Zone is further reinforced by Principle of Development Control (PDC) 1 which envisages a wide range of dwelling types as well as PDC 7 which specifically encourages the development of residential flat buildings which "... provide a variety of dwelling sizes (e.g. bed-sit, one, two and three bedrooms) particularly in larger complexes".

The Zone goes on to identify an average minimum site area of 300m<sup>2</sup> for dwellings within residential flat buildings. Row dwellings also require a minimum site area of 300m<sup>2</sup> while detached dwellings and group dwellings require a minimum site area of 500m<sup>2</sup>. The site areas sought by the Zone are significantly smaller than the existing residential areas in Stirling which predominantly comprise detached dwellings at very low densities with generous setbacks and heavily landscaped gardens which create a sense of space and openness.

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Clearly, the Mixed Residential Zone's desire for a range of dwelling types on small allotments represents a significant policy departure from the previous zoning of the land. It also contrasts strongly with the policy framework covering the majority of the residential areas in Stirling (as expressed in the Country Living Zone), which only contemplates residential development in the form of detached dwellings at very low densities and generally only allows land division where the allotments are at least 4,000m<sup>2</sup> in area.

With the above in mind, it's clear that the Mixed Residential Zone is seeking to transform the existing low density character adjacent the District Centre Zone by encouraging a new form of residential development which offers a wider range of dwelling types at significantly higher densities.

Key Issues Raised by the Council

We note that significant negotiations and discussions have been occurring with the Council over the past year or so. This is not unusual for complex development applications on challenging sites – particularly for proposals which seek to introduce a new form of development which departs from the established character of an area. While we understand that the majority of the Council's initial concerns have now been addressed, we note that concerns still remain in relation to:

- The density of the development;
- The scale and height of some elements of the development particularly when combined with the proposed earthworks and retaining walls; and
- The removal of trees.

In relation to the density of the development, we note that the proposal satisfies the Mixed Residential Zone's desire for a range of dwelling types at a range of densities. Specifically, the proposal responds to the Zone's desire for residential flat buildings which achieve an average site area per dwelling of 300m<sup>2</sup> while also ensuring that the dwellings fronting Pomona Road satisfy the minimum site area of 500m<sup>2</sup>. For this reason, we consider that the density of the development is consistent with the intent of the Mixed Residential Zone notwithstanding the somewhat 'mixed messages' provided by the Desired Character Statement which, on the one hand, calls for increased densities while, on the other hand, seeks development which reflects the "... the built-form character and spacious landscaped appearance of adjoining residential areas ...".

In terms of the Council's concerns relating to the height and scale of various elements of the development, we note that the relatively steep nature of the site means that substantial earthworks will be unavoidable. Earthworks inevitably require a mixture of cut and fill as well as retaining walls of various heights and lengths. While the visual impact of the proposal is a legitimate planning consideration, we note that views from Pomona Road will be softened through the introduction of an unbroken landscaped strip along the Pomona Road frontage which has been made possible by the creation of a single vehicular access point to the site. The proposed Pomona Road frontage is illustrated on the 3D Render prepared by Tree House (see Figure 1).



Figure 1: 3D Render of the Pomona Road Frontage (Source: Tree House)

Planning Studio ADE ADE HILLS COUNCIL RECEIVED: 19/06/2020 While the visual impact of the development is likely to be substantially greater when viewed from the adjoining dwelling to the west, we note that the proposal seeks to address this impact through various measures such as landscaping, setbacks and privacy screens. As mentioned, given the sloping nature the site, it is inevitable that higher density residential development as sought by the Zone will result in greater levels of visual impact when viewed from surrounding properties.

We note and empathise with the Council's desire to retain the existing native vegetation on the site. However, we also note that this desire must be balanced against the strategic intent of the Zone which is to provide a range of dwelling densities and a range of dwelling types. For example, it is likely that the retention of native vegetation on the site would dramatically reduce the yield of the development which would work against the strategic intent of the Zone. We also note that the Mixed Residential Zone does not specifically seek the retention of native vegetation. This is in contrast to other Zones in the Development Plan such as the Country Living Zone, the Watershed (Primary Production) Zone, the Hills Face Zone and the Public Purpose Zone which all place a strong emphasis on the retention of native vegetation. For this reason, we consider that greater weight should be placed on achieving the increased densities and broader range of dwelling types sought by the Mixed Residential Zone.

Thank you for requesting our opinion on the proposed development in the context of the strategic intent of the Mixed Residential Zone. If you would like to discuss any aspect of this project further, please contact the undersigned on 0438 741 747 or <u>kieron@planningstudio.com.au</u>

Yours sincerely

Kieron Barnes | MPIA | Director

Hi Phil

As discussed, I had a phone discussion with Adelaide Hills Council Arborist Damian Brennan regarding the trees at 20 Pomona Road.

From this discussion I am of the opinion that:

- a. Damian has reviewed all information provided to Council and understands the proposed tree removal, retention and protection requirements.
- b. While Damian would like to see more trees retained he did not object to the tree removal in this instance and he has sent his report to the Biodiversity Team or the Planning Team.
- c. Damian did not think further arborist information was required from the applicant as the information provided was clear and sufficient.

I hope this is clear and updates the current understanding in relation to the trees.

If you have any questions please don't hesitate to contact us at your convenience.

Regards

Marcus Lodge
Director and Consulting Arborist
Arborman logo Colour

23 Aberdeen Street Port Adelaide SA 5015 Mobile: 0439 840 287 Email: <u>marcusl@arborman.com.au</u> Website: <u>www.arborman.com.au</u>

# STORMWATER DETENTION DESIGN RESIDNECE 1

Project	20 Pomor	na Road,		_			Page	CC1/A
	Stirling						Job No.	181103
							Date	DEC '18
Total Site A	Area =	500 r	n²				Eng	BM
Pre-develo	pment -	1:5 ARI	59.	2 mm/hr	(10min)			
Pre-Deve	elopment							
Impervious	s Area -	Ai =	95	m <sup>2</sup>	Ci =	0.9		
Pervious A	rea -	Ap =	405	m²	Cp =	0.1		
					Cn = [	(Ci x Ai)	+ (Cp x Ap)]	/A
					Cn =	0.25	(Assume	d Min.)
Flow Rate -	-	Q <sub>5</sub> = (	Cn x i x A	A)/3600				
		<b>Q</b> <sub>5</sub> =	2.07	Litres/see	C			
Post-Dev	velopment	<u>t</u>						
Site Area=	500	m <sup>2</sup>						
Impervious	s Area -	Ai =	260	m²	Ci =	0.9		
Pervious A	rea -	Ap =	240	m <sup>2</sup>	Cp =	0.1		
					Cn = [	(Ci x Ai)	+ (Cp x Ap)]	/A
					Cn =	0.52		
Peak Flow	Rate =	1:100 ARI 3	5 minut	e duration				

### **THEREFORE PROVIDE 5,260 LITRES OF DETENTION REQUIRED**

### **Orifice Design**

Paving area c	ollecting st	ormwater via	a grated ir	nlets/sumps -		A =	0	m <sup>2</sup>
						Ci =	0.9	
Q <sub>5paving</sub> =	0	Litres/sec						
Q <sub>max</sub> =	Q <sub>Total</sub> - Q <sub>5pa</sub>	aving						
Q <sub>max</sub> =	2.07	Litres/sec						
Q <sub>max</sub> =	0.6 x A √(2	xgxH)		where	Q <sub>max</sub> = 0.00	21	g =	9.81
A =	0.0009	m <sup>2</sup>			A = ?		H =	0.75
A =	$(\pi \times D^2)/4$							
Diameter =	0.034	m =	33.9	mm				

## **PROVIDE** 5260 LITRES OF DETENTION WITH A $\mathscr{O}$ 34 mm ORIFICE.

#### PEAK FLOW CALCULATIONS - 100 YEAR AVERAGE RECURRENCE INTERVAL

Project	20 Pomona Road,	Page	CC2/A
	Stirling	Job No.	181103
		Date	DEC '18
		Eng	BM



Denotes MAXIMUM Peak Flow

Site Area= 500 m<sup>2</sup>

									Volume	Progression	Over 60 M	inutes					
			0	5	10	15	20	25	30	35	40	45	50	55	60	65	
	Qb	2.07	0.00	310.80	621.60	621.60	621.60	621.60	621.60	621.60	621.60	621.60	621.60	621.60	621.60	621.60	
ARI For 100 Year Event	Flov	w Rate Over 60 Minutes															
i <sub>5</sub> = 186.0 mm/hr	Q5	13.33 L/sec	0	1999.5	0												1689 Litres
i <sub>10</sub> = 136.0 mm/hr	Q10	9.75 L/sec	0	1462.00	2924.00	0											3454 Litres
i <sub>15</sub> = 110.0 mm/hr	Q15	7.88 L/sec	0	1182.50	2365.00	2365.00	0										4359 Litres
i <sub>20</sub> = 94.0 mm/hr	Q20	6.74 L/sec	0	1010.50	2021.00	2021.00	2021.00	0									4898 Litres
i <sub>25</sub> = 82.0 mm/hr	Q25	5.88 L/sec	0	881.50	1763.00	1763.00	1763.00	1763.00	0								5136 Litres
i <sub>30</sub> = 73.0 mm/hr	Q30	5.23 L/sec	0	784.75	1569.50	1569.50	1569.50	1569.50	1569.50	0							5213 Litres
i <sub>35</sub> = 66.5 mm/hr	Q35	4.77 L/sec	0	714.88	1429.75	1429.75	1429.75	1429.75	1429.75	1429.75	0						5253 Litres
i <sub>40</sub> = 61.0 mm/hr	Q40	4.37 L/sec	0	655.75	1311.50	1311.50	1311.50	1311.50	1311.50	1311.50	1311.50	0					5174 Litres
i <sub>45</sub> = 57.0 mm/hr	Q45	4.09 L/sec	0	612.75	1225.50	1225.50	1225.50	1225.50	1225.50	1225.50	1225.50	1225.50	0				5133 Litres
i <sub>50</sub> = 53.0 mm/hr	Q50	3.80 L/sec	0	569.75	1139.50	1139.50	1139.50	1139.50	1139.50	1139.50	1139.50	1139.50	1139.50	0			4920 Litres
i <sub>55</sub> = 49.5 mm/hr	Q55	3.55 L/sec	0	532.13	1064.25	1064.25	1064.25	1064.25	1064.25	1064.25	1064.25	1064.25	1064.25	1064.25	0		4648 Litres
i <sub>60</sub> = 46.6 mm/hr	Q60	3.34 L/sec	0	500.95	1001.90	1001.90	1001.90	1001.90	1001.90	1001.90	1001.90	1001.90	1001.90	1001.90	1001.90	0	4373 Litres



# STORMWATER DETENTION DESIGN RESIDNECE 2

Project	20 Pomor	na Road,					Page	CC3/A
	Stirling						Job No.	181103
							Date	DEC '18
Total Site A	Area =	<b>499</b> n	n <sup>2</sup>				Eng	BM
Pre-develo	pment -	1:5 ARI	59.	2 mm/hr	(10min)			
Pre-Deve	elopment							
Impervious	s Area -	Ai =	95	m²	Ci =	0.9		
Pervious A	rea -	Ap =	404	m²	Cp =	0.1		
					Cn =	[(Ci x Ai)	+ (Cp x Ap)]	/A
					Cn =	0.25	(Assume	d Min.)
Flow Rate -	-	$Q_5 = ($	CnxixA	A)/3600				
		<b>Q</b> <sub>5</sub> =	2.07	Litres/see	0			
Post-Dev	velopment	<u>.</u>						
Site Area=	499	m <sup>2</sup>						
Impervious	s Area -	Ai =	260	m²	Ci =	0.9		
Pervious A	rea -	Ap =	239	m <sup>2</sup>	Cp =	0.1		
					Cn =	[(Ci x Ai)	+ (Cp x Ap)]	/A
					Cn =	0.52		
Peak Flow	Rate =	1:100 ARI 3	5 minut	e duration				

### **THEREFORE PROVIDE 5,260 LITRES OF DETENTION REQUIRED**

### **Orifice Design**

Paving area c	ollecting st	ormwater via	grated ir	nlets/sumps -		A = Ci =	0 ı 0.9	m²
Q <sub>5paving</sub> = Q <sub>max</sub> = Q <sub>max</sub> =	0 Q <sub>Total</sub> - Q <sub>5p</sub> 2.07	Litres/sec <sup>aving</sup> Litres/sec						
Q <sub>max</sub> = A =	0.6 x A √(2 0.0009	xgxH) m <sup>2</sup>		where	$Q_{max} = 0$ A = ?	.0021	g = H =	9.81 0.75
A = Diameter =	(π x D <sup>2</sup> )/4 0.034	m =	33.8	mm				

## PROVIDE 5260 LITRES OF DETENTION WITH A $\mathscr{O}$ 34 mm ORIFICE.

#### PEAK FLOW CALCULATIONS - 100 YEAR AVERAGE RECURRENCE INTERVAL

Project	20 Pomona Road,	Page	CC4/A
	Stirling	Job No.	181103
		Date	DEC '18
		Eng	BM



Denotes MAXIMUM Peak Flow

Site Area= 499 m<sup>2</sup>

								Volume	Progression	Over 60 M	inutes					-
		0	5	10	15	20	25	30	35	40	45	50	55	60	65	
	Qb 2.07	0.00	310.55	621.11	621.11	621.11	621.11	621.11	621.11	621.11	621.11	621.11	621.11	621.11	621.11	
ARI For 100 Year Event	Flow Rate Over 60 Minutes															
i <sub>5</sub> = 186.0 mm/hr	Q5 13.32 L/sec	0	1998.725	0												1688 Litres
i <sub>10</sub> = 136.0 mm/hr	Q10 9.74 L/sec	0	1461.43	2922.87	0											3453 Litres
i <sub>15</sub> = 110.0 mm/hr	Q15 7.88 L/sec	0	1182.04	2364.08	2364.08	0										4357 Litres
i <sub>20</sub> = 94.0 mm/hr	Q20 6.73 L/sec	0	1010.11	2020.22	2020.22	2020.22	0									4897 Litres
i <sub>25</sub> = 82.0 mm/hr	Q25 5.87 L/sec	0	881.16	1762.32	1762.32	1762.32	1762.32	0								5135 Litres
i <sub>30</sub> = 73.0 mm/hr	Q30 5.23 L/sec	0	784.45	1568.89	1568.89	1568.89	1568.89	1568.89	0							5213 Litres
i <sub>35</sub> = 66.5 mm/hr	Q35 4.76 L/sec	0	714.60	1429.20	1429.20	1429.20	1429.20	1429.20	1429.20	0						5253 Litres
i <sub>40</sub> = 61.0 mm/hr	Q40 4.37 L/sec	0	655.50	1310.99	1310.99	1310.99	1310.99	1310.99	1310.99	1310.99	0					5174 Litres
i <sub>45</sub> = 57.0 mm/hr	Q45 4.08 L/sec	0	612.51	1225.03	1225.03	1225.03	1225.03	1225.03	1225.03	1225.03	1225.03	0				5133 Litres
i <sub>50</sub> = 53.0 mm/hr	Q50 3.80 L/sec	0	569.53	1139.06	1139.06	1139.06	1139.06	1139.06	1139.06	1139.06	1139.06	1139.06	0			4921 Litres
i <sub>55</sub> = 49.5 mm/hr	Q55 3.55 L/sec	0	531.92	1063.84	1063.84	1063.84	1063.84	1063.84	1063.84	1063.84	1063.84	1063.84	1063.84	0		4649 Litres
i <sub>60</sub> = 46.6 mm/hr	Q60 3.34 L/sec	0	500.76	1001.51	1001.51	1001.51	1001.51	1001.51	1001.51	1001.51	1001.51	1001.51	1001.51	1001.51	0	4375 Litres



# STORMWATER DETENTION DESIGN RESIDNECE 3

Project	20 Pomoi	na Road,					Page	CC5/A
	Stirling						Job No.	181103
							Date	DEC '18
Total Site A	Area =	503 r	n²				Eng	BM
Pre-develo	pment -	1:5 ARI	59.	2 mm/hr	(10min)			
Pre-Deve	elopment							
Impervious	Area -	Ai =	95	m²	Ci =	0.9		
Pervious Ar	rea -	Ap =	408	m²	Cp =	0.1		
					Cn = [	(Ci x Ai) ·	+ (Cp x Ap)]	/A
					Cn =	0.25	(Assume	d Min.)
Flow Rate -		Q <sub>5</sub> = (	Cn x i x A	A)/3600				
		<b>Q</b> <sub>5</sub> =	2.08	Litres/se	с			
Post-Dev	<u>elopment</u>	<u>t</u>						
Site Area=	503	m <sup>2</sup>						
Impervious	Area -	Ai =	295	m²	Ci =	0.9		
Pervious Ar	rea -	Ap =	208	m <sup>2</sup>	Cp =	0.1		
					Cn = [	(Ci x Ai) ·	+ (Cp x Ap)]	/A
					Cn =	0.57		
Peak Flow I	Rate =	1:100 ARI 3	5 minut	e duration				

### **THEREFORE PROVIDE 6,270 LITRES OF DETENTION REQUIRED**

### **Orifice Design**

Paving area c	collecting stormwater via grated inlets/sumps -	A = Ci =	0 n 0.9	າ <sup>2</sup>
Q <sub>5paving</sub> = Q <sub>max</sub> = Q <sub>max</sub> =	0 Litres/sec Q <sub>Total</sub> - Q <sub>5paving</sub> 2.08 Litres/sec			
Q <sub>max</sub> = A =	0.6 x A $\sqrt{(2 x g x H)}$ where $Q_{max} = 0.000902 m^2$ A = ?	0.0021	g = H =	9.81 0.75
A = Diameter =	$(\pi \times D^2)/4$ 0.034 m = <b>33.9 mm</b>			

## **PROVIDE** 5260 LITRES OF DETENTION WITH A $\mathscr{O}$ 34 mm ORIFICE.

#### PEAK FLOW CALCULATIONS - 100 YEAR AVERAGE RECURRENCE INTERVAL

Project	20 Pomona Road,	Page	CC6/A
	Stirling	Job No.	181103
		Date	DEC '18
		Eng	BM



Denotes MAXIMUM Peak Flow

Site Area= 503 m<sup>2</sup>

									Volume	Progression	Over 60 M	inutes					
			0	5	10	15	20	25	30	35	40	45	50	55	60	65	
	Qb	2.08	0.00	311.54	623.08	623.08	623.08	623.08	623.08	623.08	623.08	623.08	623.08	623.08	623.08	623.08	
ARI For 100 Year Event	Flow Ra	te Over 60 Minutes															
i <sub>5</sub> = 186.0 mm/hr	Q5	14.79 L/sec	0	2218.825	0												1907 Litres
i <sub>10</sub> = 136.0 mm/hr	Q10	10.82 L/sec	0	1622.37	3244.73	0											3932 Litres
i <sub>15</sub> = 110.0 mm/hr	Q15	8.75 L/sec	0	1312.21	2624.42	2624.42	0										5003 Litres
i <sub>20</sub> = 94.0 mm/hr	Q20	7.48 L/sec	0	1121.34	2242.68	2242.68	2242.68	0									5669 Litres
i <sub>25</sub> = 82.0 mm/hr	Q25	6.52 L/sec	0	978.19	1956.38	1956.38	1956.38	1956.38	0								6000 Litres
i <sub>30</sub> = 73.0 mm/hr	Q30	5.81 L/sec	0	870.83	1741.66	1741.66	1741.66	1741.66	1741.66	0							6152 Litres
i <sub>35</sub> = 66.5 mm/hr	Q35	5.29 L/sec	0	793.29	1586.58	1586.58	1586.58	1586.58	1586.58	1586.58	0						6263 Litres
i <sub>40</sub> = 61.0 mm/hr	Q40	4.85 L/sec	0	727.68	1455.36	1455.36	1455.36	1455.36	1455.36	1455.36	1455.36	0					6242 Litres
i <sub>45</sub> = 57.0 mm/hr	Q45	4.53 L/sec	0	679.96	1359.93	1359.93	1359.93	1359.93	1359.93	1359.93	1359.93	1359.93	0				6263 Litres
i <sub>50</sub> = 53.0 mm/hr	Q50	4.21 L/sec	0	632.25	1264.49	1264.49	1264.49	1264.49	1264.49	1264.49	1264.49	1264.49	1264.49	0			6093 Litres
i <sub>55</sub> = 49.5 mm/hr	Q55	3.94 L/sec	0	590.49	1180.99	1180.99	1180.99	1180.99	1180.99	1180.99	1180.99	1180.99	1180.99	1180.99	0		5858 Litres
i <sub>60</sub> = 46.6 mm/hr	Q60	3.71 L/sec	0	555.90	1111.80	1111.80	1111.80	1111.80	1111.80	1111.80	1111.80	1111.80	1111.80	1111.80	1111.80	0	5620 Litres



## STORMWATER DETENTION DESIGN RESIDNECES 4-9 & DRIVEWAYS (ALL DRIVEWAYS)

Project	20 Pomor	na Road,					Page	CC7/A
	Stirling						Job No.	181103
							Date	DEC '18
Total Site A	Area =	2490	m²				Eng	BM
Pre-develo	pment -	1:5 ARI	59.	2 mm/hr	(10min)			
Pre-Deve	elopment							
Impervious	Area -	Ai =	480	m²	Ci =	0.9		
Pervious A	rea -	Ap =	2010	m <sup>2</sup>	Cp =	0.1		
					Cn = [(	Ci x Ai) -	+ (Cp x Ap)]	/A
					Cn =	0.25	(Assumed	d Min.)
Flow Rate -		Q <sub>5</sub> =	(Cn x i x A	)/3600				
		<b>Q</b> <sub>5</sub> =	10.41	Litres/see	C			
Post-Dev	<u>elopment</u>	<u>t</u>						
Site Area=	2490	m <sup>2</sup>						
Impervious	Area -	Ai =	1973	m²	Ci =	0.9		
Pervious A	rea -	Ap =	517	m²	Cp =	0.1		
					Cn = [(	Ci x Ai) -	+ (Cp x Ap)]	/A
					Cn =	0.73		
Peak Flow	Rate =	1:100 ARI	45 minut	e duration				

### THEREFORE PROVIDE 47,240 LITRES OF DETENTION REQUIRED

### **Orifice Design**

Paving area c	ollecting st	ormwater v	ia grated ir	nlets/sumps -		A = Ci =	0 ı 0.9	m <sup>2</sup>
Q <sub>5paving</sub> = Q <sub>max</sub> = Q <sub>max</sub> =	0 Q <sub>Total</sub> - Q <sub>5pa</sub> 10.41	Litres/sec <sup>aving</sup> Litres/sec						
Q <sub>max</sub> = A =	0.6 x A √(2 0.004523	x g x H) m <sup>2</sup>		where	Q <sub>max</sub> = 0.0 A = ?	104	g = H =	9.81 0.75
A = Diameter =	(π x D <sup>2</sup> )/4 0.076	m =	75.9	mm				

## PROVIDE 47240 LITRES OF DETENTION WITH A $\mathscr{O}$ 76 mm ORIFICE.

#### PEAK FLOW CALCULATIONS - 100 YEAR AVERAGE RECURRENCE INTERVAL

Project	20 Pomona Road,	Page	CC8/A
	Stirling	Job No.	181103
		Date	DEC '18
		Eng	BM



Denotes MAXIMUM Peak Flow

Site Area= 2490 m<sup>2</sup>

										Volume	Progression	Over 60 M	inutes					
				0	5	10	15	20	25	30	35	40	45	50	55	60	65	
		Qb	10.41	0.00	1561.40	3122.80	3122.80	3122.80	3122.80	3122.80	3122.80	3122.80	3122.80	3122.80	3122.80	3122.80	3122.80	
ARI For 100 Ye	ar Event	Flow	Rate Over 60 Minutes															
i <sub>5</sub> = 186.0	ጋ mm/hr	Q5	94.42 L/sec	0	14162.35	0												12601 Litres
i <sub>10</sub> = 136.0	) mm/hr	Q10	69.04 L/sec	0	10355.27	20710.53	0											26382 Litres
i <sub>15</sub> = 110.0	) mm/hr	Q15	55.84 L/sec	0	8375.58	16751.17	16751.17	0										34071 Litres
i <sub>20</sub> = 94.0	mm/hr	Q20	47.72 L/sec	0	7157.32	14314.63	14314.63	14314.63	0									39171 Litres
i <sub>25</sub> = 82.0	mm/hr	Q25	41.62 L/sec	0	6243.62	12487.23	12487.23	12487.23	12487.23	0								42140 Litres
i <sub>30</sub> = 73.0	mm/hr	Q30	37.06 L/sec	0	5558.34	11116.68	11116.68	11116.68	11116.68	11116.68	0							43966 Litres
i <sub>35</sub> = 66.5	mm/hr	Q35	33.76 L/sec	0	5063.42	10126.84	10126.84	10126.84	10126.84	10126.84	10126.84	0						45526 Litres
i <sub>40</sub> = 61.0	mm/hr	Q40	30.96 L/sec	0	4644.64	9289.28	9289.28	9289.28	9289.28	9289.28	9289.28	9289.28	0					46249 Litres
i <sub>45</sub> = 57.0	mm/hr	Q45	28.93 L/sec	0	4340.08	8680.15	8680.15	8680.15	8680.15	8680.15	8680.15	8680.15	8680.15	0				47237 Litres
i <sub>50</sub> = 53.0	, mm/hr	Q50	26.90 L/sec	0	4035.51	8071.02	8071.02	8071.02	8071.02	8071.02	8071.02	8071.02	8071.02	8071.02	0			47008 Litres
i <sub>55</sub> = 49.5	, mm/hr	Q55	25.13 L/sec	0	3769.01	7538.03	7538.03	7538.03	7538.03	7538.03	7538.03	7538.03	7538.03	7538.03	7538.03	0		46360 Litres
i <sub>60</sub> = 46.6	, mm/hr	Q60	23.65 L/sec	0	3548.20	7096.40	7096.40	7096.40	7096.40	7096.40	7096.40	7096.40	7096.40	7096.40	7096.40	7096.40	0	45696 Litres





		81-95 Waymouth St
TO:	Adelaide Hills Council	ADELAIDE SA 5000
FROM:	Alice Everitt, Native Vegetation Branch DEW	GPO Box 1047 ADELAIDE SA 5001
SUBJECT:	Development Application 473/C20/19	Ph  08 8303 9777
	Subdivision – 20 Pomona Rd Stirling	<u>nvc@sa.gov.au</u>
DATE:	11/09/2019	

The native vegetation present on the subject land and in the adjacent road reserve is protected under the *Native Vegetation Act 1991*. Any proposals to clear native vegetation requires the approval of the Native Vegetation Council (NVC) unless permitted by the *Native Vegetation Regulations 2017*.

The updated arborist report (D. Nicolle Feb 2019) supplied shows several of the following native tree species to be present:

- *Eucalyptus obliqua* (Messmate Stringybark)
- Acacia melanoxylon (Blackwood)
- Exocarpos cupressiformis (Native cherry)

Google Streetview images show there is little to no native understorey present on the subject land nor the adjacent road reserve.

The Native Vegetation Branch (NVB) does not support the current proposal as it is not sensitive to the existing native vegetation and makes no attempt to minimise its impact. The NVB is concerned that the current proposal's design would require the removal of all vegetation present and also that of the native vegetation along the road reserve. If not to be removed, the vegetation along the road reserve would need to be included in the application if they will be within 10m of a building.

The proponents have received previous preliminary advice from the NVB about reducing the impact of the proposal and to seek to retain trees, however have not elected to do this. The proponent has been advised of their obligation to make an application for any proposed clearance of native vegetation, but as yet no application has been received by the NVB.

The NVB accept that the area may be earmarked for medium density housing and that some vegetation removal would be needed with a proposal on the subject land. Vegetation is concentrated in the NW of the subject land and is aligned with Pomona Road. Some design adjustments that could retain vegetation are:

- Use of the existing driveway could minimise the need for additional clearance along the road reserve and into the property
- The number of allotments could be reduced to allow for more separation between those trees to be retained and housing envelopes (including 10m buffer)

 housing envelopes could be set back a minimum of 10m from any trees to be retained along Pomona Rd

If the subdivision is to go ahead, the proponent must submit an application to the NVB under *Regulation 12(35) residential subdivisions* for any clearance that is proposed and gain Native Vegetation Council (NVC) approval before any trees can be removed. This is a separate process to the Development Approval process. An NVC Accredited Consultant must be employed to prepare a data report in accordance with the requirements of the NVB to be submitted with the application. Any trees along the road reserve included as part of an application also need Adelaide Hills Council permission.

Please forward this advice to the landholder and contact me if further discussion is needed.

Alice Everitt **Native Vegetation Branch** Department for Environment and Water <u>alice.everitt@sa.gov.au</u> 8207 7715

### **Melanie Scott**

From:	Elizabeth Little <elizabethl@ggand.com.au></elizabethl@ggand.com.au>
Sent:	Wednesday, 22 January 2020 3:19 PM
То:	Melanie Scott
Subject:	14072 DA19/322/473 - 19/C20/473 20 Pomona Road Stirling

Hi Melanie,

Please find following comments on the above development application. I have provided comment on the heritage impact and general architectural advice separately. Happy to discuss further over the phone if that helps,

Regards, Liz

Grieve Gillett Andersen	Heritage Advice
DA Number	19/322/473 – 19/C20/473
Heritage Listing	(adjacent property - LHP – House and Stables, now 'Duxton' (7 Pomona Road,
	Stirling))
Heritage Zone	-
Policy Area	Mixed Residential (but also immediately adjacent Country Living)
Address	20 Pomona Road, Stirling
Proposal	Staged application for demolition of existing dwelling and community title land
	division (1 into 9) and three (3) two storey dwellings & a two storey residential flat
	building comprising six (6) dwellings, removal of five (5) regulated trees (Eucalyptus
	Obliqua) & one (1) significant tree (Eucalyptus Obliqua), retaining walls (maximum
	height 2.8m), combined fence & retaining walls (maximum height 4.7m),
	landscaping including replacement plantings & associated earthworks. Stage 1
	Demolition and tree removal, Stage 2 Driveway construction and Civil works, Stage
	3 construction of dwellings on lots 1, 2 & 3, Stage 4 construction of residential flat
	building (dwellings on lots 4 to 9)

#### 1 Heritage value assessment

LHP - The two storey house is built of stone with brick quoins and surrounds. The hipped and gabled roof is clad with corrugated iron and chimneys are brick. Gable ends are decorative. A raked return verandah is supported on timber posts and decorated with timber brackets. The nearby stables are of similar construction: random coursed stone with brick quoins and surrounds. The roof is clad with corrugated iron and original stable and large openings remain on one elevation. Possibly built by William R Cave, this house represents the later style of dwelling constructed as summer retreats by more affluent members of the community. It is identified as meeting criteria (a) and (e).

(Stirling District Heritage Survey)

Subject Site - The subject site is located approximately 30 metres from the Local Heritage Place and is a c1970s brown brick dwelling on a large allotment of just under 4000m2.

#### 2 Previous advice to applicant

Nil relevant to this application

#### **3** Description of proposal

The proposal is comprised of the following components:

#### 1. Demolition of existing dwelling

The existing dwelling is proposed to be demolished.

#### 2. Removal of five regulated trees and one significant tree

The proposed development requires the removal of a large number of trees. Of these, one is classified as significant; five are regulated; and the remainder (approximately 50 in number) are not regulated, however 36 trees on the site are protected under the *Native Vegetation Act 1991*.

#### 3. Land Division (1 lot into 9)

The existing allotment of nearly 4000m2 is to be subdivided into:

- 3 allotments of approximately 500m2 each;
- 5 allotments of between 267m2 and 2285m2;
- 1 allotment of 415m2;
- The common driveway area of approximately 680m2.

#### 4. Construction of three two storey dwellings and a residential flat building comprising six dwellings

The proposed development comprises three free standing, two storey dwellings along the Pomona Road frontage; a 'residential flat building' comprising six, three storey dwellings; serviced by a common driveway.

The design of the three front dwellings is clearly contemporary, with flat and skillion roof forms, a range of cladding types, and window frames powdercoated in black.

The three freestanding dwellings are proposed to be constructed of a combination of materials, including Revolution Roofing 'True Oak 5' cladding in 'Surfmist', James Hardie 'Scyon' cladding in 'Monument', Austral 'Melbourne' bricks in 'Hawthorn', painted CFC sheet in 'Monument', and painted CFC sheet in 'Surfmist'.

The six units to the rear of the site are in a similar palette, and all dwellings are proposed to have tilt up garage doors although the finish to these has not been identified. Timber screening is also proposed throughout the development in Spotted Gum.

#### 4. Heritage advice

Advice is provided as follows on the various components:

#### 4.1 Demolition and 4.2 Tree Removal

The proposed demolition and tree removal will have no direct impact on the LHP or its immediate setting.

#### 4.3 Land Division

The subdivision component of the proposal, whilst not directly adjacent the LHP, does not reinforce the integrity of original allotment patterns, which typically provided large allotments with wide frontages and substantial curtilages to existing (including heritage listed) buildings. However it is noted that the LHP sits within a different zone than the proposed development site, which is within a small pocket of Mixed Residential Zoning. The properties directly behind the proposed development (fronting Alta Crescent and Vista Terrace) are located within the Country Living Zone, and the LHP and adjacent allotments are within the Stirling District Centre Zone. The proposed subdivision would not receive heritage support if it were not sited within the Mixed Residential Zone.

#### 4.4 Construction of three two storey dwellings and a residential flat building comprising six dwellings

The proposed construction of the three two storey dwellings and residential flat building sits approximately 30 metres from the LHP, however the context of the LHP has already been altered by the construction of a three storey office building adjacent to the LHP. It is located at some distance from the heritage place, but still affects the context when viewed from the public realm and particularly from east along Pomona Road (ie this newer development obscures views of the LHP from near the subject site). Other recent and underway developments in the immediate context have resulted in a very mixed context, with the only cohesive factor remaining generally being existing vegetation.

The construction of the proposed development will not result in additional impact on the context of the LHP, further than what has already occurred. The historic character of the place (in which the LHP is located) is not considered to be further affected by the proposed development.

#### Development Plan Policy (Heritage Places)

Objectives:

• Conservation of the setting of State and local heritage places;

PDC's:

- Development that materially affects the context within which the heritage place is situated should be compatible with the heritage place. It is not necessary to replicate historic detailing, however design elements that should be compatible include, but are not limited to:
  - (a) scale and bulk
  - (b) width of frontage
  - (c) boundary setback patterns
  - (d) proportion and composition of design elements such as rooflines, openings, fencing and landscaping
     (e) colour and texture of external materials.
  - The division of land adjacent to or containing a State or local heritage place should occur only where it will:

(a) create an allotment pattern that maintains or reinforces the integrity of the heritage place and the character of the surrounding area

(b) create an allotment or allotments of a size and dimension that can accommodate new development that will reinforce and complement the heritage place and the zone or policy area generally

(c) be of a size and dimension that will enable the siting and setback of new buildings from allotment boundaries so that they do not overshadow, dominate, encroach on or otherwise impact on the setting of the heritage place

(d) provide an area for landscaping of a size and dimension that complements the landscape setting of the heritage place and the landscape character of the locality

#### 5. Architectural advice

#### 5.1 Tree removal

The Arboricultural Impact Assessment provided with the application contains detail on each tree on the proposed site, confirming its status in relation to:

- Development Act requirements (relevant to the 5 regulated and 1 significant tree identified)
- Native Vegetation Act requirements (relevant to 36 trees protected under this act)
- Tree Origin and age
- Tree health
- Further useful life expectancy
- Biodiversity value
- Landscape value
- Tree structure
- Risk to personal safety

All of these considerations are weighed and a Retention Value for each tree calculated.

This report concludes that 3 of 3 trees designated as 'highly worthy of retention' and 16 of 16 designated as 'moderately worthy of retention' -4 of which are also regulated - are required to be removed as part of the proposed development. Of the remainder of the trees, 26 of 34 are also proposed to be removed.

Independent of the impact of removal of regulated / significant trees or those covered by the Native Vegetation Act, the removal of 46 of the total 53 trees is considered to have an extensive impact on the context of the Local Heritage Place and the zone more broadly.

The proposal includes a landscape plan for replacement vegetation, however the design of the proposal is queried in why it does not attempt to retain existing vegetation, particularly given that the substantial majority of the existing trees are consolidated in the north west corner of the site.

#### 5.2 Construction of three two storey dwellings and a residential flat building comprising six dwellings

The proposed development appears to accord with most of the objectives and principles of development control that apply to the Mixed Use Residential Zone, with the following exceptions:

- The separation between the three dwellings to the front of the site is queried as to whether it is sufficiently separated 'to provide visual interest, while allowing views between built forms that provide visual and physical links to surrounding areas"
- The design and siting of the development, particularly the six dwelling block to the rear, is queried as to how well it addresses the requirement for Form and Character to be "designed and sited to relate to the slope of the land so that bulk and scale of buildings do not dominate the landscape, and views from adjoining dwellings are maintained" particularly with regard to the adjacent properties to the south.

It is also noted that the objectives and desired character of the Mixed Residential and Country Living Zones are not necessarily overly compatible, and given the location of the subject site on the boundary between these two zones, some consideration of the Country Living provisions should be made in this case.

#### Mixed Residential Zone:

**Objectives:** 

- Anticipates a range of dwelling densities with areas of open space;
- Development to minimise the impact of garaging and parking;
- Development that reflects good residential design principles;
- Development that contributes to the desired character of the area

#### Desired Character:

- A range of dwelling types (townhouses, semi-detached dwellings, and residential flat buildings);
- Development to reflect the built-form character and spacious landscaped appearance of adjoining residential areas;
- Buildings up to two storeys in height;
- Buildings will be sufficiently separated to provide visual interest, while allowing views between built forms that provide visual and physical links to surrounding areas. Separation between buildings will also provide visual and acoustic privacy, as well as adequate sunlight;
- Development will provide articulated and varied facades... increased setbacks to upper levels, and a range of materials to create visual interest;
- High quality structured landscaping will be provided to mitigate the visual impact of large scale building facades, provide visual amenity and shade; Landscaping will form an integral part of development when viewed from public open space and roads;
- Access points to public roads will be minimised through the use of common driveways.. and on-site parking will be.. integrated into the design of buildings;

Form and Character:

- (Setback requirements appear to have been met);
- Development should result in high-quality aesthetic and urban design outcomes;
- Development should be designed and sited to relate to the slope of the land so that bulk and scale of buildings do not dominate the landscape; and views from adjoining dwellings and public open spaces are maintained;

Country Living Zone: Objectives:

- A residential zone primarily comprising of detached dwellings at very low densities;
- Residential development sensitive to the particular topography of the are and which has minimal visual and environmental impacts;
- Development that contributes to the desired character of the area

**Desired Character:** 

- Development within the zone will predominantly comprise detached dwellings at very low-densities;
- Allotments will continue to vary significantly in size and shape throughout the zone in response to the rolling hills and substantial vegetation;
- allotment size with areas ranging from about 800 square metres to more than 9000 square metres;
- Mature vegetation will provide a defining feature of the zone and will dominate views from all locations. This vegetation will be a mixture of exotic and native species and will be situated on verges, reserves and within private properties;

#### Form and Character:

- Development should be designed and sited to relate to the slope of the land, so that:
  - o (a) the bulk and scale of the buildings do not dominate the landscape
  - o (b) the amount of cutting and filling of the natural ground profile is minimised
  - o (c) views from adjoining dwellings and public open spaces are maintained.
- Wherever possible, existing vegetation should be used to screen the building and excavation or filling from view;

#### ELIZABETH LITTLE

ASSOCIATE - SENIOR HERITAGE ARCHITECT

BDesSt, BArch APBSA Architect Registration No. 2647 ARBV Architect Registration No. 18248



E elizabethl@ggand.com.au T +61 8 8232 3626 243 Pirie Street, Adelaide SA 5000 www.ggand.com.au

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SA Water Level 6, 250 Victoria Square ADELAIDE SA 5000 Ph (08) 7424 1119 Inquiries Michael Zoanetti Telephone 7424 1119

01 May 2019

Our Ref: H0084684

The Chairman State Commission Assessment Panel 50 Flinders St ADELAIDE SA 5000

Dear Sir/Madam

#### PROPOSED LAND DIVISION APPLICATION NO: 473/C020/19 AT STIRLING

In response to the abovementioned proposal, I advise that pursuant to Section 33 of the Development Act it is necessary for the developer to satisfy this Corporation's requirements, which are listed below.

The financial requirements of SA Water shall be met for the provision of water supply and sewerage services.

The developer must advise SA Water the preferred servicing option. Information can be found at: http://www.sawater.com.au/developers-and-builders/building,-developing-and-renovating-yourproperty/subdividing/community-title-development-factsheets-and-information On receipt of the developer details and site specifications an investigation will be carried out to determine if the connections to your development will be standard or non standard fees. Extension of sewer main may be required to se

The developer must inform potential purchasers of the community lots of the servicing arrangements and seek written agreement prior to settlement, as future alterations would be at full cost to the owner/applicant.

Yours faithfully

Michael Zoanetti for MANAGER LAND DEVELOPMENT & CONNECTIONS



 Contact
 Planning Services

 Telephone
 7109 7016

 Email
 dldptipdclearanceletters@sa.gov.au

2 May 2019

Chief Executive Officer Adelaide Hills Council PO Box 44 WOODSIDE SA 5244

Dear Sir

#### Re: Proposed Development Application No. 473/C020/19 (ID 64748) (Community Title Plan) by John Ellery

Further to my letter dated 18 April 2019 and to assist the Council in reaching a decision on this application, copies of the reports received by the State Commission Assessment Panel (SCAP) from agencies that it has consulted have been uploaded for your consideration.

Should Council decide to approve this application, the following requirements of the SCAP must be included as a condition of approval, pursuant to Section 33 (1) (c) of the *Development Act*.

1. The financial requirements of the S A Water Corporation shall be met for the provision of water supply and sewerage services. (S A Water H0084684)

S A Water Corporation further advise that the developer should inform potential purchasers of the community lots in regards to the servicing arrangements and seek written agreement prior to settlement, as future alterations would be at FULL cost to the owner/applicant.

SA Water also advise that for further processing of this application by SA Water, to establish the full requirements and costs of this development, the developer will need to advise SA Water of their preferred servicing option. Information of our servicing options can be found at: <a href="http://www.sawater.com.au/SAWater/DevelopersBuilders/ServicesForDevelopers/Customer+Connections+Centre.htm">http://www.sawater.com.au/SAWater/DevelopersBuilders/ServicesForDevelopers/Customer+Connections+Centre.htm</a> For further information or queries please contact SA Water Land Developments on 74241119.

- 2. Payment of \$58024.00 into the Planning and Development Fund (8 allotment/s @ \$7253 /allotment). Payment may be made by credit card via the internet at <a href="http://www.edala.sa.gov.au">www.edala.sa.gov.au</a> or by phone (7109 7018), by cheque payable to the Department of Planning, Transport and Infrastructure marked "Not Negotiable" and sent to GPO Box 1815, Adelaide 5001 or in person, by cheque or credit card, at Level 5, 50 Flinders Street, Adelaide.
- 3. A final plan complying with the requirements for plans as set out in the Manual of Survey Practice Volume 1 (Plan Presentation and Guidelines) issued by the Registrar General to be lodged with the State Commission Assessment Panel for Land Division Certificate purposes.

The SCAP does not generally support non-complying land division applications without adequate and detailed justification.

Should Council decide to approve this proposal as a non-complying land division, all relevant details pertaining to the application will need to be sent to the SCAP for concurrence purposes. You are referred to Section 35 (3) of the *Development Act 1993* and Regulation 25 (b) of the *Development Regulations 2008* with respect to the details required.

Yours faithfully

Biljana Prokic LAND DIVISION COORDINATOR – PLANNING SERVICES as delegate of the STATE COMMISSION ASSESSMENT PANEL

State Commission Assessment Panel

Level 5 50 Flinders Street Adelaide SA 5000

GPO Box 1815 Adelaide SA 5001

08 7109 7061

#### Pomona Road – Stirling – Clover development

#### Tree removal

The trees earmarked for removal were not considered to provide critical habitat for any species of national conservation significance. Some were assessed as being in Poor condition and there were no hollows recorded. However, the patch of trees does represent a native pocket of habitat to the State Rare Brushtail Possum and numerous birds, some of which are known to be in decline across the region. Even though this is not critical habitat, the removal of habitat within areas such as Stirling where much of the vegetation has been replaced by exotic vegetation, is known to have an incremental impact on the local species.

#### Landscape Plan comments

The table below lists the proposed plant species identified in the Clover Landscape Plan. The selection of species in the Clover Landscape Plan appear to contain a number of exotic and non-local native cultivars which are readily available form larger commercial nurseries, but are not particularly well suited to the local climate. The Biodiversity Team supports with the Consultant's Vegetation assessment report for the development to consider the use of appropriate local indigenous shrubs and perennial herbaceous species. I have provided potential alternatives that are readily available from local nurseries, such as State Flora.

Species	Common Name	Local or SA species alternatives	Comments
Tall Tees			
Corymbia citriodora 'Scentuous'	Lemon Scented Gum	Acacia melanoxylon (Blackwood) Eucalyptus leucoxylon ssp. leucoxylon (SA Bluegum) E. viminalis ssp. viminalis (Manna Gum)	
Eucalyptus caesia 'Silver Princess'		E. leucoxylon ssp leucoxylon (SA Bluegum) Acacia melanoxylon (Blackwood) E. viminalis ssp viminalis (Manna Gum)	
Eucalyptus leucoxylon 'Euky Dwarf'		Euc leucoxylon ssp leucoxylon (SA Bluegum) Euc cosmophylla (Cup Gum)	
Lagerstroemia 'Tuscarora	Crepe Myrtle	Dodonaea viscosa ssp. spathulata (Sticky Hopbush)	Good screening plant 1.5-4m high x 1.5-3m wide. Bird attracting.
Tristaniopsis laurina 'Luscious'	Water Gum	Dodonaea viscosa ssp. spathulata (Sticky Hopbush) Banksia marginata (Silver Banksia) Callitris gracilis (Southern Cypress Pine/ Native Pine) Allocasuarina verticillata (Drooping Sheoak)	More suited to rainforest and humid conditions but will tolerate many environments. Banksia bird attracting, 2-8m high x 1.5m wide Hopbush - Good screening plant 1.5-4m high x 1.5-3m wide. Bird

Species	Common Name	Local or SA species alternatives	Comments
			attracting. Native Pine – 7-14m high x 3-6m wide. Good solid screening tree and provides bird habitat. Sheoak 5-8m high x 4- 6m wide, bird and insect attracting.
Shrubs & Groundcovers			
Acacia baileyana 'Prostrate'		Acacia acinacea (Wreath Wattle) Correa glabra ssp. turbullii (Rock Correa)or Correa reflexa (Common Correa)	
Acmena smithii 'Firescreen'			Non-local native with non-invasive roots. Fire retardant plant as per SA Country Fire Service
Callistemon viminalis 'Green John'	Bottlebrush	Callistemon rugulosus (Scarlet Bottlebrush)	
Casuarina 'Cousin It'		Strappy leaf alternatives - Patersonia occidentalis (Long Purple Flag) Lomandra densiflora (Soft Matt Rush)	Non-local native
Choisya ternata	Mexican Orange	Cullen australasicum (Tall Scurf Pea) Chrysocephalum apiculatum (Common Everlasting) Ixodia achillaeoides (Hills Daisy) Enchylaena tomentosa (Ruby Saltbush) Rhagodia candolleana (Seaberry Saltbush)	Exotic species
Dianella 'Breeze'		Dianella revoluta ssp revoluta (Black-anther Flax-lily) Dianella breviculmis (Short- stem Flax-lily)	
Eremophila maculata	Spotted Emu Bush		Local native species
Goodenia ovata Prostrate	Hop Goodenia		Local native species
Hardenbergia 'Rushy Blue'		Hardenbergia violacea (Native	Non-local native
Hardenbergia violacea			Local native species

Species	Common Name	Local or SA species alternatives	Comments
Lomandra tanika		Strappy leaf alternatives - Patersonia occidentalis (Long Purple Flag) Lomandra densiflora (Soft Matt Rush)	
Myoporum parvifolium			Local native species
Nandina 'Gulf Stream'	Compact Heavenly Bambo	<i>Epacris impressa</i> (Native Heath) Pultenaea largiflorens (Twiggy Bush-pea) <i>Acacia myrtifolia</i> (Myrtle Wattle)	Leaves and berries are toxic to livestock and other domestic animals and Berries contain cyanide and when consumed in quantity can be toxic to birds
Pittosporum 'Green Pillar'		Try other screening plants - Dodonaea viscosa ssp spathulata (Sticky Hopbush) Goodenia ovata (Hop Goodenia)	New Zealand species
Raphiolepsis 'Crimson White'	Indian Hawthorn	Cullen australasicum (Tall Scurf Pea) Chrysocephalum apiculatum (Common Everlasting) Ixodia achillaeoides (Hills Daisy) Enchylaena tomentosa (Ruby Saltbush) Rhagodia candolleana (Seaberry Saltbush)	Exotic species – possibly bred for low seed set to minimise known invasiveness
Raphiolepsis 'Snow Maiden'	Indian Hawthorn	See above	Exotic species – possibly bred for low seed set to minimise known invasiveness
Raphiolepsis 'Spring Time'	Indian Hawthorn	See above	Exotic species – possibly bred for low seed set to minimise known invasiveness
Rosmarinus officinalis	Rosemary	Grevillea lavandulacea ssp. lavandulacea (Spider Flower)	Herb species
Rosmarinus officinalis 'Prostratus'		Grevillea lavandulacea ssp. lavandulacea (Spider Flower)	Prostrate Herb species
Westringia fruticosa 'Smokey'		Other silver SA foliage plants Atriplex nummularia (Old Man Saltbush), Enchylaena tomentosa (Ruby Saltbush), Olearia ramulosa (Twiggy Daisy-bush)	Non local native

Species	Common Name	Local or SA species alternatives	Comments
Westringia		As above	Non local native
'Wynnyabbie Gem'			







**ADELAIDE HILLS COUNCIL RECEIVED 9 September 2019** 

POMONA ROAD DEVELOPMENT - 20 POMONA ROAD, STIRLING

PL01 LOCATION PLAN & SITE SURVEY
PL02 ALLOTMENT SUBDIVISION PLAN
PL03 SITE PLAN
PL04 INDIVIDUAL FLOOR PLANS, LOT 01 - 03
PL05 INDIVIDUAL FLOOR PLANS, LOT 04 - 09
PL06 ELEVATIONS
PL07 ELEVATIONS
PL08 ELEVATIONS
PL09 PERSPECTIVES

ABA



## ADELAIDE HILLS COUNCIL RECEIVED 9 September 2019



1:200 @ A1 0 2m 4m 6m 10m

1:200 SCALE BAR



С	15.02.2019	PLANNING ISSUE	
В	15.01.2019	PLANNING ISSUE	
A	15.01.2019	PLANNING ISSUE	

## PLANNING

## 18-015.PL01.B

PROJECT **Pomona Rd Development** Lot 1-9, 20 Pomona Road STIRLING SA

CLIENT John Ellery DRAWING TITLE Location Plan + Site Survey

DETAILS		
Drawn	BM / NF	
Scale	REFER TO PLANS	ARA
Date	FEBRUARY 2019	7 CPF V

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AMENDED 10 September 2019



## **AREA SCHEDULE**

TOTAL SITE SITE COVERAGE *SITE COVERAGE %* 

3992.1m² 1669.8m² 41.8%

F	28.08.2019	PLANNING ISSUE
E	02.08.2019	PLANNING ISSUE
D	15.05.2019	PLANNING ISSUE
С	04.03.2019	PLANNING ISSUE
В	15.02.2019	PLANNING ISSUE
A	15.01.2019	PLANNING ISSUE

## PLANNING

## 18-015.PL02.F

PROJECT Pomona Rd Development Lot 1-9, 20 Pomona Road STIRLING SA

CLIENT **John Ellery** DRAWING TITLE
Allotment Subdivision Plan

items to be verified by the builder prior to commence to be reported to this office immediately & prior any w

DETAILS	;	
Drawn	BM / NF	
Scale	1: 200 @ A1	
Date	AUGUST 2019	7 NDP Y
The architect contractors to items to be ver to be reported	takes no responsibility for dimensions scaled from drawings, use written dimensions only. Dimensions, levels and al manufactured fifed by the builder prior to commencement on site, any discrepancies to this office immediately & prior any work being undertaken. Drawings	AR Member

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## AREA SCHEDULE

TOTAL SITE	3992.1m <sup>2</sup>
SITE COVERAGE	1669.8m <sup>2</sup>
SITE COVERAGE %	41.8%

## **FINISHES SCHEDULE**

RW 01	<b>RETAINING WALL TYPE 01</b>
	AUSSIE BLOCK
	COLOUR : OATMEAL
RW 02	RETAINING WALL TYPE 02
	CONCRETE SLEEPERS WITH
	BEDROCK TEXTURE
	COLOUR : SANDSTONE
FE.01	FENCE 01
	COLORBOND GOOD
	NEIGHBOUR FENCE
	COLOUR : CB MONUMENT
FE 02	FENCE 2
	1.8m HIGH TIMBER SLAT FENCE
	WITH NO GAPS AND STEEL POSTS
	POST : CB MONUMENT
	SPECIES : WESTERN RED CEDAR
SCREEN.01	PRIVACY SCREEN 01
	<b>REV ROOFING VICTORY FENCING</b>
	STOCKADE SLAT SCREEN
	70mm SLATS WITH 10mm GAP
	COLOUR : MONUMENT / CEDAR
PV 01	PAVING TYPE 1
	<b>BEST BRICKS &amp; PAVERS</b>
	BEST LOCK PAVER 60
	COLOUR : NATURAL
PV 02	PAVING TYPE 2
	BEST BRICKS & PAVERS
	BEST LOCK PAVER 60
	COLOUR : CHARCOAL

## ADELAIDE HILLS COUNCIL RECEIVED 9 September 2019

AMENDED 10 September 2019

F	28.08.2019	PLANNING ISSUE	
Е	02.08.2019	PLANNING ISSUE	
D	04.03.2019	PLANNING ISSUE	
С	15.02.2019	PLANNING ISSUE	
В	15.01.2019	PLANNING ISSUE	
A	15.01.2019	PLANNING ISSUE	

## PLANNING

## 18-015.PL03.F

PROJECT **Pomona Rd Development** Lot 1-9, 20 Pomona Road STIRLING SA

CLIENT **John Ellery** DRAWING TITLE **Site Plan** 

ETAILS		
rawn	BM / NF	
cale	1: 200 @ A1	ARA
ate	AUGUST 2019	

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## AREA SCHEDULE

TOTAL AREA LOTS 01 - 03	1500.5m²
LOT 01	
LOT AREA SITE COVERAGE <i>SITE COVERAGE %</i> PRIVATE OPEN SPACE	501.3m <sup>2</sup> 206.5m <sup>2</sup> <b>41.2%</b> 73.2m <sup>2</sup>
LOWER GROUND FLOOR VERANDAH UPPER GROUND FLOOR PORCH BALCONY DECK	94.7m² 21.9m² 185.8m² 7.8m² 20.5m² 21.1m²
LOT 02	
LOT AREA SITE COVERAGE <i>SITE COVERAGE %</i> PRIVATE OPEN SPACE	500.1m² 205.1m² <b>41.0%</b> 136m²
LOWER GROUND FLOOR VERANDAH UPPER GROUND FLOOR PORCH BALCONY DECK	127.1m <sup>2</sup> 14.5m <sup>2</sup> 172.1m <sup>2</sup> 8.1m <sup>2</sup> 12.6m <sup>2</sup> 18.8m <sup>2</sup>
LOT 03	
LOT AREA SITE COVERAGE <b>SITE COVERAGE %</b> PRIVATE OPEN SPACE	501.0m² 205.1m² <b>40.9%</b> 160.7m²
LOWER GROUND FLOOR VERANDAH UPPER GROUND FLOOR PORCH BALCONY DECK	127.1m <sup>2</sup> 14.5m <sup>2</sup> 172.1m <sup>2</sup> 8.1m <sup>2</sup> 12.6m <sup>2</sup> 18.8m <sup>2</sup>
STORAGE	
<b>LOT 01</b> LINEN LAUNDRY PANTRY <b>TOTAL STORAGE</b>	4.3m <sup>3</sup> 2.9m <sup>3</sup> 5.2m <sup>3</sup> <b>12.4m<sup>3</sup></b>
LOT 02 - 03 LINEN	5.9m <sup>3</sup>

LAUNDRY 3.8m<sup>3</sup> PANTRY 4.3m<sup>3</sup> TOTAL STORAGE 14.0m<sup>3</sup>

AMENDED 10 September 2019

Е	28.08.2019	PLANNING ISSUE	
D	04.03.2019	PLANNING ISSUE	
С	15.02.2019	PLANNING ISSUE	
В	15.01.2019	PLANNING ISSUE	
A	15.01.2019	PLANNING ISSUE	

## PLANNING

## 18-015.PL04.E

PROJECT
Pomona Rd Development
Lot 1-9, 20 Pomona Road STIRLING SA

CLIENT John Ellery DRAWING TITLE Individual Floorplans Lot 01 - 03

ETAILS		
rawn	BM / NF	
cale	1: 100 @ A1	ARA
ate	AUGUST 2019	7 104 1

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LOT 8 - 9 UPPER GROUND FLOOR PLAN

 $\Box$ 

N





LOT 8 - 9 FIRST FLOOR PLAN  $\bigcirc$ Ν

#### TOP OF PARAPET

#### UPPER GROUND CL

- 10mm SOUND STOP PLASTERBOARD 90mm STUD FRAME WALL WITH **R2.5GLASS WALL ACOUSTIC BATTS** 

#### UPPER GROUND FFL

STORAGE

LOT 04 - 07

LAUNDRY

STORAGE

LOT 08 - 09

TOTAL STORAGE

TOTAL STORAGE

PANTRY

LINEN LAUNDRY

STORAGE PANTRY

LINEN

10mm SOUND STOP PLASTERBOARD - 90mm STUD FRAME WALL WITH R2.5GLASS WALL ACOUSTIC BATTS

SYSTEM TO ACHIEVE AN FRL OF 60/60/60 AND A SOUND RATING ON NOT LESS THAN Rw+Ctr OF 50 (DESIGN SYSTEM ACHIEVES Rw+Ctr OF 53). PARTIWALL TO EXTENT AND BE FIRE RATED SEALED TO UNDERSIDE OF NON-COMBUSTIBLE ROOF SHEETING. PARTIWALL SYSTEMT TO BE CONSTRUCTED IN STRICT ACCORDANCE WITH MANUFACTURER'S DETAILS AND

#### LOWER GROUND FFL

ALEXANDER BROWN
ARCHITECTS
uite 6, 609 - 611 Magill Road, Magill, S.A. 5072 8364 4447 www.alexanderbrown.com.au

#### AREA SCHEDUI E

TOTAL AREA LOTS 04 - 09	1811.2m²
LOT 04	
LOT AREA	414.0m²
SITE COVERAGE	148.9m²
<b>SITE COVERAGE %</b>	<b>36.0%</b>
PRIVATE OPEN SPACE	97.7m²
LOWER GROUND FLOOR	75.5m <sup>2</sup>
UPPER GROUND FLOOR	137.9m <sup>2</sup>
BALCONY	6.4m <sup>2</sup>
DECK	18.4m <sup>2</sup>
FIRST FLOOR	80.6m <sup>2</sup>
LOT 05	
LOT AREA	284.3m²
SITE COVERAGE	148.9m²
<i>SITE COVERAGE %</i>	<b>52.4%</b>
PRIVATE OPEN SPACE	84.5m²
LOWER GROUND FLOOR	75.5m²
UPPER GROUND FLOOR	137.9m²
BALCONY	6.4m²
DECK	18.4m²
FIRST FLOOR	80.6m²
LOT 06	
LOT AREA	280.1m <sup>2</sup>
SITE COVERAGE	148.9m <sup>2</sup>
<b>SITE COVERAGE %</b>	<b>53.2%</b>
PRIVATE OPEN SPACE	83.8m <sup>2</sup>
LOWER GROUND FLOOR	75.5m²
UPPER GROUND FLOOR	137.9m²
BALCONY	6.4m²
DECK	18.4m²
FIRST FLOOR	80.6m²
LOT 07	
LOT AREA	280.1m²
SITE COVERAGE	148.9m²
<b>SITE COVERAGE %</b>	<b>53.2%</b>
PRIVATE OPEN SPACE	83.8m²
LLOWER GROUND FLOOR	75.5m²
UPPER GROUND FLOOR	137.9m²
BALCONY	6.4m²
DECK	18.4m²
FIRST FLOOR	80.6m²
LOT 08	
LOT AREA	267.1m²
SITE COVERAGE	133.2m²
<b>SITE COVERAGE %</b>	<b>49.9%</b>
PRIVATE OPEN SPACE	66.0m²
LOWER GROUND FLOOR	75.5m²
UPPER GROUND FLOOR	127.3m²
BALCONY	6.4m²
FIRST FLOOR	80.6m²
LOT 09	
LOT AREA	285.6m²
SITE COVERAGE	133.2m²
<b>SITE COVERAGE %</b>	<b>46.6%</b>
PRIVATE OPEN SPACE	43m²
LOWER GROUND FLOOR	75.5m²
UPPER GROUND FLOOR	127.3m²
BALCONY	6.4m²
FIRST FLOOR	80.6m²

## AMENDED 10 September 2019

3.2m<sup>3</sup> 4.3m<sup>3</sup> 8.0m<sup>3</sup> 5.0m<sup>3</sup> **20.5m<sup>3</sup>** 

3.2m<sup>3</sup> 4.3m<sup>3</sup> 7.3m<sup>3</sup> 5.7m<sup>3</sup> **20.5m<sup>3</sup>** 

D	15.05.2019	PLANNING ISSUE	
С	15,02,2019	PLANNING ISSUE	
В	15.01.2019	PLANNING ISSUE	
A	15.01.2019	PLANNING ISSUE	

#### PLANNING

#### 18-015.PL05.D

Pomona Rd Development Lot 1-9, 20 Pomona Road STIRLING SA

CLIENT John Ellery DRAWING TITLE Individual Floorplans

Lots 04 - 09 DETAILS Drawn BM / NF Scale 1: 100 @ A1 Date MAY 2019

ABA	

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PROJECT

LOT 01 GROUND FLOOR RL=502.76 LOT 02 GROUND FLOOR RL=501.66 LOT 04 GROUND FLOOR RL=500.70 ELOT 03 GROUND FLOOR RL=499.26		LEVATION 01 - NORTH / POMONA 100 @ A1	ROAD			
	B	LOT 09 12330		B	LOT 08 9200	B
LOT 09 GROUND FLOOR RL=502.76 LOT 08 GROUND FLOOR RL=502.76 LOT 06 GROUND FLOOR RL=502.76 LOT 06 GROUND FLOOR RL=502.76 LOT 05 GROUND FLOOR RL=501.66 LOT 05 GROUND FLOOR RL=501.66		WF.02 WF.02 THA FG WF.05 WF.01 WF.01 WF.01 WF.01 WF.01 WF.01 WF.01 WF.01 WF.01 WF.01 WF.01 WF.01 WF.01 WF.01 WF.01 WF.01 WF.01 WF.01 WF.01 WF.01 WF.03 BAL.01		WF.02	F.01 F.05 HA FG THA F.05 WF.01 WF.05 GSD BAL.01 BAL.01 PLGD	
	ELEV/ 1:100 @ A	ATION 02 - NORTH				





# ALEXANDER BROWN ARCHITECTS Suite 6, 609 - 611 Magill Road, Magill, S.A. 5072 p 8364 4447 www.alexanderbrown.com.au

#### **FINISHES SCHEDULE**

WF.01	WALL FINISH 01 REVOLUTION ROOFING TRUE OAK SUPER 5 AND FLASHING CLADDING : SURFMIST
WF.02	WALL FINISH 02 JAMES HARDIE SCYON AXON CLADDING PAINTED : CB MONUMENT
WF.03	WALL FINISH 03 AUSTRAL BRICKS MELBOURNE COLOUR : HAWTHORN
WF.04	WALL FINISH 04 CFC SHEET PAINTED : MONUMENT
WF.05	WALL FINISH 05 CFC SHEET PAINTED : SURFMIST

TIMBER SCREEN 30x30 + 30x70 mm TIMBER BATTENS SPECIES : SPOTTED GUM

#### GENERAL LEGEND

**GLAZING SUITE** COMMERCIAL GLAZING WITH BLACK POWDER COAT FRAMES

ED	ENTRY DOOR
TGD	TILT UP GARAGE DOOR
FG	FIXED GLAZING
THA	TOP HUNG AWNING
GSD	GLASS SLIDING DOOR
OB	OBSCURE GLAZING

AMENDED 10 September 2019

D	28.08.2019	PLANNING ISSUE	
С	04.03.2019	PLANNING ISSUE	
В	15.02.2019	PLANNING ISSUE	
A	15.01.2019	PLANNING ISSUE	

## PLANNING

#### 18-015.PL06.D

PROJECT **Pomona Rd Development** Lot 1-9, 20 Pomona Road STIRLING SA

CLIENT **John Ellery** DRAWING TITLE
Elevations

ETAILS		
rawn	BM / NF	
cale	1: 100 @ A1	
ate	AUGUST 2019	ADA



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## **FINISHES SCHEDULE**

WF.01	WALL FINISH 01 REVOLUTION ROOFING TRUE OAK SUPER 5 AND FLASHING CLADDING : SURFMIST
WF.02	WALL FINISH 02
	JAMES HARDIE
	SCYON AXON CLADDING
	PAINTED : CB MONUMENT
WF.03	WALL FINISH 03
	AUSTRAL BRICKS
	MELBOURNE
	COLOUR : HAWTHORN
WF.04	WALL FINISH 04
	CFC SHEET
	PAINTED : MONUMENT
WF.05	WALL FINISH 05
	CEC SHEET

COMMERCIAL GLAZING WITH BLACK POWDER COAT FRAMES

ED	ENTRY DOOR
TGD	TILT UP GARAGE DOOR
FG	FIXED GLAZING
THA	TOP HUNG AWNING
GSD	GLASS SLIDING DOOR
OB	OBSCURE GLAZING

С	28.08.2019	PLANNING ISSUE	
В	15.02.2019	PLANNING ISSUE	
A	15.01.2019	PLANNING ISSUE	

## PLANNING

Pomona Rd Development Lot 1-9, 20 Pomona Road STIRLING SA

ETAILS		
rawn	BM / NF	
cale	1: 100 @ A1	
ate	AUGUST 2019	ADA





#### **FINISHES SCHEDULE**

WF.01	WALL FINISH 01 REVOLUTION ROOFING TRUE OAK SUPER 5 AND FLASHING CLADDING : SURFMIST
WF.02	WALL FINISH 02
	JAMES HARDIE
	SCYON AXON CLADDING
	PAINTED : CB MONUMENT
WF.03	WALL FINISH 03
	AUSTRAL BRICKS
	MELBOURNE
	COLOUR : HAWTHORN
WF.04	WALL FINISH 04
	CFC SHEET
	PAINTED : MONUMENT
WF.05	WALL FINISH 05
	CFC SHEET
	PAINTED : SURFMIST

TIMBER SCREEN 30x30 + 30x70 mm TIMBER BATTENS SPECIES : SPOTTED GUM

#### **GENERAL LEGEND**

GLAZING SUITE COMMERCIAL GLAZING WITH BLACK POWDER COAT FRAMES

ED	ENTRY DOOR
TGD	TILT UP GARAGE DOOR
FG	FIXED GLAZING
THA	TOP HUNG AWNING
GSD	GLASS SLIDING DOOR
OB	OBSCURE GLAZING

B 15.02.2019 PLANNING ISSUE A 15.01.2019 PLANNING ISSUE

#### PLANNING

#### 18-015.PL08.B

PROJECT Pomona Rd Development Lot 1-9, 20 Pomona Road STIRLING SA

CLIENT John Ellery DRAWING TITLE Elevations

ETAILS		
rawn	BM / NF	
cale	1: 100 @ A1	
ate	FEBRUARY 2019	



PERSPECTIVE 01 - LOT 03



PERSPECTIVE 03 - LOT 03



| PERSPECTIVE 02 - LOT 03

ADELAIDE HILLS COUNCIL RECEIVED 9 September 2019



| PERSPECTIVE 04 - LOT 04, 05, 06 & 07



С	15.02.2019	PLANNING ISSUE	
В	15.01.2019	PLANNING ISSUE	
A	15.01.2019	PLANNING ISSUE	

# PLANNING

# 18-015.PL09.C

PROJECT **Pomona Rod Development** Lot 1-9, 20 Pomona Road STIRLING SA CLIENT John Ellery DRAWING TITLE Perspectives

DETAILS Drawn BM / NF Scale @ A1 Date FEBRUARY 2019

contractors to use written dimensions only. Dimensions, levels and all manufactured items to be verified by the builder prior to commencement on site, any discrepancies to be reported to this office immediately & prior any work being undertaken. Drawing to be read in conjunction with the specification. © Copyright Reserved Alexander Brown Architects 2018









WINTER SOLSTICE

EQUINOX 12PM











A 22.07.2019 PLANNING ISSUE

# PLANNING

# 18-015.PL10.A

PROJECT **Pomona Rd Development** Lot 1-9, 20 Pomona Road STIRLING SA CLIENT **John Ellery** DRAWING TITLE Shadow Diagrams

DETAILS Drawn BM / NF Scale @ A1 Date JULY 2019

ABA





Consolidate block areas of turf with perimeter planting Informal hedging to give privacy and buffer views into and out of the site. Possible Species: COR sce EUC ED EUC cae

Incorporate small trees into front yards to define entries and give privacy between properties. Possible species: CORYMBIA 'Scentuous'

Medium sized trees and native understorey to soften retaining walls and provide a welcoming arrival. Possible species: CORYMBIA 'Scentuous' EUCALYPTUS caesia 'Silver Princess' TRISTANIOPSIS laurina

Incorporate small to medium trees into front yards to give privacy between properties and address Pomona Road. Possible species: CORYMBIA 'Scentuous' EUCALYPTUS caesia 'Silver Princess' TRISTANIOPSIS laurina

Combination of shrubs and cascading groundcovers to screen retaining walls and integrate into the lush landscape character of Pomona Road



#### **20 POMONA ROAD** LANDSCAPE CHARACTER PROPOSED 03.09.19

A contemporary native character is proposed with small Eucalypts and layered shrubs and groundcovers to give privacy and screening between dwellings. These plants will be highly resilient once established.

Localised rockwork and boulder retaining walls will be incorporated within garden areas to manage erosion and give structure. Groundcovers courtyard areas only to limit maintenance demands and shrubs plantings to cascade over and give a natural feel.

It is proposed that a diverse range of plants will be used to give a high amenity feel but also complement the landscape character of Pomona Road and Stirling. Contemporary native species will be contrasted against neat informal hedges and shade tolerant plants in narrow areas. Contrasts in coloured foliage and flowering species will be used to provide interest throughout the year. The planting palette will complement the **RECEIVED 9 September 2019** contemporary architectural built form and be easily maintained for future residents.

Lawn areas will be consolidated into private and provide passive recreation opportunities. Borders of plantings and informal hedges will screen walls and fences and not encroach into valuable open space.

Semi-formal and structured plantings in smaller spaces to create defined edges and high amenity. These plants will complement the contemporary architectural built form.



















# **ADELAIDE HILLS COUNCIL**

Cascading groundcovers will be planted at the top of retaining walls to spill over and soften their appearance. Contrasts of colour, flowers and forms will create variation throughout the site.



#### **20 POMONA ROAD**

#### PLANTING PALETTE

PROPOSED 03.09.19 rev C

PLANT SCHEDULE					
CODE	SPECIES	SIZE			
TREES					
COR Sce	CORYMBIA citriodora 'Scentuous'	45L			
EUC cae	EUCALYPTUS caesia 'Silver Princess'	45L			
EUC ED	EUCALYPTUS leucoxylon 'Euky Dwarf'	45L			
LAG Tus	LAGERSTROEMIA 'Tuscarora	45L			
TRI lau	TRISTANIOPSIS laurina 'Luscious'	45L			
SHRUBS & GR	ROUNDCOVERS				
ACA bai	ACACIA baileyana 'Prostrate'	140mm			
ACM FS	ACMENA smithii 'Firescreen'	140mm			
CAL GJ	CALLISTEMON viminalis 'Green John'	140mm			
CAS CI	CASUARINA 'Cousin It'	140mm			
CHO ter	CHOISYA ternata	140mm			
DIA bre	DIANELLA 'Breeze'	140mm			
ERE mac	EREMOPHILA maculata	140mm			
GOO ova	GOODENIA ovata prostrate	140mm			
HAR BB	HARDENBERGIA 'Bushy Blue'	140mm			
HAR vio	HARDENBERGIA violacea	140mm			
LOM tan	LOMANDRA tanika	140mm			
MYO par	MYOPORUM parvifolium	140mm			
NAN GS	NANDINA 'Gulf Stream'	140mm			
PIT gp	PITTOSPORUM 'Green Pillar'	140mm			
RAP CW	RAPHIOLEPSIS 'Crimson White'	140mm			
RAP SM	RAPHIOLEPSIS 'Snow Maiden'	140mm			
RAP ST	RAPHIOLEPSIS 'Spring Time'	140mm			
ROS off	ROSMARINUS officinalis	140mm			
ROS pro	ROSMARINUS officinalis 'Prostratus'	140mm			
WES smo	WESTRINGIA fruticosa 'Smokey'	140mm			
WES WG	WESTRINGIA 'Wynnyabbie Gem'	140mm			

**ADELAIDE HILLS COUNCIL** 

**RECEIVED 9 September 2019** 

# CORYMBIA citriodora 'Scentuous' EUCALYPTUS leucoxylon 'Euky Dwarf' EUCALYPTUS caesia 'Silver Princess' LAGERSTROEMIA 'Tuscarora'



RHAPHIOLEPSIS 'Snow Maiden' RHAPHIOLEPSIS 'Spring Time'





ROSMARINUS officinalis

# GROUNDCOVERS

TREES



DIANELLA 'Breeze'

HARDENBERGIA 'Bushy Blue' NANDINA 'Firescreen'







TRISTANIOPSIS laurina



CALLISTEMON 'Green John'



ACACIA baileyana 'Prostrate' MYOPORUM parvifolium





REGISTERED PROPRIETORS: J.J & L ELLERY

METRES 20 30 40



PLEASE NOTE: THIS DOCUMENT IS FOR PLANNING PURPOSES ONLY



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Arboriculture - Botany - Ecology - Eucalypt Research

#### Tree Assessment – 20 Pomona Road, Stirling, SA

# Arboricultural impact assessment of a proposed development on 53 trees



Arboricultural impact report requested by Philip Harnett of URPS, on the 31st of January 2019.

Arboricultural report prepared by Dean Nicolle following a site inspection and tree assessments on the 14<sup>th</sup> of February 2018 and review of the proposed civil and architectural plans on the 7<sup>th</sup> and 8<sup>th</sup> of February 2019.

#### Arboricultural report dated the 8<sup>th</sup> of February 2019.

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#### 1.0 BACKGROUND

The proposed residential subdivision of 20 Pomona Road in Stirling, South Australia, has the potential to impact on a number of trees that occur on the site. This report summarises the arboricultural assessment of the 54 trees on the site (see Figure 1) and assesses the arboricultural impact of the proposed development on these trees.

This report builds on my earlier assessment of the trees, in a report dated the 14<sup>th</sup> February 2018 (prior to development of the civil and architectural plans for the site). This report now considers the arboricultural impact of the proposed development, considering the proposed civil and architectural plans (see Figure 5).

#### 2.0 METHODOLOGY

The assessment of the 53 trees subject of this report was undertaken on the 14<sup>th</sup> of February 2018. The location and numbering of the 53 trees included in this assessment is indicated on the survey plan of the site in Figure 1. My February 2018 report included the assessment of 57 trees on the site, however, *Trees 2, 6, 12* and *13* are no longer present on the site (as of February 2019). Assessed trees were not physically marked or labelled in the field.

#### 2.1 Australian Standard AS 4970-2009

This tree assessment was conducted in accordance with Australian Standard AS4970-2009 Protection of Trees on Development Sites (2009), which provides best practices for the planning and protection of trees on development sites. The Standard provides guidance on how to determine which trees are appropriate for retention, and on the means of protecting those trees during construction.

Tree Protection Zones (TPZs) have been calculated using a method which conforms to *AS 4970*, as detailed in Section 14 (*Tree Protection Zones*) of this report. Information and recommendations provided in the report concerning variations to the calculated TPZ and allowable encroachments within the TPZ are in accordance with the guidelines provided in the Australian Standard (*AS 4970*).

#### 2.2 <u>Scope of this tree assessment and report</u>

The purpose of the tree assessment is to provide quantitative and qualitative information on surveyed trees plotted on the subject site.

For the 53 trees assessed, the following data were recorded:

- Tree identification (label) number
- Scientific name (species, subspecies, variety, cultivar)
- Common name
- Trunk circumference(s) at one metre above ground level
- Status as defined by the Development Act 1993
- Status as defined by the Native Vegetation Act 1991
- Age (estimated; in years)
- Origin (remnant, planted, self-seeded weed, etc.)
- Current health status
- Projected further life expectancy
- Tree structure
- Biodiversity value
- Landscape value
- Retention value
- Tree Protection Zone (TPZ) and associated data used to calculate the TPZ
- High Use Setback (HUS)
- Impact of proposed development on the tree



*Figure 1. Site Plan.* Extract from survey plan of the subject site (Michael Grear Surveys), indicating the location and labelling of the 57 trees included in my February 2018 arboricultural assessment. Trees 2, 6, 12 and 13 are no longer present on the site.

#### **3.0 TREE SPECIES**

The 53 trees represent 14 different species (see Table 1), indicating a moderate level of tree diversity on the site. The two most numerous species assessed are briefly described below.

#### 1) Eucalyptus obliqua (messmate stringybark) - 27 trees.

A locally indigenous species, widespread on more fertile soils in the cooler, higher rainfall parts of south-eastern Australia, from near the Queensland-New South Wales border southwards to Tasmania and westwards to the Mount Lofty Ranges and Kangaroo Island in South Australia. The species is indigenous to the Stirling area, where it grows as a single-trunked forest tree in sclerophyll forest. The species is relatively drought sensitive and is susceptible to waterlogged soils. The species is also susceptible to the *Phytophthora* root rot fungus.

All 27 trees of *E. obliqua* included in this assessment represent remnant or semi-remnant trees.

*Key references:* Nicolle (2013) *Native Eucalypts of South Australia*, pp. 214–215. Boland *et al.* (2006) *Forest Trees of Australia* 5<sup>th</sup> *edition*, pp. 560–561.

#### 2) Acacia melanoxylon (blackwood) - 9 trees.

A locally indigenous species, widespread on more fertile soils in the cooler, higher rainfall parts of south-eastern Australia, from the Atherton Tableland in north Queensland southwards to Tasmania and westwards to the Mount Lofty Ranges in South Australia. The species is indigenous to the Stirling area, where it grows as a secondary-storey species in sclerophyll forest. The species is long-lived for an *Acacia* species.

All 9 trees of *A. melanoxylon* included in this assessment likely represent remnant or semi-remnant trees.

*Key references*: Cowan & Maslin (2001) *Acacia melanoxylon, Flora of Australia,* 11B, pp. 141– 142. Boland *et al.* (2006) *Forest Trees of Australia* 5<sup>th</sup> *edition*, pp. 168–169.

The remaining 12 species were each represented by three or fewer trees each.

#### 4.0 DEVELOPMENT ACT 1993

In accordance with the Development (Regulated Trees) Variation Regulations 2011 under the Development Act 1993:

- Only one of the trees is <u>significant</u>, having a trunk circumference or a combined trunk circumference of *greater than three metres* at one metre above ground level <u>and</u> not being exempt by virtue of their species or by the bushfire rating of the locality and the distance to a residential dwelling.
- A further 5 of the trees are <u>regulated</u>, having a trunk circumference or combined trunk circumference of *between two and three metres* at one metre above ground level <u>and</u> not being exempt by virtue of their species or by the bushfire rating of the locality and the distance to a residential dwelling.
- The remaining 47 trees on the site are non-regulated, having a trunk circumference or combined trunk circumference of *less than two metres* at one metre above ground level, <u>or</u> being exempt by virtue of their species or by the bushfire rating of the locality and the distance to a residential dwelling.

The legal status of the trees according to the *Development (Regulated Trees) Variation Regulations 2011* under the *Development Act 1993* is indicated in Table 1 and is graphically indicated in Figure 2. Trees defined as significant or regulated by the *Act* cannot be removed, damaged or pruned by more that 30% of the crown area without local government (Council) development approval.

The legal status of the tree (significant, regulated or non-regulated) does not necessarily equate to the crown size, aesthetic value or visibility of the tree in the landscape, but is merely based on the trunk circumference, species and bushfire classification of the locality, as inferred from the *Development (Regulated Trees)* Variation Regulations 2011 under the Development Act 1993.

**Table 1. Species and Development Act 1993.** The 53 trees, indicating the tree number, scientific name, common name, Trunk circumference at one metre above ground level, and legal status (as defined by the Development Act 1993) of each tree as of February 2018.

Tree	Scientific name	Common name	Trunk circ. at one	Legal status	
			metre	(Development Act 1993)	
1	Acacia melanoxylon	blackwood	0.90 m	Not controlled	
3	Cupressus macrocarpa	Monterey cypress	Approx. 1.2 m	Not controlled	
4	Eucalyptus obliqua	messmate stringybark	Approx. 1.0 m	Not controlled	
5	Pinus radiata	Monterey pine	Approx. 1.7 m	Not controlled	
7	Eucalyptus obliqua	messmate stringybark	1.60 m	Not controlled	
8	Acacia elata	cedar wattle	0.98 m	Not controlled	
9	Eucalyptus obliqua	messmate stringybark	1.16 m	Not controlled	
10	Eucalyptus obliqua	messmate stringybark	1.93 m	Not controlled	
11	Eucalyptus obliqua	messmate stringybark	1.10 m	Not controlled	
14	Acacia floribunda	gossamer wattle	1.74 m	Not controlled	
15	Pinus radiata	Monterey pine	3.50 m*	*Not controlled due to the species being listed as exempt	
16	Exocarpos cupressiformis	native cherry	0.40 m	Not controlled	
17	Eucalyptus obliqua	messmate stringybark	0.83 m	Not controlled	
18	Eucalyptus obliqua	messmate stringybark	1.42 m	Not controlled	
19	Acacia floribunda	gossamer wattle	1.21 m	Not controlled	
20	Acacia howittii	sticky wattle	0.89 m	Not controlled	
21	Pittosporum undulatum	sweet pittosporum	0.38 m	Not controlled	
22	Eucalyptus kitsoniana	Gippsland mallee	0.81 m	Not controlled	
23	Eucalyptus obliqua	messmate stringybark	0.86 m	Not controlled	
24	Eucalyptus obliqua	messmate stringybark	2.17 m	Regulated	
25	Acacia baileyana	Cootamundra wattle	0.83 m	Not controlled	
26	Eucalyptus obliqua	messmate stringybark	2.25 m	Regulated	
27	Exocarpos cupressiformis	native cherry	0.55 m	Not controlled	
28	Acacia fimbriata	fringed wattle	0.55 m	Not controlled	
29	Eucalyptus obliqua	messmate stringybark	0.94 m	Not controlled	
30	Eucalyptus obliqua	messmate stringybark	1.40 + 1.10 = 2.50  m	Regulated	
31	Eucalyptus obliqua	messmate stringybark	0.73 m	Not controlled	
32	Eucalyptus obliqua	messmate stringybark	1.65 m	Not controlled	
33	Eucalyptus obliqua	messmate stringybark	1.01 m	Not controlled	
34	Eucalyptus obliqua	messmate stringybark	1.60 m	Not controlled	
35	Eucalyptus obliqua	messmate stringybark	1.45 m	Not controlled	
36	Eucalyptus obliqua	messmate stringybark	1.80 m	Not controlled	
37	Acacia melanoxylon	blackwood	0.60 + 0.49 = 1.09 m	Not controlled	
38	Eucalyptus obliqua	messmate stringybark	1.71 m	Not controlled	
39	Eucalyptus obliqua	messmate stringybark	1.33 m	Not controlled	
40	Acacia melanoxylon	blackwood	0.84 m	Not controlled	
41	Acacia melanoxylon	blackwood	0.71 m	Not controlled	
42	Pittosporum undulatum	sweet pittosporum	0.64 + 0.56 = 1.20 m	Not controlled	
43	Eucalyptus obliqua	messmate stringybark	1.70 m	Not controlled	
44	Eucalyptus obliqua	messmate stringybark	1.23 m	Not controlled	
45	Eucalyptus obliqua	messmate stringybark	2.15 m	Regulated	
46	Eucalyptus obliqua	messmate stringybark	2.02 + 1.35 = 3.37 m	Significant	
47	Eucalyptus obliqua	messmate stringybark	2.77 m	Regulated	

Tree	Scientific name	Common name	Trunk circ. at one metre	Legal status (Development Act 1993)
48	Acacia melanoxylon	blackwood	0.91 m	Not controlled
49	Acacia melanoxylon	blackwood	0.87 m	Not controlled
50	Acacia melanoxylon	blackwood	0.65 m	Not controlled
51	Acacia melanoxylon	blackwood	0.87 m	Not controlled
52	Acacia melanoxylon	blackwood	1.17 m	Not controlled
53	Eucalyptus obliqua	messmate stringybark	3.55 m*	*Not controlled due to the Medium Bushfire Risk of the locality and the distance between the tree and a dwelling being <20 metres
54	Exocarpos cupressiformis	native cherry	0.79 m	Not controlled
55	Acacia dealbata	silver wattle	1.18 m	Not controlled
56	Eucalyptus obliqua	messmate stringybark	Approx. 3.40 m*	*Not controlled due to the Medium Bushfire Risk of the locality and the distance between the tree and a dwelling being <20 metres
57	Cordyline australis	cabbage tree	Multi-stemmed	Not controlled



*Figure 2. Significant & regulated trees.* The 57 assessed trees included in my February 2018 arboricultural assessment, indicating their legal status as defined by the Development Act 1993 (also see Table 1). Trees 2, 6, 12 and 13 are no longer present on the site.

- *Blue* = *Significant as defined by the* Development Act 1993.
- *Green* = *Regulated as defined by the* Development Act 1993.
- *Clear* = *Non-controlled* as *defined* by the Development Act 1993.

#### 5.0 NATIVE VEGETATION ACT 1991

In accordance with the *Native Vegetation Regulations 2017* under the *Native Vegetation Act 1991:* 

- A total of 36 of the trees are <u>protected</u> under the *Native Vegetation Act 1991*, being remnant or semi-remnant trees of species indigenous to the site, <u>and</u> not being exempt by virtue of their dead status and trunk circumference, or their distance to a building.
- The remaining 17 trees on the site are <u>not protected</u> under the *Native Vegetation Act 1991*, being planted or self-seeded trees of species that are not indigenous to the site, <u>or</u> being exempt by virtue of their dead status and trunk circumference, or their distance to a building.

The protected status of the trees according to the *Native Vegetation Regulations 2017* under the *Native Vegetation Act 1991* is indicated in Table 2 and is graphically indicated in Figure 3. The removal of trees protected under the *Act* may require Council notification or approval.

Table 2. Origin, age Native Vegetation Act 1991. The 53 trees, indicating the tree
number, scientific name, natural distribution of the species, tree origin, estimated tree
age (as of 2018), and legal protection of the tree under the Native Vegetation Act
1991 as of February 2018.

Tree	Scientific name	Natural distribution of species	Origin	Age (years)	Protected under Native Vegetation Act (1991)
1	Acacia melanoxylon	Locally indigenous	Remnant / semi-remnant	30 - 60	Yes
3	Cupressus macrocarpa	North America	Planted / self-seeded weed	15 - 25	No
4	Eucalyptus obliqua	Locally indigenous	Semi-remnant	25 - 50	Yes
5	Pinus radiata	North America	Planted / self-seeded weed	25 - 45	No
7	Eucalyptus obliqua	Locally indigenous	Semi-remnant	25 - 50	No (dead, trunk circ. <2 m)
8	Acacia elata	Eastern Australia	Planted	25 - 50	No
9	Eucalyptus obliqua	Locally indigenous	Semi-remnant	25 - 50	Yes
10	Eucalyptus obliqua	Locally indigenous	Remnant / semi-remnant	30 - 60	Yes
11	Eucalyptus obliqua	Locally indigenous	Semi-remnant	25 - 50	No (dead, trunk circ. <2 m)
14	Acacia floribunda	Qld, NSW & Vic, Australia	Planted	25 - 50	No
15	Pinus radiata	North America	Planted / self-seeded weed	30 - 60	No
16	Exocarpos cupressiformis	Locally indigenous	Remnant / semi-remnant	30 - 60	Yes
17	Eucalyptus obliqua	Locally indigenous	Semi-remnant	20 - 40	Yes
18	Eucalyptus obliqua	Locally indigenous	Semi-remnant	25 - 50	Yes
19	Acacia floribunda	Qld, NSW & Vic, Australia	Planted	25 - 50	No
20	Acacia howittii	Vic, Australia	Planted	20 - 40	No
21	Pittosporum undulatum	Qld, NSW & Vic, Australia	Planted / self-seeded weed	12 - 25	No

Tree	Scientific name	Natural distribution of species	Origin	Age (years)	Protected under Native Vegetation Act (1991)
22	Eucalyptus kitsoniana	Vic, Australia	Planted	20 - 40	No
23	Eucalyptus obliqua	Locally indigenous	Semi-remnant	20 - 40	Yes
24	Eucalyptus obliqua	Locally indigenous	Remnant / semi-remnant	30 - 60	No (moderate to high risk to safety)
25	Acacia baileyana	NSW, Australia	Planted	20 - 40	No
26	Eucalyptus obligua	Locally indigenous	Semi-remnant	30 - 60	Yes
27	Exocarpos cupressiformis	Locally indigenous	Semi-remnant	25 - 50	Yes
28	Acacia fimbriata	Qld & NSW, Australia	Planted	25 - 50	No
29	Eucalyptus obliqua	Locally indigenous	Semi-remnant	25 - 50	Yes
30	Eucalyptus obliqua	Locally indigenous	Semi-remnant	25 - 50	Yes
31	Eucalyptus obliqua	Locally indigenous	Semi-remnant	25 - 50	Yes
32	Eucalyptus obliqua	Locally indigenous	Semi-remnant	25 - 50	Yes
33	Eucalyptus obliqua	Locally indigenous	Semi-remnant	25 - 50	Yes
34	Eucalyptus obliqua	Locally indigenous	Semi-remnant	25 - 50	Yes
35	Eucalyptus obliqua	Locally indigenous	Semi-remnant	25 - 50	Yes
36	Eucalyptus obliqua	Locally indigenous	Semi-remnant	25 - 50	Yes
37	Acacia melanoxylon	Locally indigenous	Semi-remnant	25 - 50	Yes
38	Eucalyptus obliqua	Locally indigenous	Remnant / semi-remnant	35 - 70	Yes
39	Eucalyptus obliqua	Locally indigenous	Semi-remnant	25 - 50	Yes
40	Acacia melanoxylon	Locally indigenous	Semi-remnant	25 - 50	Yes
41	Acacia melanoxylon	Locally indigenous	Semi-remnant	25 - 50	Yes
42	Pittosporum undulatum	Qld, NSW & Vic, Australia	Planted / self-seeded weed	25 - 50	No
43	Eucalyptus obliqua	Locally indigenous	Semi-remnant	30 - 60	Yes
44	Eucalyptus obliqua	Locally indigenous	Semi-remnant	30 - 60	Yes
45	Eucalyptus obliqua	Locally indigenous	Semi-remnant	30 - 60	Yes
46	Eucalyptus obliqua	Locally indigenous	Semi-remnant	30 - 60	Yes
47	Eucalyptus obliqua	Locally indigenous	Remnant / semi-remnant	35 - 70	Yes
<b>48</b>	Acacia melanoxylon	Locally indigenous	Semi-remnant	25 - 50	Yes
49	Acacia melanoxylon	Locally indigenous	Semi-remnant	25 - 50	Yes
50	Acacia melanoxylon	Locally indigenous	Semi-remnant	25 - 50	Yes
51	Acacia melanoxylon	Locally indigenous	Semi-remnant	25 - 50	Yes
52	Acacia melanoxylon	Locally indigenous	Remnant / semi-remnant	30 - 60	Yes
53	Eucalyptus obliqua	Locally indigenous	Remnant / semi-remnant	35 - 70	Yes
54	Exocarpos cupressiformis	Locally indigenous	Semi-remnant	25 - 50	Yes
55	Acacia dealbata	NSW, Vic & Tas, Australia	Planted / self-seeded weed	18 - 35	No
56	Eucalyptus obliqua	Locally indigenous	Remnant / semi-remnant	35 - 70	Yes
57	Cordyline australis	New Zealand	Planted	20 - 40	No



*Figure 3. Protected native vegetation.* The 57 assessed trees included in my February 2018 arboricultural assessment, indicating their status as defined by the Native Vegetation Act 1991. Trees 2, 6, 12 and 13 are no longer present on the site.

*Green* = *Protected under the* Native Vegetation Act 1991. *Clear* = *Not protected under the* Native Vegetation Act 1991.

#### 6.0 TREE ORIGIN and AGE

The origin and estimated age (in years) of each of the 53 trees is indicated in Table 2 and is graphically indicated in Figure 3. The natural distribution for the species of each tree is also provided in Table 2. The following categories of tree origin were assigned to each tree:

#### <u>Remnant</u> – No trees

Defined as trees that *certainly* pre-date European settlement and development of the site.

#### <u>Remnant/semi-remnant</u> - 9 trees

Trees which are locally indigenous and *may* pre-date European settlement and development of the locality.

The 10 trees represent the species *Acacia melanoxylon* (blackwood), *Exocarpos cupressiformis* (native cherry) and *Eucalyptus obliqua* (messmate stringybark). They range in age from 30 to 70 years old.

#### <u>Semi-remnant</u> – 30 trees

Defined as trees that are naturally seeded but probably post-date European settlement and development of the site.

The 31 trees represent the species *Acacia melanoxylon* (blackwood), *Exocarpos cupressiformis* (native cherry) and *Eucalyptus obliqua* (messmate stringybark). They range in age from 20 to 60 years old.

#### Planted - 8 trees

Purposefully planted trees.

Planted trees included in this report range in estimated age from 20 to 50 years old.

#### <u>Planted / Self-seeded weed</u> – 6 trees

Trees that are exotic to the locality and have either been planted or have selfestablished in a weedy manner.

#### <u>Self-seeded weed</u> – No trees

Trees that are exotic to the locality and have certainly self-established in a weedy manner.

#### 7.0 TREE HEALTH

All assessed trees were given an overall current health rating, relating to the health status, health trend, and vigour of the tree (see Table 3).

Excellent:No trees.Above average:14 trees.Average:22 trees.Below average:6 trees.Poor:8 trees.Dead:3 trees.

The current health status of the tree does not necessarily directly relate to the life expectancy of the tree, especially where tree health is related to seasonal factors or recent climatic conditions.

#### 8.0 FURTHER USEFUL LIFE EXPECTANCY

The further Useful Life Expectancy is based on the characteristics and growing requirements of different species and the current health and health trend of each individual. Life expectancy figures are of projected years of useful life from now onwards, not of total tree life-span.

Eight of the trees have a further life expectancy of <u>a minimum of 20 years (20+ years)</u>.

23 of the trees have a further life expectancy of less than 20 years.

The remaining 22 trees have a further life expectancy of potentially more than 20 years but possibly much less, depending on future environmental conditions.

#### 9.0 **BIODIVERSITY VALUE**

The 53 trees were each assigned an overall biodiversity value (see Table 3), relating to the direct biodiversity value of the tree itself (its species, rarity in the region, etc.) and relating to indirect biodiversity value of the tree (habitat value, presence of habitable faunal hollows, etc.). The following values were assigned to each tree:

#### <u>Very high</u> – No trees

Reproductively mature, remnant trees of species indigenous to the site and with habitable faunal hollows have been assigned a high biodiversity value.

#### High – 36 trees

Reproductively mature trees of species indigenous to the site have been assigned a high biodiversity value.

These 36 trees represent mature individuals of *Acacia melanoxylon* (blackwood), *Exocarpos cupressiformis* (native cherry) and *Eucalyptus obliqua* (messmate stringybark) that lack avian-habitable hollows.

#### Moderate - 11 trees

Locally exotic Australian native species have been assigned a moderate biodiversity value. Reproductively immature trees of species indigenous to the site have also been assigned a moderate biodiversity value.

#### Low - 1 tree (*Tree 57*)

Non-Australian native species with some value as feed trees to native fauna have been assigned a low biodiversity value.

#### <u>Negligible</u> – No trees

Most conifers and winter-deciduous trees originating from the northern hemisphere have been assigned a negligible biodiversity value.

#### <u>Invasive</u> – 5 trees

Tree have been designated invasive if the species is known to be weedy in natural environmental in the local area.

These 5 trees represent individuals of the species *Cupressus macrocarpa* (Monterey cypress), *Pinus radiata* (Monterey pine) and *Pittosporum undulatum* (sweet pittosporum).

#### **10.0 LANDSCAPE VALUE**

The 53 audited trees were each assigned an overall landscape value (see Table 3), relating to the conspicuousness of the tree in the landscape and the more subjective aesthetic appeal of the tree. The following landscape values were assigned to each tree:

Very high:	1 trees ( <i>Tree 15</i> ).
<u>High</u> :	7 trees.
Moderate to high:	6 trees.
Moderate:	13 trees.
Low to moderate:	12 trees.
Low:	14 trees

**Table 3. Health, life expectancy, biodiversity and landscape values.** The 53 trees assessed, indicating the tree number, scientific name, origin, age, current health, projected further Useful Life Expectancy, biodiversity value and landscape value of each tree, as of February 2018.

			Useful Life	D'. 1'	
Tree	Scientific name	Health	Expectancy (vears)	value	Landscape value
1	Acacia melanoxylon	Average	10 - 20+	High	Low to moderate
3	Cupressus macrocarpa	Above average	20+	Invasive	Moderate
4	Eucalyptus obliqua	Poor	< 5	High	Moderate
5	Pinus radiata	Above average	< 20	Invasive	High
7	Eucalyptus obliqua	Dead	0	Moderate	Low
8	Acacia elata	Average	10 - 20	Moderate	Low to moderate
9	Eucalyptus obliqua	Poor	<5 - 10	High	Moderate
10	Eucalyptus obliqua	Poor	<5 - 10	High	High
11	Eucalyptus obliqua	Dead	0	Moderate	Low
14	Acacia floribunda	Average	<10 - 20	Moderate	Moderate
15	Pinus radiata	Above average	<20	Invasive	Very high
16	Exocarpos cupressiformis	Above average	10 - 20+	High	Low
17	Eucalyptus obliqua	Average	10 - 20+	High	Moderate
18	Eucalyptus obliqua	Average	10 - 20+	High	Moderate to high
19	Acacia floribunda	Average	<10 - 20	Moderate	Moderate
20	Acacia howittii	Poor	<2	Moderate	Low
21	Pittosporum undulatum	Above average	10 - 20+	Invasive	Low
22	Eucalyptus kitsoniana	Below average	<5	Moderate	Low to moderate
23	Eucalyptus obliqua	Average	10 - 20+	High	Low to moderate
24	Eucalyptus obliqua	Dead	0	Moderate	Moderate
25	Acacia baileyana	Below average	<5	Moderate	Low to moderate
26	Eucalyptus obliqua	Average	10 - 20+	High	Moderate to high

Tree	Scientific name	Health	Useful Life Expectancy (years)	Biodiversity	Landscape value
27	Exocarpos cupressiformis	Average	20+	High	Low
28	Acacia fimbriata	Poor	0	Moderate	Low
29	Eucalyptus obliqua	Below average	<10 - 20	High	Low to moderate
30	Eucalyptus obliqua	Average	10 - 20+	High	Moderate to high
31	Eucalyptus obliqua	Below average	<5 - 10	High	Low
32	Eucalyptus obliqua	Below average	10 - 20+	High	Moderate to high
33	Eucalyptus obliqua	Above average	10 - 20+	High	Moderate
34	Eucalyptus obliqua	Average	10 - 20+	High	Moderate to high
35	Eucalyptus obliqua	Average	10 - 20+	High	Moderate
36	Eucalyptus obliqua	Above average	10 - 20+	High	High
37	Acacia melanoxylon	Average	10 - 20+	High	Low to moderate
38	Eucalyptus obliqua	Below average	<10 - 20	High	Moderate to high
39	Eucalyptus obliqua	Average	10 - 20+	High	Moderate
40	Acacia melanoxylon	Above average	20+	High	Low to moderate
41	Acacia melanoxylon	Average	20+	High	Low
42	Pittosporum undulatum	Average	0	Invasive	Low
43	Eucalyptus obliqua	Poor	<2 - 5	High	Moderate to high
44	Eucalyptus obliqua	Poor	<10 - 20	High	Low to moderate
45	Eucalyptus obliqua	Average	10 - 20+	High	High
46	Eucalyptus obliqua	Poor	<5 - 10	High	Moderate to high
47	Eucalyptus obliqua	Average	10 - 20+	High	High
48	Acacia melanoxylon	Above average	20+	High	Low to moderate
49	Acacia melanoxylon	Average	20+	High	Low
50	Acacia melanoxylon	Average	10 - 20+	High	Low
51	Acacia melanoxylon	Average	10 - 20+	High	Low
52	Acacia melanoxylon	Above average	20+	High	Low to moderate
53	Eucalyptus obliqua	Average	10 - 20+	High	High
54	Exocarpos cupressiformis	Above average	20+	High	Low to moderate
55	Acacia dealbata	Above average	<5 - 10	Moderate	Moderate
56	Eucalyptus obliqua	Above average	10 - 20+	High	High
57	Cordyline australis	Above average	10 - 20+	Low	Low

#### **11.0 TREE STRUCTURE**

A rating of the overall structure of each tree is provided in Table 4. Tree structure considers the trunk lean and crown weighting, significant structural defects, atypical basal and trunk characteristics, undesirable or atypical crown characteristics, and dead material present in the crown of the trees, among other attributes. The breakdown of tree structure categories follows:

Excellent:	No trees
Above average	9 trees
Average	23 trees
Below average	13 trees
Poor	6 trees
Very poor	2 trees

The general tree structure does not always directly relate to the risk that the tree represents to personal safety. This is partly because the risk that the tree represents is correlated to the under-crown utilisation of the site as well as the structure of the tree.

Some of the structural defects and undesirable crown characteristics can be mitigated or managed through appropriate maintenance pruning and/or selective crown pruning.

#### 12.0 RISK to PERSONAL SAFETY

The 53 trees were assessed for their current risk to personal safety. The risk associated with each tree is determined by assessing the *likelihood* of structural failure of the tree and parts of the tree, and determining the *consequence* in the case of structural failure of the tree.

The risk to personal safety and to damage property associated with each tree is partly related to tree structure, although some trees of poor structure may have a relatively low risk (especially in small trees or where the under-crown utilisation of the site is low), and some trees of sound structure may have a relatively higher risk (especially in very large trees, where the under-crown utilisation is high, and in species subject to sudden branch failure events). One of the following risk categories was assigned to each tree (see Table 4):

Very low:	3 trees	Acceptable
Low:	21 trees	1
Low to moderate:	23 trees	
Moderate:	4 trees	
Moderate to high:	2 trees	$\checkmark$
<u>High</u> :	No trees	Unacceptable

Trees with an elevated risk to safety do not necessarily require removal. Risk reduction techniques, which may include selective crown pruning, branch cabling, personal exclusion zones and engineering solutions, may in some cases adequately reduce the risk of some trees to a lower and/or an acceptable level.

Tree	Scientific name	Tree structure	Current risk
1	Acadia melanomilon	Dalauraraga	to personal safety
1		A hove average	Low
3	Eughyptus obligua	Auerage	Low to moderate
5	Pinus radiata	Average Above average	Low to moderate
3	Fucabintus obligua	Poor	Moderate to high
8	Acacia elata	Below average	L ow to moderate
0	Fucabinities obligua	Below average	Low to moderate
10	Eucalyptus obliqua	Below average	Low to moderate
10	Eucalyptus obliqua	Below average	Moderate
11	Acacia floribunda	Relow average	L ow to moderate
14	Pinus radiata	Above average	Low to moderate
15	Froegenos curessiformis	Relow average	Low to moderate
10	Exocurpos cupressijormis	Below average	Low
17	Eucalyptus obliqua	Average	Low to moderate
10	Acacia floribunda	Average	Low to moderate
20	Acacia howittii	Poor	Low to moderate
20	Acacia nowillii Pittosporum undulatum	Above average	Very low
21	Fucabilities kitsoniana	Poor	Low
22	Eucalyptus kitsoniana	Average	Low
23	Eucalyptus obliqua	Rvelage	Low Moderate to high
24	Lucalypius obliqua	Polow average	L ow
25	Acacia balleyana	A hove average	Low to moderate
20	Eucalypius obliqua	Above average	Low to moderate
27	Acadia fimbuiata	Average Versurger	Very IOW Moderate
28	Acacia jimbriaia	Deleve evere ee	Moderate
29	Eucalypius obliqua	A sugge	Low to moderate
30	Eucalypius obligua	Average Delew everage	Low to moderate
31	Eucalyptus obligua	A vorage	Low
32	Eucalyptus obliqua	Average	Low to moderate
33	Eucalyptus obliqua	Average	Low to moderate
34	Eucalyptus obligua	Average	Low to moderate
35	Eucalyptus obligua	Average	Low to moderate
30	Lucalypius obliqua	Average	Low to moderate
3/	Acacia melanoxylon	Average	Low to moderate
30	Eucalyptus obliqua	Average	Low to moderate
39	Lucarypius obliqua	Average Above everage	Low
40	Acacia melanoxylon	Auoraga	Low
41	Pittosporum undulatum	Very poor	Low to moderate
42	Fucabotus obligua	Relow average	Low to moderate
43	Eucalyptus obliqua	Poor	Moderate
44	Eucalyptus obliqua		Low to moderate
45	Eucalyptus obliqua	Average	Low to moderate
40	Eucalyptus obliqua	Average	Low to moderate
4/	Lucarypius obliqua	Average	Low to moderate
40	Acacia melanomilar	Autorage	LOW
47	Γ Αυασία πειαποχνίοπ	AVEIASE	LOW

**Table 4. Structure and risk**. The 53 trees, indicating the tree number, abbreviated scientific name, tree structure, and current risk to personal safety, as of February 2018.

Tree	Scientific name	Tree structure	Current risk to personal safety
50	Acacia melanoxylon	Below average	Low
51	Acacia melanoxylon	Below average	Low
52	Acacia melanoxylon	Above average	Low
53	Eucalyptus obliqua	Average	Low to moderate
54	Exocarpos cupressiformis	Above average	Low

#### **13.0 RETENTION VALUE**

The retention value reflects the overall 'value' of the tree. The 53 trees were each included in one of five retention value categories based on the following data recorded for each tree:

- Legal status (*or* trunk circumference for trees exempted due to their species or proximity to a dwelling);
- Tree origin;
- Current health;
- Further life expectancy;
- Biodiversity value;
- Landscape value;
- Tree structure; and
- Risk to safety

Each tree was scored for each of these eight characteristics, as indicated in Table 5. The sum of scores for each tree provides a total score for each tree (see Table 6). The higher the total score, the more valuable the tree. Total score for each tree can vary from -110 (lowest point value for all eight characteristics) to 80 points (highest point value for all eight characteristics).

*Table 5. Scoring for retention value.* The characteristics and character states used to score each tree to determine its retention value.

Legal status	Significant		Regulated		Other			
	Score: 10		Score: 5		Score: 0			
Origin	Remnant	Remnant/semi	Semi-remnant	Semi- / planted	Planted	Planted / weed	Weed	
	Score: 10	Score: 8	Score: 5	Score: 3	Score: 0	Score: -5	Score: -10	
Health	Excellent	Above average	Average	Below average	Poor		Very poor	Dead
	Score: 10	Score: 8	Score: 5	Score: 3	Score: 0		Score: -10	Score: -20
Further life	30+ years	20+ years	10–20+ years	10–20 years	<10–20	<5–10 yrs	<5 years	<2 yrs
expectancy	Score: 10	Score: 8	Score: 5	Score: 2	yrs	Score: -5	Score: -10	Score: -20
					Score: 0			
Biodiversity	Very high	High	Moderate	Low	Negligible		Invasive	
	Score: 10	Score: 8	Score: 5	Score: 2	Score: 0		Score: -10	
Landscape	Very high	High	Mod to high	Moderate	Low to		Low	
	Score: 10	Score: 8	Score: 5	Score: 3	mod		Score: -10	
					Score: 0			
Structure	Excellent		Above average		Average	Below average	Poor	Very poor
	Score: 10		Score: 5		Score: 0	Score: -5	Score: -10	Score: -20
Risk to	Very low	Low	Low to mod		Moderate	Mod to high	High	Very high
safety	Score: 10	Score: 7	Score: 4		Score: 0	Score: -5	Score: -10	Score: -20

#### Priority 1A trees - Very highly worthy of retention

Total score of >60 points. Remnant or semi-remnant trees in sound health, with a long life expectancy, of superior structure, and with a significant biodiversity value and landscape value.

Priority 1A trees are relatively rare and should be retained by appropriate development design and construction.

None of the trees are assessed as Priority 1A trees.

#### Priority 1 trees - Highly worthy of retention

Total score of 45 to 60 points. Trees in sound health and/or with a long life expectancy, of generally sound structure (or where defects can be practically mitigated or managed), and usually with a significant biodiversity value and/or landscape value.

Priority 1 trees should be retained by appropriate development design and construction.

4 of the trees are assessed as Priority 1 trees.

#### Priority 2 trees - Moderately worthy of retention

Total score of 30 to 44 points. Trees in sound healthy and/or with an expected moderate to long-life expectancy, of reasonable structure (or where defects can be mostly mitigated or managed), and of moderate to high biodiversity value and/or landscape value.

Priority 2 trees should be retained wherever possible, by appropriate development design and construction.

15 of the trees are assessed as Priority 2 trees, including 4 regulated trees as defined by the Development Act 1993.

#### Priority 3 trees - Scarcely worthy of retention

Total score of 10 to 29 points. Trees often of reduced health and/or having a short to moderate life expectancy, and/or may have some structural flaws, and are generally of lower biodiversity value and/or lower landscape value.

Priority 3 trees should not constrain site development but may be retained if the proposed design and construction allows.

22 of the trees are assessed as Priority 3 trees, including 1 significant tree as defined by the Development Act 1993.

#### Priority 4 trees - Not worthy of retention

Total score of <10 points. Trees in poor health and/or having a short life expectancy, and/or have significant structural flaws that cannot be practically mitigated or managed, and/or are of no of little biodiversity value and/or landscape value.

Priority 4 trees should not constrain site development and should be removed in the case of site development, even if they do not constrain site development.

12 of the trees are assessed as Priority 4 trees, including 1 significant tree and 1 regulated tree as defined by the Development Act 1993.

**Table 6. Retention value.** The 53 trees, indicating the tree number, scientific name, scores for Legal status/trunk circumference, Origin, Health, Further Useful Life Expectancy, Structure, Risk to safety, Biodiversity Value and Landscape Value, Total score, and Retention Value (using total scores) for each tree, as of February 2018. Trees are colour-coded according to their retention value, and to match the tree mapping in Figure 4.

Tree	Scientific name	Le; Use	Scores for: Legal status/trunk circ., Origin, Health, Further Useful Life Expectancy, Structure, Risk to safety, Biodiversity value, Landscape value								<b>Retention value</b> (using the total score for each tree)
1	Acacia melanoxylon	0	8	5	5	-5	7	8	0	28	P3 - Scarcely worthy of retention
3	Cupressus macrocarpa	0	-5	8	8	5	7	-10	3	16	P3 - Scarcely worthy of retention
4	Eucalyptus obliqua	0	5	0	-10	0	4	8	3	10	P3 - Scarcely worthy of retention
5	Pinus radiata	0	-5	8	2	5	4	-10	8	12	P3 - Scarcely worthy of retention
7	Eucalyptus obliqua	0	5	-10	-20	-10	-5	5	-10	-45	P4 - Not worthy of retention
8	Acacia elata	0	0	5	2	-5	4	5	0	11	P3 - Scarcely worthy of retention
9	Eucalyptus obliqua	0	5	0	-5	-5	4	8	3	10	P3 - Scarcely worthy of retention
10	Eucalyptus obliqua	0	8	0	-5	-5	4	8	8	18	P3 - Scarcely worthy of retention
11	Eucalyptus obliqua	0	5	-10	-20	-10	0	5	-10	-40	P4 - Not worthy of retention
14	Acacia floribunda	0	0	5	0	-5	4	5	3	12	P3 - Scarcely worthy of retention
15	Pinus radiata	10	-5	8	2	5	4	-10	10	24	P3 - Scarcely worthy of retention
16	Exocarpos cupressiformis	0	8	8	5	-5	7	8	-10	21	P3 - Scarcely worthy of retention
17	Eucalyptus obliqua	0	5	5	5	-5	7	8	3	28	P3 - Scarcely worthy of retention
18	Eucalyptus obliqua	0	5	5	5	0	4	8	5	32	P2 - Moderately worthy of retention
19	Acacia floribunda	0	0	5	0	0	7	5	3	20	P3 - Scarcely worthy of retention
20	Acacia howittii	0	0	0	-20	-10	4	5	-10	-31	P4 - Not worthy of retention
21	Pittosporum undulatum	0	-5	8	5	5	10	-10	-10	3	P4 - Not worthy of retention
22	Eucalyptus kitsoniana	0	0	3	-10	-10	7	5	0	-5	P4 - Not worthy of retention
23	Eucalyptus obliqua	0	5	5	5	0	7	8	0	30	P2 - Moderately worthy of retention
24	Eucalyptus obliqua	5	8	-10	-20	-10	-5	5	3	-24	P4 - Not worthy of retention
25	Acacia baileyana	0	0	3	-10	-5	7	5	0	0	P4 - Not worthy of retention
26	Eucalyptus obliqua	5	5	5	5	5	4	8	5	42	P2 - Moderately worthy of retention
27	Exocarpos cupressiformis	0	5	5	8	0	10	8	-10	26	P3 - Scarcely worthy of retention
28	Acacia fimbriata	0	0	0	-20	-20	0	5	-10	-45	P4 - Not worthy of retention
29	Eucalyptus obliqua	0	5	3	0	-5	4	8	0	15	P3 - Scarcely worthy of retention
30	Eucalyptus obliqua	5	5	5	5	0	4	8	5	37	P2 - Moderately worthy of retention
31	Eucalyptus obliqua	0	5	3	-5	-5	7	8	-10	3	P4 - Not worthy of retention

Tree	Scientific name	Le; Use	Scores for: Legal status/trunk circ., Origin, Health, Further Useful Life Expectancy, Structure, Risk to safety, Biodiversity value, Landscape value								<b>Retention value</b> (using the total score for each tree)
32	Eucalyptus obliqua	0	5	3	5	0	4	8	5	30	P2 - Moderately worthy of retention
33	Eucalyptus obliqua	0	5	8	5	0	4	8	3	33	P2 - Moderately worthy of retention
34	Eucalyptus obliqua	0	5	5	5	0	4	8	5	32	P2 - Moderately worthy of retention
35	Eucalyptus obliqua	0	5	5	5	0	7	8	3	33	P2 - Moderately worthy of retention
36	Eucalyptus obliqua	0	5	8	5	0	4	8	8	38	P2 - Moderately worthy of retention
37	Acacia melanoxylon	0	5	5	5	0	7	8	0	30	P2 - Moderately worthy of retention
38	Eucalyptus obliqua	0	8	3	0	0	4	8	5	28	P3 - Scarcely worthy of retention
39	Eucalyptus obliqua	0	5	5	5	0	7	8	3	33	P2 - Moderately worthy of retention
40	Acacia melanoxylon	0	5	8	8	5	7	8	0	41	P2 - Moderately worthy of retention
41	Acacia melanoxylon	0	5	5	8	0	7	8	-10	23	P3 - Scarcely worthy of retention
42	Pittosporum undulatum	0	-5	5	-20	-20	4	-10	-10	-56	P4 - Not worthy of retention
43	Eucalyptus obliqua	0	5	0	-10	-5	4	8	5	7	P4 - Not worthy of retention
44	Eucalyptus obliqua	0	5	0	0	-10	0	8	0	3	P4 - Not worthy of retention
45	Eucalyptus obliqua	5	5	5	5	0	4	8	8	40	P2 - Moderately worthy of retention
46	Eucalyptus obliqua	10	5	0	-5	0	0	8	5	23	P3 - Scarcely worthy of retention
47	Eucalyptus obliqua	5	8	5	5	0	4	8	8	43	P2 - Moderately worthy of retention
48	Acacia melanoxylon	0	5	8	8	5	7	8	0	41	P2 - Moderately worthy of retention
<b>49</b>	Acacia melanoxylon	0	5	5	8	0	7	8	-10	23	P3 - Scarcely worthy of retention
50	Acacia melanoxylon	0	5	5	5	-5	7	8	-10	15	P3 - Scarcely worthy of retention
51	Acacia melanoxylon	0	5	5	5	-5	7	8	-10	15	P3 - Scarcely worthy of retention
52	Acacia melanoxylon	0	8	8	8	5	7	8	0	44	P1 - Highly worthy of retention
53	Eucalyptus obliqua	10	8	5	5	0	4	8	8	48	P1 - Highly worthy of retention
54	Exocarpos cupressiformis	0	5	8	8	5	7	8	0	41	P2 - Moderately worthy of retention
55	Acacia dealbata	0	-5	8	-5	0	7	5	3	13	P3 - Scarcely worthy of retention
56	Eucalyptus obliqua	10	8	8	5	0	4	8	8	51	P1 - Highly worthy of retention
57	Cordyline australis	0	0	8	5	0	10	2	-10	15	P3 - Scarcely worthy of retention



*Figure 4. Retention value.* The 57 assessed trees included in my February 2018 arboricultural assessment, colour-coded according to their retention value. Trees 2, 6, 12 and 13 are no longer present on the site.

Purple	= Priority 1A trees –	Very highly worthy of retention;
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- *Blue* = *Priority 1 trees Highly worthy of retention;*
- *Green* = *Priority 2 trees Moderately worthy of retention;*
- *Yellow* = *Priority 3 trees Scarcely worthy of retention;*
- **Red** = Priority 4 trees Not worthy of retention.
## 14.0 TREE PROTECTION ZONES (TPZs)

The Tree Protection Zone (TPZ) relates to the *root system of a tree*, and is necessary to *maintain the health of the tree* during and following the proposed development of the site, by limiting construction activities and machinery access within the TPZ and limiting the root damage to the tree.

The Tree Protection Zone does not indicate the root extent (root spread) of a tree, as the root extent is usually greater than the TPZ for most trees. The TPZ merely designates the area in which soil disturbance must be minimised (and therefore root damage minimised) in order to maintain the health, longevity and stability of the tree.

A Tree Protection Zone is not a 'sterile zone' or an 'exclusion zone' for all activities and development, but instead defines the area around the tree in which tree-sensitive design and construction techniques *must* be employed, in order to maintain the health, longevity and structure of the tree.

The TPZs recommended here have been calculated using a method that conforms to the *Australian Standard for the Protection of Trees on Development Sites (AS 4970)*. The Australian Standard allows for the use of species- and tree-specific data to modify the factorial (up or down) to be more specific to the tree being assessed; i.e. relating to the tolerance of the species to soil disturbance and the age class of the tree for its species. The adjustment of the factorial from a minimum of 6 (for young trees of species highly tolerant of soil disturbance) to a maximum of 18 (for old trees of species highly susceptible to soil disturbance) will result in a larger or smaller TPZ for individual tree have not been taken into account. The input data used to calculate the Tree Protection Zone for each of the 53 trees is detailed in Table 7.

Tree Protection Zones are capped at a minimum of 2.0 metres from the centre of the tree (in accordance with *AS 4970*), regardless of whether the calculated TPZ is actually smaller than this figure. Likewise, the TPZs have been capped at a maximum of 15.0 metres from the centre of the tree (in accordance with *AS 4970*), regardless of whether the calculated TPZ is actually larger than this figure. All TPZ distances are a minimum distance required (in metres) from the centre (trunk) of the tree at natural ground level.

## *The capped Tree Protection Zone for each tree (except Priority 4 trees – Not worthy of retention) is provided in Table 7.*

Encroachment of up to 10% of the <u>area</u> of the TPZ is acceptable provided the encroached area of TPZ is gained elsewhere on the subject site and adjoining the outer edge of the TPZ. Encroachment within more than 10% of the area of the recommended TPZ may detrimentally affect the health of the tree by extensively severing or otherwise damaging the root system of the tree. Pre-existing developed areas within the calculated TPZ radius are also exempt from the effective TPZ area.

Activities that should be <u>excluded</u> from the TPZ include any mechanical soil removal (excavation), deposition (storage of fill) or cultivation (disturbance) associated with the proposed development, whether for earthworks, trenching, landscaping, or other associated works.

Non-linear fence or pylon footings (i.e. bored pier/post holes and screw-pile piers) are acceptable within the TPZ. As such, structures constructed using pier and beam footings are possible within the TPZ. Other structures and construction activities within the TPZ (such as residential driveways, footpaths, roadways, built-form structures, etc.) may be acceptable in some cases, provided tree-sensitive design and construction methods are employed, which may include:

- 1. Laying services within piping or conduits <u>under</u> the TPZ using directional under-boring.
- 2. Construction of hard surfaces (including roadways, driveways, footpaths and floors) <u>over</u> existing soil levels (to avoid the excavation of natural soil) and using structural soil as fill and open-sealed or permeable paving where necessary.
- 3. Pier & beam or screw-pile constructed structures that do not require areaexcavation (cut) or linear-excavation (trenching) of soil.
- 4. Hand excavation in association with other root-sensitive excavation (e.g. a soil vacuum) to enable larger-sized roots to be retained in-situ. Such excavation is usually used as an exploratory method to ascertain the location and depth of larger-sized roots, which may dictate the required levels/positions of infrastructure.
- 5. Like-for-like replacement of any exiting surfaces or structures in the TPZ with new surfaces or structures constructed in the same position where within the TPZ.

## 15.0 HIGH USE SETBACKS (HUSs)

The High Use Setback (HUS) relates to the *crown of a tree*, and is recommended to *maintain an acceptable level of risk to property and to safety from the subject tree* following the development of the site.

Recommended minimum high use setbacks are formulated using numerous factors, including:

- Tree species and species characteristics including root structure, canopy characteristics and failure tendency;
- Current tree size and structure;
- Trunk habit and canopy weighting;
- Anticipated future tree size and structure under existing and proposed conditions;
- Anticipated site use.

## *The High Use Setback for each tree (except Priority 4 trees – Not worthy of retention) is listed in Table 7.*

High Use Setbacks may vary from one side of a tree to the other due to the trunk lean, crown weighting and other crown characteristics of the tree, as well as the topography of the site.

Encroachment of private open space and residential structures into the High Use Setback is likely to increase the risk to safety associated with a tree to an unacceptable level over the long-term (i.e. following any development of the site). All parts of residential dwellings, and at least 50% of the private open space for each residence, should occur outside of the HUS, with highest-use areas preferentially located outside of the HUS.

**Table 7. Tree Protection Zones & High Use Setbacks.** The 53 trees, indicating the abbreviated species name, retention worthiness, trunk Diameter at Breast Height (DBH, single-trunk equivalent), species soil disturbance tolerance, tree maturity, TPZ calculation factorial, Capped Tree Protection Zone (TPZ) and the High Use Setback (HUS) for each tree, as of February 2018. Trees are colour coded according to their retention worthiness, and to match the tree mapping in Figure 4.

Tree	Abbreviated species	Retention worthiness	DBH	Species soil disturbance tolerance	Tree maturity	TPZ factorial	Capped TPZ (TPZ)	High Use Setback (HUS)
1	A. melanoxylon	P3	0.280	Moderate	Mature	12	3.4 m radius	4.0 m radius to W hemi
3	Cupressus	P3	0.382	Moderate	Immature	9	3.4 m radius	10.0 m radius
4	E. obliqua	P3	0.318	Low	Immature to mature	13.5	4.3 m radius	10.0 m radius to W hemi
5	Pinus radiata	P3	0.541	Low	Immature to mature	13.5	7.3 m radius	18.0 m radius
7	E. obliqua	P4	N/a	N/a	N/a	N/a	N/a	N/a
8	A. elata	P3	0.302	Moderate	Mature	12	3.6 m radius	6.0 m radius
9	E. obliqua	P3	0.366	Low	Immature to mature	13.5	4.9 m radius	12.0 m radius to NE hemi, 5.0 m radius to SW hemi
10	E. obliqua	P3	0.605	Low	Immature to mature	13.5	8.2 m radius	15.0 m radius to E hemi, 5.0 m radius to W hemi
11	E. obliaua	P4	N/a	N/a	N/a	N/a	N/a	N/a
14	A. floribunda	P3	0.541	Moderate	Mature to old	13.5	7.3 m radius	10.0 m radius to N hemi, 6.0 m radius to S hemi
15	Pinus radiata	P3	1.114	Low	Mature	15	15.0 m radius	25.0 m radius
16	Exocarpos	P3	0.127	Moderate	Mature	12	2.0 m radius	Not required
17	E. obliaua	P3	0.255	Low	Immature	12	3.1 m radius	10.0 m radius to N hemi.
								4.0 m radius to S hemi
18	E. obliqua	P2	0.446	Low	Immature to mature	13.5	6.0 m radius	9.0 m radius
19	A. floribunda	P3	0.382	Moderate	Mature to	13.5	5.2 m radius	6.0 m radius to N hemi,
	U				old			4.0 m radius to S hemi
20	A. howittii	P4	N/a	N/a	N/a	N/a	N/a	N/a
21	P. undulatum	P4	N/a	N/a	N/a	N/a	N/a	N/a
22	E. kitsoniana	P4	N/a	N/a	N/a	N/a	N/a	N/a
23	E. obliqua	P2	0.271	Low	Immature	12	3.2 m radius	8.0 m radius to N hemi,
								4.0 m radius to S hem
24	E. obliqua	P4	N/a	N/a	N/a	N/a	N/a	N/a
25	A. baileyana	P4	N/a	N/a	N/a	N/a	N/a	N/a
26	E. obliqua	P2	0.700	Low	Immature to mature	13.5	9.5 m radius	9.0 m radius
27	Exocarpos	P3	0.159	Moderate	Mature	12	2.0 m radius	2.0 m to S hemi
28	A. fimbriata	P4	N/a	N/a	N/a	N/a	N/a	N/a
29	E. obliqua	P3	0.286	Low	Immature to mature	13.5	3.9 m radius	Not required to S hemi
30	E. obliqua	P2	0.567	Low	Immature to mature	13.5	7.7 m radius	4.0 m to S hemi
31	E. obliqua	P4	N/a	N/a	N/a	N/a	N/a	N/a
32	E. obliqua	P2	0.509	Low	Immature to mature	13.5	6.9 m radius	4.0 m to S hemi
33	E. obliqua	P2	0.318	Low	Immature to mature	13.5	4.3 m radius	2.0 m to S hemi
34	E. obliqua	P2	0.493	Low	Immature to mature	13.5	6.7 m radius	6.0 m to S hemi
35	E. obliqua	P2	0.446	Low	Immature to mature	13.5	6.0 m radius	3.0 m to S hemi
36	E. obliqua	P2	0.557	Low	Immature to mature	13.5	7.5 m radius	7.0 m to S hemi

Tree	Abbreviated species	Retention worthiness	DBH	Species soil disturbance tolerance	Tree maturity	TPZ factorial	Capped TPZ (TPZ)	High Use Setback (HUS)
37	A. melanoxylon	P2	0.247	Moderate	Immature to mature	10.5	2.6 m radius	4.0 m radius
38	E. obliqua	Р3	0.541	Low	Immature to mature	13.5	7.3 m radius	10.0 m radius to N hemi, 8.0 m radius to S hemi
39	E. obliqua	P2	0.414	Low	Immature to mature	13.5	5.6 m radius	10.0 m radius to N hemi, 6.0 m radius to S hemi
40	A. melanoxylon	P2	0.255	Moderate	Immature to mature	10.5	2.7 m radius	6.0 m radius
41	A. melanoxylon	P3	0.223	Moderate	Immature to mature	10.5	2.3 m radius	4.0 m radius
42	P. undulatum	P4	N/a	N/a	N/a	N/a	N/a	N/a
43	E. obliqua	P4	N/a	N/a	N/a	N/a	N/a	N/a
44	E. obliqua	P4	N/a	N/a	N/a	N/a	N/a	N/a
45	E. obliqua	P2	0.668	Low	Immature to mature	13.5	9.0 m radius	10.0 m radius
46	E. obliqua	P3	0.768	Low	Immature to mature	13.5	10.4 m radius	12.0 m radius
47	E. obliqua	P2	0.875	Low	Immature to mature	13.5	11.8 m radius	12.0 m radius
48	A. melanoxylon	P2	0.286	Moderate	Immature to mature	10.5	3.0 m radius	6.0 m radius
49	A. melanoxylon	P3	0.255	Moderate	Immature to mature	10.5	2.7 m radius	5.0 m radius
50	A. melanoxylon	P3	0.207	Moderate	Immature to mature	10.5	2.2 m radius	5.0 m radius
51	A. melanoxylon	P3	0.271	Moderate	Immature to mature	10.5	2.8 m radius	5.0 m radius
52	A. melanoxylon	P1	0.366	Moderate	Mature	12	4.4 m radius	6.0 m radius
53	E. obliqua	P1	1.082	Low	Immature to mature	13.5	14.6 m radius	11.0 m radius
54	Exocarpos	P2	0.239	Moderate	Mature	12	2.9 m radius	4.0 m radius
55	A. dealbata	P3	0.366	Moderate	Mature	12	4.4 m radius	6.0 m radius
56	E. obliqua	P1	0.955	Low	Immature to mature	13.5	12.9 m radius	12.0 m radius to NE hemi, 8.0 m radius to SW hemi
57	Cordyline	P3	0.127	High	Mature	9	2.0 m radius	Not required



*Figure 5. Arboricultural impact of the development. The 57 assessed trees included in my February 2018 arboricultural assessment, colour-coded according to their retention value (note that* Trees 2, 6, 12 *and* 13 *are no longer present on the site). The perimeter of the calculated Tree Protection Zones are also indicated for Priority 1, 2 and 3 trees.* 

Purple	= <i>Priority 1A trees</i> – <i>Very highly worthy of retention;</i>
Blue	= Priority 1 trees – Highly worthy of retention;
Green	= Priority 2 trees – Moderately worthy of retention;
Yellow	= Priority 3 trees – Scarcely worthy of retention;
Red	= Priority 4 trees – Not worthy of retention.

## 16.0 ARBORICULTURAL IMPACT of the DEVELOPMENT

Table 8 summarises the arboricultural impact of the development on each of the 53 trees, as assessed using data from my February 2018 arboricultural assessment report and the proposed civil plans indicated in Figure 5.

**Table 8.** Arboricultural impact of the development. The 53 trees, indicating the tree number, scientific name, retention value, and arboricultural impacts of the proposed development on each tree. Trees are colour-coded according to their retention value, and to match the tree mapping in Figures 4 and 5.

Tree	Scientific name	Retention value	Arboricultural impact of the development
1	Acacia melanoxylon	P3 - Scarcely worthy of retention	<b>Tree removal</b> required due to proposed retaining walls, soil fill, and structures impacting 100% of the TPZ
3	Cupressus macrocarpa	P3 - Scarcely worthy of retention	<b>Tree removal</b> required due to proposed retaining wall and soil cut/excavation at tree
4	Eucalyptus obliqua	P3 - Scarcely worthy of retention	<b>Tree removal</b> required due to proposed retaining wall and soil cut/excavation at tree
5	Pinus radiata	P3 - Scarcely worthy of retention	<b>Tree removal</b> required due to proposed retaining wall and soil cut/excavation encroaching into >10% of the TPZ
7	Eucalyptus obliqua	P4 - Not worthy of retention	Tree removal required due to proposed access roadway over tree
8	Acacia elata	P3 - Scarcely worthy of retention	Tree removal required due to proposed access roadway over tree
9	Eucalyptus obliqua	P3 - Scarcely worthy of retention	<b>Tree removal</b> required due to proposed level changes encroaching into >10% of the TPZ, associated with driveway and dwelling footprint
10	Eucalyptus obliqua	P3 - Scarcely worthy of retention	Tree removal required due to proposed access roadway over tree
11	Eucalyptus obliqua	P4 - Not worthy of retention	Tree removal required due to proposed access roadway over tree
14	Acacia floribunda	P3 - Scarcely worthy of retention	<b>Tree removal</b> required due to proposed dwelling footprint over tree
15	Pinus radiata	P3 - Scarcely worthy of retention	<b>Tree removal</b> required due to proposed retaining walls and soil fill encroaching into >10% of the TPZ
16	Exocarpos cupressiformis	P3 - Scarcely worthy of retention	<b>Tree retention.</b> No development is proposed within the TPZ
17	Eucalyptus obliqua	P3 - Scarcely worthy of retention	<b>Tree removal</b> required due to proposed dwelling footprint over tree
18	Eucalyptus obliqua	P2 - Moderately worthy of retention	<b>Tree removal</b> required due to proposed retaining walls, soil fill, and structures impacting 100% of the TPZ
19	Acacia floribunda	P3 - Scarcely worthy of retention	<b>Tree removal</b> required due to proposed retaining walls, soil fill, and structures impacting 100% of the TPZ
20	Acacia howittii	P4 - Not worthy of retention	Tree retention may be possible, but retention of tree not recommended
21	Pittosporum undulatum	P4 - Not worthy of retention	Tree retention may be possible, but retention of tree not recommended

Tree	Scientific name	Retention value	Arboricultural impact of the development
22	Eucalyptus kitsoniana	P4 - Not worthy of retention	<b>Tree removal</b> required due to proposed dwelling footprint over tree
23	Eucalyptus obliqua	P2 - Moderately worthy of retention	<b>Tree removal</b> required due to proposed retaining walls, soil fill, and structures impacting 100% of the TPZ
24	Eucalyptus obliqua	P4 - Not worthy of retention	<b>Tree removal</b> required due to proposed retaining walls, soil fill, and structures impacting 100% of the TPZ
25	Acacia baileyana	P4 - Not worthy of retention	<b>Tree removal</b> required due to proposed retaining walls, soil fill, and structures impacting 100% of the TPZ
26	Eucalyptus obliqua	P2 - Moderately worthy of retention	<b>Tree removal</b> required due to proposed retaining walls, soil fill, and structures impacting 100% of the TPZ
27	Exocarpos cupressiformis	P3 - Scarcely worthy of retention	<b>Tree retention.</b> No development is proposed within the TPZ
28	Acacia fimbriata	P4 - Not worthy of retention	Tree retention may be possible, but retention of tree not recommended
29	Eucalyptus obliqua	P3 - Scarcely worthy of retention	<b>Tree retention.</b> Development encroaches into <10% of the TPZ
30	Eucalyptus obliqua	P2 - Moderately worthy of retention	<b>Tree removal</b> required due to proposed retaining walls and soil fill, encroaching into >10% of the TPZ
31	Eucalyptus obliqua	P4 - Not worthy of retention	Tree retention may be possible, but retention of tree not recommended
32	Eucalyptus obliqua	P2 - Moderately worthy of retention	<b>Tree removal</b> required due to proposed retaining walls and soil fill, encroaching into >10% of the TPZ
33	Eucalyptus obliqua	P2 - Moderately worthy of retention	<b>Tree removal</b> required due to proposed retaining walls and soil fill, encroaching into >10% of the TPZ
34	Eucalyptus obliqua	P2 - Moderately worthy of retention	<b>Tree removal</b> required due to proposed retaining walls and soil fill, encroaching into >10% of the TPZ
35	Eucalyptus obliqua	P2 - Moderately worthy of retention	<b>Tree removal</b> required due to proposed retaining walls and soil fill, encroaching into >10% of the TPZ
36	Eucalyptus obliqua	P2 - Moderately worthy of retention	<b>Tree removal</b> required due to proposed retaining walls and soil fill, encroaching into >10% of the TPZ
37	Acacia melanoxylon	P2 - Moderately worthy of retention	<b>Tree removal</b> required due to proposed level changes encroaching into >10% of the TPZ, associated with retaining walls and dwelling footprint
38	Eucalyptus obliqua	P3 - Scarcely worthy of retention	Tree removal required due to proposed dwelling footprint over tree
39	Eucalyptus obliqua	P2 - Moderately worthy of retention	<b>Tree removal</b> required due to proposed level changes encroaching into >10% of the TPZ, associated with retaining walls and dwelling footprint
40	Acacia melanoxylon	P2 - Moderately worthy of retention	Tree removal required due to proposed dwelling footprint over tree
41	Acacia melanoxylon	P3 - Scarcely worthy of retention	Tree removal required due to proposed dwelling footprint over tree

Tree	Scientific name	Retention value	Arboricultural impact of the development
42	Pittosporum undulatum	P4 - Not worthy of retention	Tree retention may be possible, but retention of tree not recommended
43	Eucalyptus obliqua	P4 - Not worthy of retention	Tree removal required due to proposed access roadway over tree
44	Eucalyptus obliqua	P4 - Not worthy of retention	Tree removal required due to proposed access roadway over tree
45	Eucalyptus obliqua	P2 - Moderately worthy of retention	<b>Tree removal</b> required due to proposed level changes encroaching into >10% of the TPZ, associated with retaining walls, driveway and dwelling footprint
46	Eucalyptus obliqua	P3 - Scarcely worthy of retention	<b>Tree removal</b> required due to proposed level changes encroaching into >10% of the TPZ, associated with retaining walls, driveway and dwelling footprint
47	Eucalyptus obliqua	P2 - Moderately worthy of retention	Tree removal required due to proposed access roadway over tree
48	Acacia melanoxylon	P2 - Moderately worthy of retention	Tree removal required due to proposed access roadway over tree
49	Acacia melanoxylon	P3 - Scarcely worthy of retention	Tree removal required due to proposed dwelling footprint over tree
50	Acacia melanoxylon	P3 - Scarcely worthy of retention	<b>Tree removal</b> required due to proposed dwelling footprint over tree
51	Acacia melanoxylon	P3 - Scarcely worthy of retention	Tree removal required due to proposed dwelling footprint over tree
52	Acacia melanoxylon	P1 - Highly worthy of retention	<b>Tree removal</b> required due to proposed dwelling footprint over tree
53	Eucalyptus obliqua	P1 - Highly worthy of retention	<b>Tree removal</b> required due to proposed dwelling footprint over tree
54	Exocarpos cupressiformis	P2 - Moderately worthy of retention	Tree removal required due to proposed access roadway over tree
55	Acacia dealbata	P3 - Scarcely worthy of retention	Tree removal required due to proposed access roadway over tree
56	Eucalyptus obliqua	P1 - Highly worthy of retention	<b>Tree removal</b> required due to proposed access driveway over tree
57	Cordyline australis	P3 - Scarcely worthy of retention	<b>Tree removal</b> required due to proposed dwelling footprint over tree

## 17.0 SUMMARY of FINDINGS

Table 8 summarises the retention value of the trees and summarises how many trees can be retained as part of the proposed development, and how many would require removal.

It is recommended that tree retention on the site be directed by the overall value of each tree, as indicated by each tree's retention worthiness as assessed here. Figure 4A indicates the location and labelling of the 53 trees included in this assessment, with each tree colour-coded with regard to its retention worthiness.

In the case of site development, consideration should be given to the Tree Protection Zone (TPZ) and High Use Setback (HUS) for any retained trees, to ensure that the health, longevity, stability and risk to safety associated with retained trees is not compromised.

*Table 9. Summary Table.* A breakdown of the retention value of the 53 trees, indicating how many can be retained as part of the proposed development and how many require removal.

Retention value	Trees that could be retained as part of the proposed development	Trees requiring removal as part of the proposed development
All trees	7 of 53 trees (13%)	46 of 53 trees (87%)
(53 trees)		
Priority 1A trees –	-	-
Very Highly worthy of retention		
(No trees)		
Priority 1 trees –	0 of 3 trees (0%)	3 of 3 trees (100%)
Highly worthy of retention		None significant or regulated
(3 trees)		
Priority 2 trees –	0 of 16 trees (0%)	16 of 16 trees (100%)
Moderately worthy of retention		including 4 regulated trees
(16 trees)		
Priority 3 trees –	3 of 22 trees (14%)	19 of 22 trees (86%)
Scarcely worthy of retention	None significant or regulated	including 1 significant tree
(22 trees)		
Priority 4 trees –	5 of 12 trees (42%)	7 of 12 trees (58%)
Not worthy of retention	None significant or regulated.	including 1 regulated tree
(12 trees)	It is recommended that all Priority 4	
	trees be removed as part of any site	
	redevelopment	

I thank you for the opportunity to provide this arboricultural assessment and report. If you require further information or clarification please contact me for assistance.

Muill

Dean Nicolle OAM, BAppSc Natural Resource Management, BSc Botany (Hons), Ph.D

## DEVELOPMENT ASSESSMENT SERVICE



Your Ref: Preliminary Advice LD Our Ref: Adelaide Hills DA Please refer to: 20180704 - 01cs

4 July 2018

URPS Suite 12 / 154 Fullarton Rd Rose Park SA 5067

## ATTN: Philip Harnett

Dear Philip,

## RE: PRELIMINARY ASSESSMENT OF PROPOSED LAND DIVISION 20 POMONA RD, STIRLING

Thank you for the opportunity to provide preliminary advice for the proposed land division at 20 Pomona Rd, Stirling.

An officer of the SA Country Fire Service [SA CFS] Development Assessment Service has assessed the proposed development site, allotment and adjoining areas and provides the following advice:

The subject land is located within a bushfire protection area categorised as 'Medium' in the Adelaide Hills Council Development Plan.

Minister's Code 2009 "Undertaking development in Bushfire Protection Areas" (as amended October 2012) [The Code] as published under Regulation 106 of the *Development Regulations 2008* applies.

In accordance with the Medium Bushfire Pone Area provisions, mandatory referral to SA Country Fire Service is not required, therefore future applications for residential development on the allotments need to address the mandatory conditions of the Minister's Code, and the appropriate conditions applied to the development consent.

# The SA Country Fire Service has no objection to the proposal to create 10 allotments for residential development providing the mandatory conditions of the Minister's Code are addressed.

### <u>ACCESS</u>

Public access created by a land division to and from the proposed allotments shall be in accordance with the Minister's Code Part 2.2.2.

## SA CFS notes that no public roads are being created as a result of this land division.

Access on and off the allotment shall be in accordance with Minister's Code Part 2.3.3.1

The Minister's Code Undertaking development in Bushfire Protection Areas Part 2.3.3.1 describes the mandatory provision that 'Private' roads and driveways to buildings shall provide safe and convenient

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access/egress for large bushfire fighting vehicles, where the furthest point to the building from the nearest public road is more than 30 metres.

## SA CFS notes that the proposed access meets the following mandatory requirements of The Code:

- Access to the building site shall be of all-weather construction, with a minimum formed road surface width of 3 metres and must allow forward entry and exit for large fire-fighting vehicles.
- The all-weather road shall allow fire-fighting vehicles to safely enter and exit the allotment in a forward direction by incorporating either
  - i. A loop road around the building, OR
  - ii. A turning area with a minimum radius of 12.5 metres, OR
  - iii. A 'T' or 'Y' shaped turning area with a minimum formed length of 11 metres and minimum internal radii of 9.5 metres.
- Private access shall have minimum internal radii of 9.5 metres on all bends.
- The gradient of the access road shall not exceed 16 degrees (29%), in steep terrain the construction of the public road or driveway shall be a sealed surface.

## WATER SUPPLY

A supply of water to the land division shall be available at all times for fire-fighting purposes. Ministers Specification SA78 prescribes the dedicated water supply to each allotment for bushfire fighting for the bushfire zone.

- Either 5,000 litres static water supply independent of mains supply or 2,000 litres static water supply connected to mains supply in accordance with Ministers Specification SA78 and the Medium Bushfire zone prescribed for these allotments.

## **VEGETATION**

The Code Part 2.3.5 mandates that landscaping should include Bushfire Protection features that will prevent or inhibit the spread of bushfire and minimise the risk to life and/or damage to buildings and property.

SA CFS recommends the following vegetation management zone be applied to each residential allotment for development:

- A vegetation management zone (VMZ) should be maintained within 20 metres of the dwelling (or to the property boundaries whichever comes first) as follows:
  - i. Trees and shrubs should not be planted closer to the building(s) than the distance equivalent to their mature height.
  - ii. Trees and shrubs must not overhang the roofline of the building, touch walls, windows or other elements of the building.
  - iii. Shrubs must not be planted under trees and must be separated by at least 1.5 times their mature height.
  - iv. Grasses within the zone should be reduced to a maximum height of 10cm during the Fire Danger Season.
  - vi. No understorey vegetation should be established within 1 metre of the dwelling (understorey is defined as plants and bushes up to 2 metres in height).
  - vii. Flammable objects such as plants, mulches and fences must not be located adjacent to vulnerable parts of the building such as windows, decks and eaves
  - viii. The VMZ should be maintained to be free of accumulated dead vegetation during the fire danger season.

CFS Mission

To protect life, property and the environment from fire and other emergencies whilst protecting and supporting our personnel and continuously improving.

## <u>SITING</u>

The Code Part 2.3.2 describes the requirements for buildings to be sited away from areas that pose an unacceptable bushfire risk. This includes areas with rugged terrain or hazardous vegetation.

SA CFS notes that vegetation on the property is currently well managed and consists of cultivated gardens and scattered trees, which pose little bushfire risk.

However, taking into account the type and density of vegetation on neighbouring properties, the following setbacks of future dwellings are recommended:

- Allotments 4 and 10: a minimum setback of 5m from the eastern boundary.
- Allotments 5, 6, 7, 8, 9, 10: a minimum setback of 5m from the southern boundary.

## BUILDING CONSIDERATIONS

For construction requirements and performance provisions, refer to the NCC Part 3.7 *"FIRE SAFETY"* Australian Standard <sup>7/3</sup>3959 (AS3959) "Construction of Buildings in Bushfire Prone Areas".

In accordance with NCC Part 3.7.4, Category of Bushfire Attack Level as defined by the Bushfire Zone in councils development	(MEDIUM) BAL 12.5
plan:	

Compliance with the fire protection requirements is not a guarantee the dwelling will not burn, but its intent is to provide a *'measure of protection'* from the approach, impact and passing of a bushfire.

Should there be any need for further information please contact the undersigned at the SA CFS Development Assessment Service on (08) 8115 3372

Yours faithfully

**CAREN SIEGFRIEDT** 

BUSHFIRE SAFETY OFFICER DEVELOPMENT ASSESSMENT SERVICE

REPRESENTATION ON APPLICATION – CATEGORY 2 NOTIFICATION					
Development Number: 19/3	322/473 – 19/C20/473	ADELAIDE HILLS COUNCIL			
My Name: BRENOOR	+ CHRISTINE COVENTRE	RECEIVED			
Postal Address: Po	30x 706 STIRLING	17 OCT 2010			
Contact No:		STIRLING			
Email:					
(by providing an email address	you agree to receive any related future correspon	dence electronically)			
This representation is in rela	ition to the application by: John Ellery				
Nature of Development:	Nature of Development:Staged application for demolition of existing dwelling and community title land division (1 into 9) and three (3) two storey dwellings & a two storey residential flat building comprising six (6) dwellings, removal of five (5) regulated trees (Eucalyptus Obliqua) & one (1) significant tree (Eucalyptus Obliqua), retaining walls (maximum height 2.8m), combined fence & retaining walls (maximum height 4.7m), landscaping including replacement plantings & associated earthworks. Stage 1 Demolition and tree removal, Stage 2 Driveway construction and Civil works, Stage 3 construction of dwellings on lots 1, 2 & 3, Stage 4 construction of				
Droposed to be leasted at	20 Demone Deed Stirling CA 5452				
My representation:	(cross out whichever does not apply below)				
Sup	ports the proposed development OR Opposes	the proposed development			
My interests are:       (cross out whichever does not apply below)         owner of local property OR occupier of local property         a representative of a company OR other         organisation affected by the proposal OR a private citizen         The address of the property affected is:					
18 POMONIA # The specific aspects of the a	20 STIRLING pplication to which I make representation are:	Postcode: <u>5152</u>			
To be for -d	an the reverse side	of this paper			
My objections (if any) could be overcome by: keeping the character and amenity of this side of Pomona Rd and allow only 2 dwellings - built qway from neighbours homes.					
(cross out whichever does n I do wish to be h represented by t	ot apply below) eard in support of my representation by appea he following person.	ring personally or being			
I do not wish to be heard in support of my representation. "Please note that, in accordance with Section 38 (10)(a) of the <i>Development Act 1993</i> , the Council Assessment Panel may, in its absolute discretion, allow a person who made a representation to appear personally or by representative before it to be heard in support of the representation."					
Please note that <i>no right of appeal</i> to the Environment, Resources and Development Court exists for a person or body who submit a Category 2 representation.					
Date: 16/10/19		Cacanty.			
The closing tim "Please note that in accordance v to the Applicant for their informat	The closing time and date for Representations is 5.00pm on 17 October 2019. "Please note that in accordance with Section 38(8) of the <i>Development Act 1993</i> , a copy of this representation is forwarded o the Applicant for their information and response. Further a copy of your representation (including your name and address) will become public and can be viewed on the web."				

 (1)- The development is not in keeping with the <u>CHARACTER &</u> <u>AMENITY</u> of Country living in privacy, greenery and space. It's not sensitive to the area and 95% of the current foliage is to be removed. The bulk and scale of the building development will dominate from ALL sides of the 20 Pomona Rd property.
 (2)- The development is not in keeping with properties in the area.

(3)- 85% of the property will be covered in hard surfaces. This is unlike other properties in either the Country Living zones or the Mixed Residential zones and causes concern regarding the water runoff from the hills rainfall. The average rainfall for this property in the last 27 years is 1135mm per year. How will this be managed? <u>FLOODING</u> is an issue already.

(4)- The parallel built-up driveway will be the only access to the property. The opening onto Pomona Rd is next to our driveway and directly opposite the single common driveway of 4 dwellings at 19 Pomona Rd. This driveway will be the only one for between 9 and 28 cars. The <u>DANGER</u> & <u>SAFETY</u> aspect is of great concern as this driveway crosses the footpath which is used by young children riding to the council owned bike park as well as many pedestrians who use the footpath.

(5)- The driveway is built up which will cause car light <u>GLARE</u> to be shining into our house.

(6)- The retaining wall & earthworks along the western boundary will disturb the root systems of 25-year old London Plain trees, established roses, azaleas, hedges and agapanthus as well as causing <u>SHADOWING</u> and loss of sunlight to our plants.

(7)- Next to Lot 4 the retaining wall & additional fence is 5m tall and only 1.5m from our home and closer to sheds and established vegetable gardens which will cause a significant <u>LOSS OF SUNLIGHT</u>.
(8)- The dwelling on Lot 4 is less than 4m from our home and will tower over us standing at 12m above our property, causing a loss of sunlight to our home and solar panels.

(9)- The additional <u>NOISE POLLUTION</u> from 9 dwellings when it was previously only 1.

SOUTH AUSTRALIAN DEVELOPMENT ACT, 1993 REPRESENTATION ON APPLICATION – CATEGORY 2 NOTIFICATION					
Development Number: 19/	Development Number: 19/322/473 – 19/C20/473				
My Name: R.KJBIAK.	My Name: R.KJBIAK				
Postal Address:	302-131 STIPLING 5752				
Contact No:					
Empile					
(by providing an email address	s you agree to receive any related future correspondence electronically)				
This representation is in rela	ation to the application by: John Ellery				
Nature of Development:	Staged application for demolition of existing dwelling and				
	community title land division (1 into 9) and three (3) two storey				
	dwellings & a two storey residential flat building comprising six (6)				
	& one (1) significant tree (Eucalyptus Obligua), retaining walls				
	(maximum height 2.8m), combined fence & retaining walls				
	(maximum height 4.7m), landscaping including replacement				
	plantings & associated earthworks. Stage 1 Demolition and tree				
	removal, Stage 2 Driveway construction and Civil works, Stage 3				
	residential flat building (dwellings on lots 4 to 9)				
Proposed to be located at:	20 Pomona Road Stirling SA 5152				
wy representation:	(cross out whichever does not apply below)				
	porta de proposed development				
My interests are:	(cross out whichever does not apply below)				
	-a representative of a company OR other				
The eddeese of the measure	-organisation affected by the proposal OR a private citizen				
The address of the property					
10 HATA CRESCENT. STRANG Postcode: 5/52					
AS POR ATTACHED					
••••••					
My objections (if any) could be overcome by:					
(cross out whichever does r	iot apply below)				
represented by t	he following person.				
I do not wish to	be heard in support of my representation.				
"Please note that, in accordance	with Section 38 (10)(a) of the Development Act 1993, the Council Assessment Panel may, in				
its absolute discretion, allow a p	heard in support of the representation."				
Please note that no right of	fanneal to the Environment Resources and Development Court exists for				
a person or body who subm	nit a Category 2 representation.				
Date: 17/10/19	Signature:				
Duce	Signature.				
The closing tim	e and date for Representations is 5.00pm on 17 October 2019.				
"Please note that in accordance to the Applicant for their information	with Section 38(8) of the <i>Development Act 1993</i> , a copy of this representation is forwarded				
will become public and can be viewed on the web."					

#### Re Development Number: 19/322/473 - 19/C20/473

We wish to oppose the above development, as, in our reading of the Adelaide Hills Council planning and development rules, this proposal does not comply in many ways. This development is at odds with the "Hills life style" all of us have come here to enjoy, from those who are recent arrivals, to those of us of 40/50 yrs., to those of several generations. These are the values that our council are looking to protect, low key, sympathetic, quality improvements that do not overwhelm our existing heritage values. This proposal does not fit in this location. This is not what should be foistered upon us in Stirling.

Our main concerns are the enormity of the physical size of mainly the six flats along the southern boundary. The length of this boundary is stated as 61.47m. with 56.36m of continuous building, comprising 3 levels of living areas up to 23m deep, with from only 2m up to 3m / 3.11m clearance from the side and rear boundaries. I could not find a specific height, but converting from the drawing scale it appears to be no less than about 10m high ( referring to lot 9, the nearest to our property ). At this level it is almost double the height of our local Coventry Library which is in itself a very imposing building. This will leave us, the neighbours, looking at an enormous wall of solid building reminicent of warehouses. Along Pomona road, while only 2 stories high, again, wall to wall warehouses.

The CFS report into fire protection safety, in referring to the Ministers Code part 2.3.2 (page 55) recommends a setback of 5m from the eastern and southern boundaries, which this proposal does not accomodate.

Similarly, the landscaping plan ( page 14 ) requires removal of at least one tree located on our property and the Tree Assessment report ( page 43 - 45 ) refers to tree protection zones would indicate at least 3 further trees would need to be removed. These trees I estimate at around 40m high and give us protection from high winds and also provide noise abatement from the infernal freeway traffic din. It also refers to the unacceptable risks of insufficient tree set back. These trees are only a metre or so from the boundary. We do not wish for these trees to be interfered with in any way to cause detriment to them.

Water. While not directly affecting us at this stage, we have an average of about 1000mm of rain per year, up to 1821mm (2016). The weather bureau are predicting larger and heavier downfalls in future. At present with the open areas and trees to absorb this flow, the water table can be controlled. With infill development like this, the extra tar and cement will limit this absorption considerably resulting in more flooding especially on Pomona road. Along with other developments in the area I can foresee flooding risks becoming more dangerous along Cox creek and Apex park as the water has nowhere else to go, as witnessed earlier this year. Apart from relatively small water tanks on these plans, I see no effort to control this flow. Several small lakes along the kerbing filled with porous rock and reed filter beds could be incorporated in these developments to improve the water table for other vegetation and better control the surge flow down the gutters.

#### SOUTH AUSTRALIAN DEVELOPMENT ACT, 1993 REPRESENTATION ON APPLICATION – CATEGORY 2 NOTIFICATION

	CATEGORY 2 NOTIFICATION			
Development Number: 19/3	22/473 – 19/C20/473			
My Name: JON ATHAN	Ny Name: JONATHAN GIESECKE & JANE HEALEY			
Postal Address: 13 ALT	A CRES, STIRLING SA 5152			
Contact No:				
Email:				
(by providing an email address	you agree to receive any related future correspondence electronically)			
This representation is in rela	ition to the application by: John Ellery			
Nature of Development:	Staged application for demolition of existing dwelling and community title land division (1 into 9) and three (3) two storey dwellings & a two storey residential flat building comprising six (6) dwellings, removal of five (5) regulated trees (Eucalyptus Obliqua) & one (1) significant tree (Eucalyptus Obliqua), retaining walls (maximum height 2.8m), combined fence & retaining walls (maximum height 4.7m), landscaping including replacement plantings & associated earthworks. Stage 1 Demolition and tree removal, Stage 2 Driveway construction and Civil works, Stage 3 construction of dwellings on lots 1, 2 & 3, Stage 4 construction of residential flat building (dwellings on lots 4 to 9)			
Proposed to be located at: My representation: Sup	20 Pomona Road Stirling SA 5152 (cross out whichever does not apply below) ports the proposed development OR Opposes the proposed development			
My interests are:	(cross out whichever does not apply below) owner of local property OR occupier of local property a representative of a company OR other organisation affected by the proposal OR a private citizen			
The address of the property	affected is:			
13 ALTA CRESC The specific aspects of the a	ENT, STIRLING SA Postcode: 5152 pplication to which I make representation are:			
AS NOTED IN A	TTACHED LETTER			
My objections (if any) could	be overcome by:			
Ar A.				

AS NOTED IN ATTACHED LETTER

## (cross out whichever does not apply below)

I **do wish** to be heard in support of my representation by appearing personally or being represented by the following person.

## I do not wish to be heard in support of my representation.

"Please note that, in accordance with Section 38 (10)(a) of the *Development Act 1993*, the Council Assessment Panel may, in its absolute discretion, allow a person who made a representation to appear personally or by representative before it to be heard in support of the representation."

Please note that *no right of appeal* to the Environment, Resources and Development Court exists for a person or body who submit a Category 2 representation.

Date: 15 OCTOBER 2019

Signature: .

## The closing time and date for Representations is 5.00pm on 17 October 2019.

"Please note that in accordance with Section 38(8) of the *Development Act 1993*, a copy of this representation is forwarded to the Applicant for their information and response. Further a copy of your representation (including your name and address) will become public and can be viewed on the web." 15 October 2019

Mr Jonathan Giesecke and Ms Jane Healey 13 Alta Crescent Stirling SA 5152

Ms Melanie Scott Senior Statutory Planner Adelaide Hills Council mail@ahc.com.au

BY EMAIL

#### RE: Proposed Development at 20 Pomona Road, Development Number 19/322/473 – 19/C20/473

Dear Melanie,

Thank you for the opportunity to provide comments on the proposed development at 20 Pomona Road Stirling. We believe that many of the issues we raise could have been addressed earlier during the design process had we been consulted by the proponent before now. It is unfortunate that significant review and redesign may be required to address our concerns with the proposed development.

Our representation opposes the proposed development as summarised under the broad summary headings below and detailed in the attached table. We have attempted to be thorough and specific in our comments and all have been made in reference to the *Development Plan - Adelaide Hills Council*, 8 August 2019 revision.

We note that the proposed development is within the Mixed Residential Special Policy Zone which allows for Medium Density Development. We do not believe that the design complies with the Desired Character of this zone, nor does it provide consideration for any transition into the immediately adjacent Country Living (Stirling and Aldgate) areas in which our family residence is located.

We request that revisions to the design are considered to establish a lower visual (height) profile, revisions to privacy screening, and the greater separation of dwellings to maintain visual avenues of greenery between and over the proposed dwellings as viewed from our allotment.

A non-exhaustive summary of our representation is given below, with greater detail referenced to the table attached.

Summary Comment	Detailed Table
	Reference
Disturbance of visual amenity - the dominant scale and height, setback from our	1,2,4,6,8,10,
boundary, lack of visual separation, bright colour scheme, vegetation removal	12,14,15,23,
and lack of compensatory landscaping will result in an unreasonable loss of view	24,25,26,28,
from our property and surrounding areas.	31
<b>Overlooking/Privacy</b> – The proposed rear terrace areas and upper-ground floor living areas for Lots 4,5,6, are set at a level that is filled/elevated above our allotment, with inadequate screening, and will result in views to/from the lower and mid-levels of our allotment and a significant loss of privacy in our yard.	3,7,16,27

Does not reflect the Desired Character of the area – The proposed development	1,2,4,10,13,
(in a Mixed Residential zone) does not reflect the built-form character and	24,26,29
spacious landscaped appearance of adjoining residential areas, and does not	
blend the dwelling density forms in this area with the highly regarded character	
of the surrounding locality, including nearby Medium Density Residential	
Developments. The proposed development makes no consideration for a	
transition into the adjacent Country Living Zone on two sides.	
Fencing and retaining walls on boundary - Screening of the proposed	3,4,7,9,17,22
development from our property is in the form of retaining walls and fences on	
the boundary up to 3.2m in height. Despite the imposing (and excessive) height	
of the proposed boundary structure, it does not provide adequate screening and	
privacy for the mid-levels of our allotment. The excessively high boundary	
structures will also provide excessive shading of areas of our garden.	
Interference with native trees - the proposed boundary retaining walls and	5,10,12,13,16,
associated cutting and filling has made no regard for the interference with	19,20,23,24
established trees located on our property. Additionally we note that the	
development proposes the removal of native trees located within public reserve	
on Pomona Road that could have reasonably been avoided.	
Design, earthworks – the proposed development makes no regard for the	5,11,14,21,22,
natural land form (topography) or the minimisation of earthworks that we regard	23,25
as excessive.	
Design, vertical configuration – we believe that the proposed developments are	27, 30
of three-storeys in height, not two as declared, exceed 8m above the natural	
surface, and are hence a non-complying development. In particular, Lot 8 and 9	
are configured such that the Laundry, Living Area and Lounge Room are stacked	
in a three-storey configuration. The proposed height exceeds 8m above natural	
surface level in other locations.	

We wish to be heard in support of our representation by appearing personally to the Development Assessment Panel. We also remain open to discussing/clarifying our comments with yourself or the proponent of the development.

Yours sincerely

Jonathan Giesecke 14 October 2019

Anthenly

Jane Healey

Comments of the owners and residents of 13 Alta Crescent Stirling - Jonathan Giesecke, Jane Healey

Item	Page	Section	Reference	Ref No.	Extract from Development Guidelines	
-	436	Adelaide Hills Council	Policy Areas MAP AdHi/72	na	Note: 20 Pomona Road falls within area 29 - Country Living (Stirling and Aldgate)	Note only, no respon Living Area
-	393	Adelaide Hills Council	Zones Map AdHi/29	na	Note: 20 Pomona Road falls within "MR" area- Mixed Residential Zone	Note only, no respon development also fal
1	26	Design and Appearance	Objectives	1	Development of a high design standard and appearance that responds to and reinforces positive aspects of the local environment and built form.	<ol> <li>The proposed deviaspects of the local e of Adelaide Hills livin</li> <li>The proposed two as viewed from our a</li> </ol>
2	26	Design and Appearance	Principles of Development Control	1	Buildings should reflect the desired character of the locality while incorporating contemporary designs that have regard to the following: (a) building height, mass and proportion (b) external materials, patterns, colours and decorative elements (c) roof form and pitch (d) façade articulation and detailing (e) verandahs, eaves, parapets and window screens	<ol> <li>The scale (height, other residential buil proposed development that of green trees of 2. The proposed prease the development and perception of the size 3. There has been not surrounds, or provide</li> </ol>
3	26	Design and Appearance	Principles of Development Control	2	Where a building is sited on or close to a side or rear boundary, the boundary wall should minimise: (a) the visual impact of the building as viewed from adjoining properties (b) overshadowing of adjoining properties and allow adequate sunlight access to neighbouring buildings especially those on which solar panels have been installed.	1. The proposed dev property despit the p 2. The proposed con- currently share with residences, with no v monolithic block ove measured on our bo 3. Despite the height will be able to see in levels of our allotme 4. The base of the pr the respective terrace these lots will see din 05.PL07.C, Elevation above the terrace lev shown on Elevation ( not be set relative to 5. The proposed bou shading for extended

#### Comment - 13 Alta Crs Stirling 15 October 2019

nse requried. The proposed development falls within the Country

nse required. Noting above Country Living Area, the proposed Ills within the special Mixed Residential Policy Zone

velopment is not in keeping with, nor does it reinforce positive environment and built form. It does not reinforce the positive aspects ng, which we consider the key aspect being privacy, greenery, space. o and three storey development detracts from the local environment adjoining allotment and Pomona Road.

mass and proportion) of the development is not in keeping with ilt forms within this area of Pomona Road. From our allotment the ent will appear as a large monolithic block - our current outlook is over the roof of the existing dwelling at 20 Pomona Road.

edominant bright colour "surfmist" is not considerate to the scale of nd the removal of all vegetation. The colour will accentuate the visual ze of the development.

o attempt to disguise/hide/blend the development into the green le visual avenues/separation of greenery between proposed Lots.

velopment will provide signficant visual impact when viewed from our proposed boundary walls (fences)

nstruction of Lots 4-9 will introduce 5 residences on a boundary we one single residential property. The close spacing of these detatched visual separation as viewed from our property will appear as a er the top of retaining walls and fences up to a height of 3.2m as boundary.

t of these walls and fences, the slope of our allotment is such that we to and be seen from the rear terrace areas of Lots 4-9 from the mid ent.

roposed boundary fence for Lots 4 & 5 is set well below the level of ce areas, and as such, persons standing in the rear yards/terraces of irectly over the boundary fence into our yard. Refer Drawing 18n 03-West, that shows the top of the fence approximately on 600mm evel of Lot 4. Please note that the 1800mm boundary fence height 04-South is incorrect for Lots 4 and 5, as the base of the fence will o the height of the terrace.

undary retaining walls and fences will create significant areas of d periods in our garden.

Comments of the owners and residents of 13 Alta Crescent Stirling - Jonathan Giesecke, Jane Healey

Item	Page	Section	Reference	Ref No.	Extract from Development Guidelines	
4	26	Design and Appearance	Principles of Development Control	7	Development should not cause: (a) unreasonable loss of sunlight or views from existing or proposed development  (c) adverse alteration of the character of the area.	<ol> <li>As outlined in Iter allotment will be adviced The close spacing viewed from our properties of retaining walls an and trees. We believe due consideration in separation and viewe</li> </ol>
5	27	Design and Appearance	Principles of Development Control	9	Development should take place in a manner which will minimize alteration to the existing land form.	<ol> <li>The proposed deveload form.</li> <li>Excavation of oveload the south boundary.</li> <li>Additionally, the protherwise) located videsign has no regard existing land form.</li> <li>The removed vego landscaping is limited note that existing the note that exist the note the note</li></ol>
6	27	Design and Appearance	Visual Privacy	13	Development visible from the South Eastern Freeway, in both urban and rural areas, should protect and enhance the views from the Freeway.	1. We note that give development, the de Freeway.
7	27	Design and Appearance	Visual Privacy	18	Development should minimise direct overlooking of the main internal living areas and private open spaces of dwellings through measures such as: (a) off-setting the location of balconies and windows of habitable rooms with those of other buildings so that views are oblique rather than direct (b) building setbacks from boundaries (including building boundary to boundary where appropriate) that interrupt views or that provide a spatial separation between balconies or windows of habitable rooms (c) permanent screening devices (including fencing, obscure glazing, screens, external ventilation blinds, window hoods and shutters) that are integrated into the building design and have minimal negative effect on residents' or neighbours' amenity.	<ol> <li>Screening from out the boundary.</li> <li>Despite the provisible able to see into a of our allotment. Not 3. The base of the prise the respective terration of S.PLO7.C, Elevation above the terrace lesshown on Elevation not be set relative to 5. Despite boundary we will now overloo screening is insuffice currently share a low</li> </ol>
8	28	Design and Appearance	Relationship to the Street and Public Realm	21	Buildings, landscaping, paving and signage should have a coordinated appearance that maintains and enhances the visual attractiveness of the locality.	1. The scale, colour a a prominent develop

#### Comment - 13 Alta Crs Stirling 15 October 2019

m 3 above, the character of the area as experienced from our versely altered.

g of the proposed attached residences, with no visual separation as operty will appear as a monolithic block of 8 m in height over the top nd fences that will block our current outlook is that of dense greenery ve that the loss of view from our propoerty is unreasonable and that in the design could have reduced the height and provided visual vs between the proposed buildings.

velopment does not attempt to minimise the impact to the existing

r 3m is proposed at the north-eastern corner, and filling of over 3m at .

proposal requires the removal of native trees (Significant, Regulated, within the allotment and within the public Pomona Road reserve. The d to existing native tree locations or minimising alteration to the

etation is not compensated by the proposed landscaping, as the ed to small trees/schrubs by the imposed CFS requirements. Please rees on Pomona Road are proposed to be removed and those shown of exist.

en the scale, colour and native tree removal proposed by the evelopment will be visible and prominent when viewed from the

ur property is proposed in the form of retaining walls and fences on

sion of boundary fences the slope of our allotment is such that we will and be seen from the rear terrace areas of Lots 4-9 from the mid levels o screening has been proposed to prevent this.

roposed boundary fence for Lots 4 & 5 is set well below the level of ice areas, and as such, persons standing in the rear yards/terraces of irectly over the boundary fence into our yard. Refer Drawing 18n 03-West, that shows the top of the fence approximately on 600mm evel of Lot 4. Please note that the 1800mm boundary fence height 04-South is incorrect for Lots 4 and 5, as the base of the fence will o the height of the terrace.

y fencing, the proposed ground floor level of Lots 4-9, will mean that ok, and be observed by five separate residences. The proposed ent to maintain any privacy for our family in our backyard. We w fence with a single residence.

and native tree removal (on both private and public land) will result in pment that detracts from the current green appearance of the area.

Comments of the owners and residents of 13 Alta Crescent Stirling - Jonathan Giesecke, Jane Healey

Item	Page	Section	Reference	Ref No.	Extract from Development Guidelines	
9	36	Hazzards	Landslip	25	Development, including associated cut and fill activities, should not lead to an increased danger from land surface instability or to the potential of landslip occurring on the site or on surrounding land.	<ol> <li>Retaining walls rar be built on the bound achieve a cut of 3m.</li> <li>We are concerned boundary alignment propagation of dama from boundaries is ro 3. Additionally the pi existing trees and sh property will have a</li> </ol>
10	52	Land Division	Objectives	4	Land division that is integrated with site features, including landscape and environmental features, adjacent land uses, the existing transport network and the availability of infrastructure	<ol> <li>We note that this</li> <li>The proposed deview environment (trees)</li> <li>The proposed deview retaining walls and for with native trees (or</li> <li>The proposed color appearance of the devision of the devision 5. The proposed mere and imposes signification</li> </ol>
11	52	Land Division	Principles of Development Control	2	2 Land should not be divided if any of the following apply:  (c) the intended use of the land is likely to reauire excessive cut and/or fill	1. Excessive cut and development.
12	53	Land Division	Principles of Development Control	5	Land divisions should be designed to ensure that areas of native vegetation and wetlands: (a) are not fragmented or reduced in size (b) do not need to be cleared as a consequence of subsequent development	<ol> <li>The proposed dev native trees.</li> <li>These trees are loo Pomona Road verge</li> <li>The design has ma</li> </ol>
13	53	Land Division	Principles of Development Control	6	The design of a land division should incorporate:  (d) areas to provide appropriate separation distances between potentially conflicting land uses and/or zones  (h) protection for existing vegetation and drainage lines  (j) the preservation of significant trees.	<ol> <li>Despite separation height and level of the with the adjacent are property.</li> <li>The proposed dev Regulated, Significan</li> <li>The proposed exca existing trees and shon our property will trunk.</li> </ol>
14	53	Land Division	Principles of Development Control	11	11 Allotments should have an orientation, size and configuration to encourage development that: (a) minimises the need for earthworks and retaining walls  (e) will not overshadow, dominate, encroach on or otherwise detrimentally affect the setting of the surrounding locality.	<ol> <li>The proposed dev retaining walls with a 2. The proposed dev our allotment - impo structure and the he 3. Additionally, the G observed from) the r provision of boundar</li> </ol>

#### Comment - 13 Alta Crs Stirling 15 October 2019

nging in height up to 2.4 m (1.4m on our boundary) are proposed to adary alignment. In other areas two stepped 1.5m walls are used to

d of the stability of the significant retaining walls proposed on the t and are concerned that any movement/subsidence would result in age on our property. We believe greater separation of retaining walls required

proposed excavation will undermine or damage the root structures prubbery on our property. In particular, very large pine trees on our retaining wall structure installed within 2m of the trunk.

is a Community Titled Land Division.

veloped is not integrated with the site features - landscape, or adjacent residential areas.

velopment incorporates signficant cut and fill, the construction of fences to a height of 4.7m and requires the removal and interference n private and public land).

our schemes and landscaping do not attempt to blend/integrate the levelopment from our property or Pomona Road.

dium-high density nature of the development is not integrated with, ant externalities on the adjacent low density Country Living areas

fill is required (up to 3 m cut and 3 m fill) is required by the proposed

velopment requires the remove of Signficant, Regulated and other

ocated in both the proposed development allotment and in public

ade no consideration for minimising the impact on native vegetation.

n being provide in plan from boundaries, the overall scale, mass, he development means that the proposed development is at conflict reas not located within the Mixed Residential Zone - including our

velopment requires the removal of existing native vegetation including nt and other Trees in both the allotment and public road reserve cavation and retaining walls undermine or damage the root structures hrubbery on our property. In particular, two extremely large pine trees I have a retaining wall structure installed within less than 2m of the

velopment does not minimise the the need for earthworks and cutting and filling of up to 3m in height.

velopment will signficantly impact on the setting as experienced from osing in height/mass of both the boundary retaining walls/fence eight of the development.

Ground Floor level Lots 4-9 will be such that we will overlook (and be rear yards and terraces from large areas of our property despite the ry fences.

Comments of the owners and residents of 13 Alta Crescent Stirling - Jonathan Giesecke, Jane Healey

Item	Page	Section	Reference	Ref No.	Extract from Development Guidelines	
15	57	Landscaping, Fencing and Walls	Principles of Development Control	1	Development should incorporate open space and landscaping and minimise hard paved surfaces in order to: (a) complement built form and reduce the visual impact of larger buildings (e.g. taller and broader plantings against taller and bulkier building components) (b) enhance the appearance of road frontages  (k) complement existing vegetation, including native vegetation (l) contribute to the viability of ecosystems and species (m) promote water and biodiversity conservation.	<ol> <li>The proposed dev and public roadside</li> <li>The proposed tree CFS</li> <li>Given the limited privacy value as view</li> <li>The illustrated tre would take decades</li> </ol>
16	58	Landscaping, Fencing and Walls	Principles of Development Control	4	<ul> <li>Fences and walls, including retaining walls, should: <ul> <li>(a) not result in damage to neighbouring trees</li> <li>(b) be compatible with the associated development and with existing predominant, attractive fences and walls in the locality</li> <li></li> <li>(g) in the case of side and rear boundaries, be of sufficient height to maintain privacy and/or security without adversely affecting the visual amenity or access to sunlight of adjoining land</li> </ul> </li> </ul>	
17	59	Medium Density Development	Environmental	9	Multi-storey buildings should: (a) minimise detrimental micro-climatic and solar access impacts on adjacent land or buildings, including effects of patterns of wind, temperature, daylight, sunlight, glare and shadow	1. The proposed bou significant areas of s
18	60	Medium Density Development	Site Facilities and Storage	13	Development with a gross floor area of 2000 square metres or more should provide for the communal storage and management of waste.	1. A communal stora application.
19	76	Regulated Trees	Principles of Development Control	2	A regulated tree should not be removed or damaged other than where it can be demonstrated that one or more of the following apply: (a) the tree is diseased and its life expectancy is short (b) the tree represents a material risk to public or private safety (c) the tree is causing damage to a building (d) development that is reasonable and expected would not otherwise be possible (e) the work is required for the removal of dead wood, treatment of disease, or is in the general interests of the health of the tree.	<ol> <li>The design of the Regulated (Significar the presence of exist and visual ammenity</li> <li>In particular a Reg proposed to facilitat preserve public nativ</li> </ol>
20	86	Significant Trees	Principles of Development Control	2	Development should be undertaken so that it has a minimum adverse effect on the health of a significant tree	1. The design of the Significant (Regulate the presence of exis and visual ammenity
21	91	Sloping Land	Principles of Development Control	1	Development and associated driveways and access tracks should be sited and designed to integrate with the natural topography of the land and minimise the need for earthworks.	<ol> <li>The proposed develocity</li> <li>earthworks on the s</li> <li>Significant cut and area of the development</li> </ol>
22	91	Sloping Land	Principles of Development Control	3	Development and associated driveways and access tracks, including related earthworks, should be sited, designed and undertaken in a manner that: (a) minimises their visual impact (b) reduces the bulk of the buildings and structures (c) minimises the extent of cut and/or fill (d) minimises the need for, and the height of, retaining walls (e) does not cause or contribute to instability of any embankment or cutting 	<ol> <li>Significant cut and</li> <li>Despite the cut an structures are not re</li> <li>Retaining wall hei stepped 1.5m walls</li> </ol>

#### Comment - 13 Alta Crs Stirling 15 October 2019

velopment removes a number of native trees from both the allotment verge - it does not enhance the appearance of road frontages es and landscaping is limited in size by the conditions imposed by the

size of the proposed trees, they do not provide any screening or wed from our allotment.

ees within the design renderings do not exist and are of a size that s to acheive

cavation and) construction of retaining walls will undermine or ructures existing trees and shrubbery on our property. In particular, an e tree on our property will have a retaining wall structure installed unk.

e level of the Ground Floor of Lots 4-9 and the level at our boundary, fence on the boundary will not provide privacy/screening as viewed rd above the boundary. Increasing the height of this boundary fence d privacy will adversely impact our visual ammenity in this area of the fence.

undary retaining walls and fences up to 3.2m in height will create shading for extended afternoon periods in our garden.

age area does not appear to have been provided as part of the

proposed development is not considerate to the location of nt, or otherwise) Trees and no attempt has been made to incorporate sting vegetation within the design to maintain the environmental value y of the area.

gulated Tree located with the Pomona Road (public) Road Reserve is te the installation of retaining walls - the design should be revised to ive species.

proposed development is not considerate to the location of ed, or otherwise) Trees and no attempt has been made to incorporate sting vegetation within the design to maintain the environmental value y of the area.

velopment and driveways have not been designed to minimise site.

d fill is required and has been undertaken to maximise gross floor ment, not to integrate with the natural topography.

d fill is proposed - 3m in some areas nd fill proposed, the bulk (visual profile) of the buildings and educed as viewed from our property ights are not minimised and are proposed in heights of 2.4m or with a total height of 3m.

Comments of the owners and residents of 13 Alta Crescent Stirling - Jonathan Giesecke, Jane Healey

ltem	Page	Section	Reference	Ref No.	Extract from Development Guidelines	
23	119	Country Living Zone	Objectives	2	Residential development sensitive to the particular topography of the area and which has minimal visual and environmental impacts.	1. The proposed dev retaining walls and t 2. The proposed scal when viewed from o 3. The proposed pre- attempt to obscure o backdrop/view from
24	119	Country Living Zone	Desired Character	-	Mature vegetation will provide a defining feature of the zone and will dominate views from all locations	<ol> <li>We acknowledge to Desired Character of "Development shoul for the zone".</li> <li>The proposed development on both the allotmer and the proposed land compensate for the Pomona Road</li> <li>The scale of the primosed by the CFS</li> <li>The mature trees to to mature to a point</li> </ol>
25	120	Country Living Zone	Form and Character	7	Development should be designed and sited to relate to the slope of the land, so that: (a) the bulk and scale of the buildings do not dominate the landscape (b) the amount of cutting and filling of the natural ground profile is minimised (c) views from adjoining dwellings and public open spaces are maintained.	<ol> <li>The scale (height, other built residentia density residential di appear as a large mo roof of the existing di 2. As viewed from ou dwellings with overla inadequate screenin 3. Significant cut and 4. The proposed brig development and th of the size of the dev 5. There has been no surrounds (by design between proposed L</li> </ol>
26	173	Mixed Residential	Desired Character	-	Development will reflect the built-form character and spacious landscaped appearance of adjoining residential areas, to blend the dwelling density forms in this area with the highly regarded character of the surrounding locality.	<ol> <li>The proposed dev character and spacio other medium densi</li> <li>The proposed dev the highly regarded of 3. The development Living Zone on two s</li> </ol>

#### Comment - 13 Alta Crs Stirling 15 October 2019

velopment is not sensitive the topography, with significant excavation, tree removal.

le and mass of the development will have signficant visual impact our property

edomiant colour "surfmist" is light and reflective in nature and do not or blend the development into the local environment or n our allotment.

the application of the Mixed Residential Policy Area, however the f the Country Living Zone - Stirling and Aldgate still apply and Ild not be undertaken unless it is consistent with the desired character

velopment will remove Significant, Regulated and other native trees ent in question and public road reserve.

dscaping does not provide vegetation of a mature enough size to loss of visual ammenity and privacy as viewed from our allotment or

roposed landscaping is limited to small trees by the requirements

shown on the plan do not exist. Any trees planted will take decades that they provide adequate screening.

, mass and proportion) of the development is not in keeping with ial forms within this area of Pomona Road, including other medium developments. From our allotment the proposed development will onolithic block - our current outlook is that of green trees over the dwelling at 20 Pomona Road.

our allotment, the proposed development will present as 4-5 new looking windows and adjacent ground floor living areas with ng and fencing proposed.

d fill is required for the development.

ght colour schemes are not considerate to the scale of the

ne removal of all vegetation. This will accentuate the visual perception evelopment.

o attempt to disguise/hide/blend the development into the green n or colour scheme), or provide visual avenues/separation of greenery Lots.

velopment (in a Mixed Residential zone) does reflect the built-form ous landscaped appearance of adjoining residential areas, including ity residential developments within the area.

velopment does not blend the dwelling density forms in this area with character of the surrounding locality.

makes no consideration for a transition into the adjacent Country sides.

Comments of the owners and residents of 13 Alta Crescent Stirling - Jonathan Giesecke, Jane Healey

Item	Page	Section	Reference	Ref No.	Extract from Development Guidelines	
27	173	Mixed Residential	Desired Character	-	Buildings up to two-storeys in height will be developed within the policy area where potential impacts on adjoining properties such as overlooking, overshadowing and traffic movements have been appropriately addressed	<ol> <li>The proposed dev and 9 are configured three-storey configu</li> <li>Despite the impo- screening has been p levels of the block. T overlooked by five re well below the level</li> <li>The proposed bou floor terrace and gar</li> </ol>
28	173	Mixed Residential	Desired Character	-	The design of buildings will promote a high level of residential amenity by facilitating natural ventilation and access to sunlight. Buildings will also be sufficiently separated to provide visual interest, while also allowing views between built forms that provide visual and physical links to surrounding areas. Separation between buildings will also provide visual and acoustic privacy, as well as adequate sunlight to dwellings.	<ol> <li>As viewed from or will not provide suffi as a monolithic stepp</li> <li>We will loose our current view of gree</li> <li>The design and sca allotment.</li> </ol>
29	174	Mixed Residential	Form and Character	5	Development should not be undertaken unless it is consistent with the desired character for the zone.	1. Note comments o
30	174	Mixed Residential	Form and Character	6	Dwellings should be designed within the following parameters:  - Maximum building height (from natural ground level) 2 storeys or 8 metres whichever is the lesser	<ol> <li>The proposed dev ground, upper). In pa Area and Lounge Roo</li> <li>The proposed dev our allotment - refer the buildings relative</li> </ol>
31	175	Mixed Residential	Form and Character	11	Development should be designed and sited to relate to the slope of the land, so that: (a) the bulk and scale of the buildings do not dominate the landscape (b) views from adjoining dwellings and public open spaces are maintained.	<ol> <li>The scale (height, other built residentia</li> <li>We will loose our current view of gree</li> <li>The design and sca allotment.</li> </ol>

#### Comment - 13 Alta Crs Stirling 15 October 2019

velopments are of two and three-storeys in height. In particular, Lot 8 d such that the Laundry, Living Area and Lounge Room are stacked in a uration.

osing height of fencing and retaining walls on the boundary, insufficent provided to prevent overlooking into/out of our yard from the mid There will be a signifcant impact on the privacy of our yard that will be residences. We currently share the boundary with one residence, set I of the boundary.

undary fences are ineffective in providing screening from the ground rden areas.

our allotment, the proposed close spacing and alignment of Lots 4-9 ficient visual separation to provide visual interest. Lots 4-9 will appear upped block of apartments from our property.

entire outlook over the northwest corner of our allotment, with the entrees replaced by large, imposing buidlings.

cale of Lots 4-9 make no regard to the loss in ammenity from our

on Desired Character for the Mixed Residential Zone above.

velopments are of two and three-storeys in height (garage/laundry, particular, Lot 8 and 9 are configured such that the Laundry, Living pom are stacked in a three-storey configuration.

velopment exceeds 8m in height at Lots 4, 5 and 6 when viewed from r drawing 18-015.PL07.C, Elevation 04 - South, and scale the height of re to the "natural ground line"

, mass and proportion) of the development is not in keeping with ial forms within this area.

entire outlook over the northwest corner of our allotment, with the en trees replaced by large, imposing buidlings.

cale of Lots 4-9 make no regard to the loss in ammenity from our

Ref: 2018-0030

10 December 2019



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Ms Melanie Scott Senior Statutory Planner – Development and Regulatory Services Adelaide Hills Council PO Box 44 **WOODSIDE SA 5244** 

Dear Melanie

### Response to Representations – Development Number 19/322/473 – 19/C20/473

Thank you for your email dated 23 October advising of the representations received for the development proposed at 20 Pomona Road, Stirling.

Following the request of the applicant, I provide you with our response to the provided representations.

#### **Response to Representations**

The following representations were received during Category 2 public notification.

#### Table 1: Representations received.

Number	Representor	Address	Supports the proposed development?	Wishes to be heard by CAP?
1	Brendon and Christine Coventry	18 Pomona Road, Stirling	No	Yes
2	R. Kubiak	10 Alta Crescent, Stirling	No	Unknown
3	Johnathan Giesecke and Jane Healey	13 Alta Crescent, Stirling	No	Yes

Attachment 1 comprises a map showing the location of each representor.

Rather than respond to each representation individually, I have collated the concerns raised and addressed them under their corresponding headings below.

#### Character

Some of the representors have stated:

"The development is not in keeping with the character... of Country living in privacy, greenery and space".

"This development is at odds with the 'hills lifestyle'..."

"We do not believe that the design complies with the Desired Character of this zone, nor does it provide consideration for any transition into the immediately adjacent Country Living... areas in which our family residence is located".

We have dissected the Desired Character of the Zone and carefully addressed each paragraph in the assessment table which forms **Attachment 2**. This also provides an assessment against the numeric guidelines within the Development Plan.

Notably, the proposal satisfies the Desired Character as follows:

- The proposal comprises a range of dwelling types (i.e. group dwellings and dwellings within a residential flat building). These dwellings types are specifically envisaged in the Zone and Policy Area.
- The increased density of the development takes advantage of the services available within the adjacent centre zone.
- Dwellings on lots 1, 2 and 3 are intentionally detached to:
  - Reflect the character of detached dwellings in the locality.
  - Create space between buildings.
  - Enable landscaping to be planted forward of, and in between the dwellings, in addition to retaining some trees situated in the council road verge.
- All dwellings are two-storey:
  - Dwellings on lots 1, 2 and 3 are clearly two-storey.
  - The height of dwellings on lots 4 to 9 will gradually step back so that no component is above twostoreys when measured from its surrounding ground level.
- The proposal will not impose overlooking, overshadowing or traffic movements in a manner that is contrary to the Development Plan.
- All dwellings are suitably setback from their primary road frontages:
  - Dwellings on Lots 4 to 9 will be considerably setback from Pomona Road and behind the dwellings on Lots 1, 2 and 3.
  - The dwellings on Lots 1, 2 and 3 will have staggered setbacks ranging from 4.2 metres up to 7.6 metres. This enables a more compact built form while also reflecting the surrounding spacious character and enabling landscaping fronting Pomona Road.
- Each dwelling has been architecturally designed with conscious efforts to allow natural ventilation and access to sunlight where able.
- All proposed facades are highly articulated with shading elements, balconies, varied setbacks and a range of materials and finishes.

- The development will also be supported by a carefully crafted landscaping plan prepared by a landscape architect who has undertaken considerable work throughout the Adelaide Hills and South Australia.
- The proposal only requires 1 access point from Pomona Road to all dwellings.
- On-site car parking is discreetly placed within respective garages or behind dwellings to be screened from public view. In addition, the proposal satisfies minimum on-site car parking numbers guided by the Development Plan.
- The proposal enables the retention of some trees situated in the council verge as discussed below.
- Dwellings on lots 1, 2 and 3 have spacious surrounds allowing for considerable landscaping to be planted adjacent Pomona Road.
- A stormwater system has been designed by a qualified engineer to manage stormwater runoff from the site.

The proposal satisfies the Desired Character of the Zone.

It must be acknowledged that the Zone aims to transition to a denser form of development that capitalises on its location to the nearby District Centre Zone. Unlike many areas within the Adelaide Hills area, the 'protection' of the existing character <u>within this Zone</u> is not something which the Development Plan places much particular emphasis upon.

It is clear, both from our involvement during design development and planning and through our detailed assessment that the applicant and architect have made considerable efforts to ensure the proposal *adequately* reflects surrounding character yet (importantly) also achieves the zone intent for catering for increased density/housing choice.

#### **Building Height**

One of the representors has stated:

"Our main concerns are the enormity of the physical size of mainly the six flats along the southern boundary... I couldn't find a specific height but converting from the drawing scale it appears to be no less than above 10m high (referring to lot 9, the nearest to our property)".

"We believe that the proposed development are of three-storeys in height, not two as declared, exceed 8m above the natural surface, and are hence a non-complying development. In particular, Lot 8 and 9 are configured such that the laundry, living area and lounge room are stacked in a three storey configuration".

The Desired Character of the Zone states:

Buildings up to two-storeys in height will be developed within the policy area where potential impacts on adjoining properties such as overlooking, overshadowing and traffic movements have been appropriately addressed.

Principle 6 of the Zone guides that dwellings should have a maximum building height of 2 storeys or 8 metres, whichever is less, when measured from natural ground level.

The natural ground level of the subject land elevates steeply upward from Pomona Road. This natural gradient means that modification to the natural landform is inevitable to achieve increased densities and take realistic advantage of public transport options and the nearby District Centre Zone of Stirling.

Each dwelling has been designed with split floor levels that gradually rise in line with the natural slope of the land. No component of any proposed dwelling is greater than two-storeys.

The natural gradient of the land and the provision of level building platforms for each dwelling has meant that some components of the development will have a height exceeding 8 metres above the <u>natural</u> ground level. However, no dwelling will exceed 8 metres above the level of its respective building platform.

Dwellings proposed to be situated on lots 1, 2 and 3 will be 2 storey in accordance with the Desired Character and Principle 6.

Dwellings proposed to be situated on lots 4, 5, 6, 7, 8 and 9 will have 3 distinct levels however, in accordance with the Desired Character and Principle 6, no part of any dwelling will be more than 2 storey's above the proposed respective building platform level, directly below.

In addition, as discussed below, the proposed building heights will not unreasonably impact adjoining properties by way of overlooking, overshadowing and traffic movements for reasons we express below.

#### **Bulk and Scale**

Some of the representors have stated:

"The bulk and scale of the building development will dominate from all sides of the 20 Pomona Road property".

Council Wide, Design and Appearance Principle 1 states:

## Buildings should reflect the desired character of the locality while incorporating contemporary designs that have regard to the following:

- (a) building height, mass and proportion
- (b) external materials, patterns, colours and decorative elements
- (c) roof form and pitch
- (d) façade articulation and detailing
- (e) verandahs, eaves, parapets and window screens.

In our opinion each dwelling has an attractive, pleasing and contemporary design with the height and mass minimised using low pitched roof forms that follow the land slope and articulation to each elevation. The proposal therefore satisfies Principle 1.

Each dwelling will have a split floor level to work with the slope of the land and further minimise the visual height, bulk and scale of the dwellings in accordance with Principle 11 of the Zone which states:

#### 11 Development should be designed and sited to relate to the slope of the land, so that:

(a) the bulk and scale of the buildings do not dominate the landscape

(b) views from adjoining dwellings and public open spaces are maintained.

In addition, windows, doors and detailing are all proportionate to respective dwellings, and the whole development, to provide cohesion. Materials, patterns and colours have been specifically selected to blend with the surrounding character and appear discreet.

#### **External Colours**

One of the representors has stated:

development and removal of all vegetation. The colour will accentuate the visual perception of the size of the development".

We remain of the opinion that the mix of materials and finishes complement each other as well as the surrounding landscape, particularly acknowledging the predominant use of dark colours and extensive windows.

Furthermore, "Surfmist" is not a reflective colour and will not produce glare. This is because it has a matte finish. Such a finish is commonly used throughout South Australia in rural and urban areas. While light in colour it positively provides contrast between the predominant darker materials found upon each dwelling.

Notwithstanding this, if requested by the Council Assessment Panel, the applicant is willing to modify the use of "Surfmist" to "Half Shale Grey" or a colour to the satisfaction of Council staff.

For context, Images 1 to 4 below show the proposed mix of materials and finishes, including "Surfmist".



#### Image 1: 3D representation.

Image 2: 3D representation.



Image 3: 3D representation.



#### Image 4: 3D representation.



#### Fencing and Retaining Walls

One of the representors has stated:

"Screening of the proposed development from our property is in the form of retaining walls and fences on the boundary up to 3.2m in height. Despite the imposing (and excessive) height of the proposed boundary structure, it does not provide adequate screening and privacy for the mid-levels of our allotment. The excessively high boundary structures will also provide excessive shading of areas of our garden".

"The proposed development makes no regard for the natural land form (topography) or the minimisation of earthworks that we regard as excessive".

The natural ground level of the subject land elevates steeply upward from Pomona Road. This natural gradient means that modification to the natural landform is inevitable to achieve the increased densities the Zone is encouraging and take realistic advantage of public transport options and the nearby District Centre Zone of Stirling.

Each dwelling has been designed with split floor levels that gradually rise in line with the natural slope of the land. As such, the proposal has been designed with careful regard to the natural land form.

Principle 16 of the Zone states:

Walls and fences along public streets should be designed to contribute positively to the streetscape through variation in materials, landscaping, positioning and articulation.

The sloping nature of the subject land inevitably requires retaining walls. The architect and engineer have worked collaboratively to minimise the visual impact of retaining walls and fencing upon the streetscape and neighbouring dwellings.

In doing so, several retaining walls have been terraced. This means that walls, which would otherwise exceed 2 metres, have been divided into 2 or 3 individual retaining walls with much lower heights.

This approach minimises the visual impact of retaining walls by providing a gradual height transition. In addition, this approach enables further opportunity for landscaping in between retaining walls, within terraces. This landscaping will grow and mature in front of respective retaining walls further minimising their visual impact.

As such, all retaining walls have been designed to positively contribute to the streetscape and enable maximum provision of landscaping. Furthermore, retaining walls will be constructed of an earthy material that blends with the natural character of the locality.

Council Wide, Siting and Visibility Principle 4 states:

#### 4 The excavation and/or filling of land should:

(a) <u>be kept to a minimum and be limited to no greater than 1.5 metres in height to preserve the natural form of</u> <u>the land</u> and the native vegetation <u>unless the built form obscures views of the earthworks from adjoining</u> <u>land</u>...

Any retaining walls exceeding 1.5 metres in height are considered acceptable because:

- They will be obscured from view so as not to have a detrimental visual impact upon surrounding properties or the streetscape.
- They will be positioned internal to the subject land and screened by the proposed built form or existing/proposed fencing and landscaping.

Proposed retaining walls and landscaping adjacent 18 Pomona Road are shown below in Image 5.



#### Image 5: Retaining walls and landscaping adjacent 18 Pomona Road.

#### **Vehicle Access**

One of the representors has stated:

"The... driveway will be the only access to the property. The opening onto Pomona Rd is next to our driveway and directly opposite the single common driveway of 4 dwellings at 19 Pomona Rd. This driveway will be the only one for between 9 and 28 cars. The danger and safety aspect is of great concern as this driveway crosses the footpath which is used by... pedestrians".

The Desired Character of the Zone states:

Access points onto public roads will be minimised through the use of common driveways...

The proposal includes 1 vehicle access point and common driveway to and from Pomona Road in accordance with the Desired Character of the Zone.

Notably, vehicle access and egress to the proposed development is not a matter that has been raised by the Council planners or engineers. We have been informed that the council has previously authorised a driveway extending from Pomona Road in the proposed location.

Council Wide, Transportation and Access Objective 2 states:

**Development that:** 

- (a) provides safe and efficient movement for all transport modes
- (b) <u>ensures access for vehicles including emergency services, public infrastructure maintenance and commercial</u> <u>vehicles</u>
- (c) provides off street parking
- (d) is appropriately located so that it supports and makes best use of existing transport facilities and networks
- (e) provides convenient and safe access to public transport stops.

Pomona Road is not an arterial road and is speed limited to 50km/h. Each allotment will receive vehicular access from the common driveway as anticipated by the Desired Character Statement.

The proposed driveway has been positioned to provide maximum visibility for motorists and ensures the safe and efficient movement of all transport modes along Pomona Road and when entering and exiting the subject land.

The proposed common driveway has been designed in accordance with Australian Standards and in accordance with bushfire safety guidelines. The proposal therefore ensures safe and efficient access for emergency service vehicles and some commercial vehicles.

Each dwelling is provided with a suitable number of car parking spaces to satisfy the Development Plan.

For all of these reasons, we remain of the opinion that the proposed driveway is in the safest and most efficient possible location.

### Visual Separation and Views

One of the representors has stated:

"The dominant scale and height, setback from our boundary, lack of visual separation, bright colour scheme, vegetation removal and lack of compensatory landscaping will result in an unreasonable loss of view from our property and surrounding areas".

The Desired Character of the Zone states:

Buildings will also be sufficiently separated to provide visual interest, while also allowing views between built forms that provide visual and physical links to surrounding areas. <u>Separation between buildings will also provide visual and acoustic privacy, as well as adequate sunlight to dwellings.</u>

As per the Site Plan below, the dwellings will be separated as follows:

- Dwellings on lots 1, 2 and 3 will be physically separates to all elevations. This will allow views between these buildings and provision of landscaping.
- Dwellings on lots 1, 2 and 3 will be distinctly separated from dwellings on lots 4 to 9 with a wide common driveway.
- Dwellings on lots 4 to 9 will only be physically connected for a small portion of their overall length.
- All dwellings will be setback from the outer boundaries of the subject land.

These details are acknowledged in Image 6 below.
Image 6: Site Plan.



In addition, it is worthy to note that "residential flat buildings" are specifically envisaged in the Zone. By their very nature, residential flat buildings are physically connected to form one building.

The proposed dwellings are considered to be sufficiently separated from each other and all boundaries to provide visual interest and minimise impacts upon neighbouring amenity.

Council Wide, Siting and Visibility Principle 1 states:

- 1 Development should be sited and designed to minimise its visual impact on:
  - (a) the natural, rural or heritage character of the area
  - (b) areas of high visual or scenic value, particularly rural areas
  - (c) views from public reserves, scenic or tourist routes and walking trails.

The Development Plan does not prescribe the subject land or Pomona Road as an area of:

- Natural, rural or heritage character.
- High visual or scenic value.
- A scenic or tourist route.

As such, development on the land is not guided to protect views with regard to Siting and Visibility Principle 1. In fact, the Zone encourages denser residential development on the land with buildings of two-storeys set relatively close to the primary street frontage.

Principle 11 of the Zone states:

- **11** Development should be designed and sited to relate to the slope of the land, so that:
  - (a) the bulk and scale of the buildings do not dominate the landscape
  - (b) views from adjoining dwellings and public open spaces are maintained.

As explained previously, the proposed dwellings have been designed and sited to minimise alteration to the natural landform as guided by Principle 11.

Acknowledging the intent of the Zone for denser, two-storey residential development, the proposed development will not unreasonably impact upon views from adjoining properties.

## Overlooking

One of the representors has stated:

"The proposed rear terrace areas and upper-ground floor living areas for lots 4, 5, 6 are set at a level that is filled/elevated above our allotment, with inadequate screening, and will result in views to/from the lower and mid-levels of our allotment and a significant loss of privacy in our yard".

Council Wide, Residential Development Principle 27 states:

Except for buildings of 4 or more storeys, <u>upper level windows</u>, <u>balconies</u>, <u>terraces and decks that overlook</u> habitable room windows or private open space of dwellings should maximise visual privacy through the use of measures such as sill heights of not less than 1.5 metres or permanent screens having a height of 1.5 metres above finished floor level.

Council Wide, Design and Appearance Principle 18 states:

- 18 <u>Development should minimise direct overlooking of the main internal living areas and private open spaces of</u> <u>dwellings through measures such as</u>:
  - (a) <u>off-setting the location of balconies and windows of habitable rooms with those of other buildings so that</u> <u>views are oblique rather than direct</u>
  - (b) <u>building setbacks from boundaries</u> (including building boundary to boundary where appropriate) <u>that</u> <u>interrupt views or that provide a spatial separation between balconies or windows of habitable rooms</u>
  - (c) <u>permanent screening devices (including fencing, obscure glazing, screens, external ventilation blinds,</u> <u>window hoods and shutters)</u> that are integrated into the building design and have minimal negative <u>effect on residents' or neighbours' amenity.</u>

North and south facing windows, balconies and decks are not considered to overlook habitable room windows or private open spaces. This is because:

- The natural slope of the land and the proposed finished floor levels mean that all southern elevations are looking up hill.
- The northern elevations of dwellings on lots 1, 2 and 3 will overlook Pomona Road, which is public land.

• Dwellings on lots 4, 5, 6, 7, 8 and 9 are separated by the common driveway with their upper levels set well back in to their respective allotments. This prevents overlooking into the private open spaces of dwellings on lots 1, 2 and 3.

Side facing upper level windows have intentionally been limited yet will comprise fixed obscured glass where appropriate.

Decks to the side of particular dwellings are off-set and suitably setback from neighbouring private open spaces and habitable room windows. This ensures no undue impact upon neighbouring privacy.

The southern and western elevations are partially shown in **Images 7** and **8** below. The following is notable on these plan:

- Upper level rear facing windows will comprise obscured glass to prevent overlooking between proposed dwellings and towards 10 and 13 Alta Crescent.
- Side facing windows have been limited and where necessary, upper level side facing windows will comprise obscured glazing.
- 1.8 metre high Colorbond fences will be placed atop retaining walls to ensure privacy to each private open space area.
- The dwelling proposed on Lot 9 will have a ground level lower than that of the neighbouring dwelling at 10 Alta Crescent. As such, this space will not overlook neighbouring properties at higher elevations.
- The dwelling proposed on Lot 4 will be situated above the ground level of 18 Pomona Road however overlooking will be prevented by a 1.8 metre high fence erected from the ground level of the proposed private open space area.

## Image 7: Southern elevation adjacent 18 Pomona Road.



#### Image 8: Western elevation adjacent 18 Pomona Road.



On this basis, no part of the proposal will impose overlooking in an unreasonable manner that is contrary to the Development Plan.

#### Glare

One of the representors has stated:

"The driveway is built up which will cause car light glare to be shining into our house".

This will not unreasonably impact upon neighbouring amenity for the following reasons:

- The perimeter of the subject land will comprise landscaping and boundary fencing. These features will adequately prevent light spill from car headlights into neighbouring properties.
- Night time vehicle movements will be infrequent and for a short time only (i.e. it would take a vehicle no longer than 30 seconds to enter and exit the subject land).
- The position of neighbouring dwellings means that they will not be in the path of vehicle headlights using the driveway.

#### Overshadowing

The representor at 18 Pomona Road has stated:

"Next to Lot 4 the retaining wall & additional fence is 5m tall and only 1.5m from our home and closer to sheds and established vegetable gardens which will cause a significant loss of sunlight".

"The dwelling on Lot 4 is less than 4m from our home and will tower over us standing at 12m above our property, causing a loss of sunlight to our home and solar panels".

An image of 18 Pomona Road adjacent the western boundary is pictured in **Image 9** below. Notably, a garage without roof mounted solar panels is situated adjacent the proposed development, primarily the dwelling proposed on lot 4.

Image 9: 18 Pomona Road from subject land.



To better understand overshadowing the applicant prepared shadow diagrams that present the shadow cast by the development on:

- 21 July (winter solstice) at 9am, 12pm and 3pm (pictured below).
- Equinox (when day and night are equal length) at 9am, 12pm and 3pm.

These form **Images 10, 11** and **12** below and confirm that 18 Pomona Road will only encounter some overshadowing early in the morning with all shadow removed by midday.

The shadow diagrams also reveal that the proposal satisfies Council Wide, Design and Appearance Principle 17 which states:

- 17 <u>The design and location of buildings should enable direct winter sunlight into adjacent dwellings and private</u> open space and minimise the overshadowing of:
  - (a) windows of main internal living areas
  - (b) <u>upper-level private balconies that provide the primary open space area for a dwelling</u>
  - (c) solar collectors (such as solar hot water systems and photovoltaic cells).

On this basis, the proposal will not have a detrimental impact by way of overshadowing. In particular, the proposal will not overshadow windows, private balconies or solar collectors. Any overshadowing will only be on the garage roof and a portion of front garden areas. Principle 17 is satisfied.

Image 10: Shadow Diagram – 9am as at winter solstice.



Image 11: Shadow Diagram – 12pm as at winter solstice.



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Image 12: Shadow Diagram – 3pm as at winter solstice.



#### Noise

The representor at 18 Pomona Road has stated:

"The additional noise pollution from 9 dwellings when it was previously only 1".

Noise emanating from each dwelling will be of a domestic nature only and similar to a conventional residential land use.

"Group dwellings" and "residential flat buildings" are specifically envisaged in the Policy Area at the proposed density suggesting that any additional noise from this form of residential development is also anticipated in the Zone.

For these reasons, proposed noise levels are not considered to unreasonably impact upon the amenity of the surrounding residents or be contrary to General Section, 'Interface between Land Uses' Principle 7 which states:

8 <u>Development that emits noise</u> (other than music noise) should include noise attenuation measures that achieve the relevant Environment Protection (Noise) Policy criteria when assessed at the nearest existing noise sensitive premises.

(Underlining added)

The proposal is considered to satisfy the Development Plan with respect to noise.

#### Storage

One of the representors has stated:

"A communal storage area does not appear to have been provided as part of the application".

In this circumstance, a communal storage area is not necessary as each dwelling will be provided with considerable space for personal storage within their respective properties. These areas include:

- Space within respective garages.
- Walk-in and built-in robes.
- Linen cupboards.
- Laundry cupboards.
- General storage cupboards.
- Pantries.

Council Wide, Medium Density Development, Principle 11 states:

- 11 <u>Dwellings should provide a covered storage area of not less than 8 cubic metres in one or more of the following areas:</u>
  - (a) in the dwelling (but not including a habitable room)
  - (b) in a garage, carport or outbuilding
  - (c) within an on-site communal facility.

Each dwelling has sufficient storage space in accordance with Principle 11 as displayed in **Table 2** below.

#### Table 2: Proposed Storage

Lot Number	Storage (cubic metres)
1	12.4m <sup>3</sup>
2	14m <sup>3</sup>
3	14m <sup>3</sup>
4	20.5m <sup>3</sup>
5	20.5m <sup>3</sup>
6	20.5m <sup>3</sup>
7	20.5m <sup>3</sup>
8	20.5m <sup>3</sup>
9	20.5m <sup>3</sup>

## Trees

One of the representors has stated:

"It's not sensitive to the area and 95% of the current foliage is to be removed.

The representor at 13 Alta Crescent has stated:

"The proposed boundary retaining walls and associated cutting and filling has made no regard for the interference with established trees located on our property.

"Additionally we note that the development proposes the removal of native trees located within public reserve on Pomona Road that could have reasonably been avoided".

Dean Nicolle (Arborist) has undertaken an 'Arboricultural Impact Assessment' of the proposed development upon the 53 remaining trees situated on site.

In addition, Arborman Tree Solutions has now prepared an 'Arboricultural Impact Assessment and Development Impact Report' dated 22 November 2019, which forms **Attachment 3**. This was prepared to identify potential impacts of the proposed development upon trees situated within the Council verge.

For ease, the same reference numbers have been used by Arborman for comparison against the assessment by Dean Nicolle.

The Arborman Report concludes that Trees 32 and 36 should/must be removed, while Trees 29, 30, 33 and 35 can be retained subject to particular recommendations and careful construction techniques.

On this basis, Trees 29, 30, 33 and 35 will now be retained despite the proposed development.

In addition, Trees 27, 31 and 34 can also be retained because they are suitably distance from the development, including proposed retaining walls.

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With respect to other trees on the subject land, it is clear the Development Plan generally seeks to retain and protect regulated trees however this desire must be balanced against consideration of their health and condition but also their contribution to the local area aesthetically or environmentally.

Further, and importantly in the context of this matter, their retention must also be balanced against the reasonable and expected development of the land as per the Development Plan.

The following policies are pertinent in respect to evaluating a trees aesthetic and environmental contribution:

- 1 The conservation of regulated trees that provide important aesthetic and environmental benefit.
- 2 Development in balance with preserving regulated trees <u>that demonstrate one or more of the following</u> <u>attributes:</u>
  - (a) significantly contributes to the character or visual amenity of the local area
  - (b) indigenous to the local area
  - (c) a rare or endangered species
  - (d) an important habitat for native fauna.

Therefore, prior to any judgement, consideration must first be given to a trees attributes and whether a particular tree is worthy of preservation.

In the matter of Savoy Development Pty Ltd v Town of Gawler (2013) – SAERDC 32, the court delivered the following statement with respect to habitat:

"In my view, for habitat to be raised to the level of 'important' (as sought by Objective 2(d)), it must be beyond that likely to be expected in any mature tree of indigenous origins – that is, it is beyond the normal level that might be expected or that it is so unique or special that it may be considered important. From the evidence before me I do not consider the trees to provide "important habitat for native fauna".

This view of "importance" as being "beyond the normal level that might be expected" can also be applied when considering other aspects.

While we accept some trees exhibit positive and beneficial environmental qualities, we query whether many of the trees make an "important" or "significant" contribution to the character or amenity of the local area and whether the trees form a notable visual element to the landscape and locality.

Council Wide, Significant Trees Objective 2 provides guidance by stating:

## 2 The conservation of significant trees in balance with achieving appropriate development.

Objective 2 suggests that the development potential of the land and intent of the Zone must also be considered when determining tree removal. As explained above, the proposal satisfies the Zone by providing:

- Increased densities and dwellings types.
- Appropriate site areas and frontages.
- Excellent design and appearance that works with the natural slope of the land.

- Appropriate boundary setbacks, some of which are larger than necessary.
- Appropriate private open spaces and site coverage.
- Sufficient on-site car parking.

Retention of trees on the subject land would significantly constrain development on the land given:

- The density of the development would be considerably lower than what is proposed and not in line with the Zone. The desired character, which seeks densities that take advantage of nearby public transport and services, would not be met in terms of increasing dwelling densities if the trees in question were kept.
- The positioning of trees on the subject land following our detailed analysis in consultation with the architects and engineers, it would be very difficult to keep trees yet provide safe and convenient access and position dwellings at a higher density as desired by the zone.
- The Medium Bushfire Risk and the 120-metre setback from the High Bushfire Risk Area. It would be very difficult to provide higher densities on the site as desired by the zone while satisfying bushfire safety requirements namely on site turn around areas for a fire truck.

The proposal is a well-considered and an appropriate form of development on the subject land for many reasons as is evident by its exceptional performance against the many principles of development control it is subject to.

Further, the applicant has now confirmed that some trees within the council verge can be retained and has also provided a detailed landscaping plan for the proposal. In our view, its design approach, functionality and yield should not be compromised by the retention of trees particularly where considerable effort has been made to maximise space around dwellings for landscaping features that will grow and mature to provide a green setting for the development.

This approach is satisfactory and consistent with Objective 2 as quoted above.

## Neighbouring Trees and Plants at 18 Pomona Road

One of the representors has stated:

"The retaining wall & earthworks along the western boundary will disturb the root systems of 25-year old London Plain trees, established roses, azaleas, hedges and agapanthus as well as causing shadowing and loss of sunlight to our plants".

The land immediately adjacent the western boundary and within the subject land will comprise fill retained by a 1.5 metre wall, or retain the natural level of the land. As such, the existing ground level of the neighbouring property at 18 Pomona Road will remain the same.

Work along this boundary will be undertaken with care to prevent damage to neighbouring trees wherever possible. In addition, no part of the development will encroach into neighbouring land.

Notably, the 'Trees and the Law' handbook as prepared by the Legal Services Commission of South Australia states that wherever tree roots or branches have grown across the boundary, the affected neighbour is entitled to cut them off at the boundary line.

The trees along the western boundary are not "regulated" and are not "native vegetation" however the applicant is happy to re-plant semi-mature trees of a similar species should any die as a direct result of works along the western boundary.

## Neighbouring Trees and Plants at 10 Alta Crescent

One of the representors has stated:

"... the landscaping plan (page 14) requires removal of at least one tree located on our property and the Tree Assessment Report (page 43-45) refers to tree protection zone would indicate at least 3 further trees would need to be removed".

Tree number 5 as per the 'Arboricultural Impact Assessment' prepared by Dean Nicolle is situated adjacent the eastern boundary at 10 Alta Crescent. The section of 20 Pomona Road adjacent this boundary will be excavated.

As explained above, the 'Trees and the Law' handbook as prepared by the Legal Services Commission of South Australia states that wherever tree roots or branches have grown across the boundary, the affected neighbour is entitled to cut them off at the boundary line.

Tree number 5 is not "regulated", is not "native vegetation", has been planted or self-seeded and has been determined as "scarcely worthy of retention" by the arborist.

While we understand that this tree may provide amenity value to the neighbour, it should not inhibit the reasonable development of land. If possible, the applicant will do what they can to retain tree number 5 however there is no legal requirement to do so.

## Bushfire

One of the representors has stated:

"The CFS report into fire protection safety, in referring to the Ministers Code part 2.3.2 (page 55) recommends a setback of 5m from the eastern and southern boundaries, which this proposal does not accommodate".

The land is situated within a Medium Bushfire Risk Area.

Council Wide, Hazards Principle 7 states:

Development in a Bushfire Protection Area should be in accordance with those provisions of the Minister's Code: Undertaking development in Bushfire Protection Areas that are designated as mandatory for Development Plan Consent purposes.

The 'Ministers Code: Undertaking development in Bushfire Protection Areas' does not prescribe a setback of 5 metres from the eastern and southern boundaries as suggested by the representor.

The client has engaged with the CFS prior to submitting the development application. The CFS provided a preliminary assessment which was based upon a preliminary land division layout for 10 additional allotments. The applicant then revised the proposed development to provide 9 additional allotments.

Subject to some recommendations, the CFS "has no objection" for a proposal to create 10 allotments for residential development on the subject land.

In addition, the subject land is connected to mains water and each allotment is capable of accommodating a 2,000 litre rainwater tank dedicated to firefighting with hoses that will be able to reach all areas of the land.

The majority of the land has an approximate maximum gradient of 1:5.4 to satisfy bushfire guidelines (i.e. a maximum slope of 1:3.5).

Each dwelling will be constructed in accordance with the relevant requirements for constructing buildings in bushfire prone areas.

The proposed common driveway enables firefighting vehicles to enter and exit the subject land in a forward direction.

## Stormwater and Flooding

One of the representors has stated:

"The average rainfall for this property in the last 27 years is 1135mm per year. How will this be managed? Flooding is an issue already".

The applicant engaged KP Squared Engineering who has designed the stormwater management system for the proposed development. This system is shown on the Civil and Earthworks Plan previously submitted to the Council and which was available during the public notification period.

We understand that the Council planner's and engineers are satisfied with the proposed stormwater management system.

## Conclusion

I trust I have addressed the concerns raised by the representors in sufficient detail.

I look forward to your support acknowledging that this application displays, in my view, a high degree of planning merit in order to warrant Development Plan Consent.

A representative of URPS will be available to appear in support of this project at the relevant CAP hearing at which this is presented.

Please call me on 8333 7999 if you have any questions in respect of this matter.

Matthew King RPIA Director

mp h.

Phil Harnett Associate



## LEGEND

SUBJECT LAND
 CADASTRE

## REPRESENTORS



O Wishes to be heard O Unknown whether they wish to be heard



# REPRESENTORS

# 20 Pomona Road, Stirling

JOB REF.	18ADL-0030
PREPARED BY.	MP
DATE.	31.10.19
REVISION.	1
DATA SOURCE.	Nearmap (28.09.19) data.sa.gov.au



## **Desired Character Assessment Table**

Paragraph Number	Paragraph	Complies?
1	Development within the zone will <u>comprise a</u> <u>range of dwelling types</u> (such as townhouses, semi-detached dwellings, and <u>residential flat</u> <u>buildings</u> ) at densities which take advantage <u>of nearby public transport and the services</u> <u>available within the adjacent centre zones.</u>	The proposal will increase the range of dwelling types in the locality by providing "group dwellings" and dwellings within a "residential flat building". The increased density will take advantage of services within the nearby centre zone.
2	Development will <u>reflect the built-form</u> <u>character and spacious landscaped</u> <u>appearance</u> of adjoining residential areas, to <u>blend the dwelling density forms in this area</u> with the highly regarded character of the surrounding locality.	<ul> <li>The dwellings on Lots 1, 2 and 3 are intentionally detached to:</li> <li>reflect the character of detached dwellings in the locality.</li> <li>Create spaces between buildings.</li> <li>Enable Landscaping to be planted forward of the dwelling, in addition to retaining street trees.</li> </ul>
3	Buildings up to two-storeys in height will be developed within the policy area where potential impacts on adjoining properties such as overlooking, overshadowing and traffic movements have been appropriately addressed.	The dwellings will each have a split floor level to minimise excavation and fill of the land. Dwellings on lots 1, 2 and 3 are clearly two- storey. The height of dwellings on lots 4 to 9 will gradually step back so that no component is two-storeys above its surrounding ground level. The proposal will not impose overlooking, overshadowing or traffic movements in a manner that is contrary to the Development Plan.

Paragraph Number	Paragraph	Complies?
4	Buildings will be <u>set relatively close to the</u> <u>primary street frontage</u> to create a compact urban streetscape while also achieving visual privacy to dwellings from the street.	Dwellings on Lots 4 to 9 will be setback considerably from Pomona Road and behind the dwellings on Lots 1, 2 and 3. The dwellings on Lots 1, 2 and 3 will have staggered setbacks ranging from 4.2 metres up to 7.6 metres. This enables a more compact built form while also reflecting the surrounding spacious character and enabling landscaping fronting Pomona Road.
5	The design of buildings will promote a <u>high</u> <u>level of residential amenity</u> by facilitating <u>natural ventilation and access to sunlight</u> . Buildings will also be sufficiently separated to provide visual interest, while also allowing views between built forms that provide visual and physical links to surrounding areas. <u>Separation between buildings will also</u> <u>provide visual and acoustic privacy, as well as</u> <u>adequate sunlight to dwellings.</u>	Each dwelling has been architecturally designed with conscious efforts to maximise natural ventilation and access to sunlight where able. The dwellings on lots 1, 2 and 3 are physically separated. Dwellings on lots 4 to 9 are connected in a "residential flat building" which is specifically envisaged in the Zone.
6	Shading elements such as verandahs, eaves and screens that provide for energy efficiency will feature on new dwellings. Development will provide articulated and varied facades which feature balconies, increased setbacks to upper levels and a range of materials in order to create visual interest and reduce the scale of buildings. <u>High quality structured</u> <u>landscaping will also be provided to mitigate</u> the visual impact of large scale building facades, provide visual amenity and shade, and help establish a clear hierarchy of vehicle and pedestrian movement patterns across the policy area.	All proposed facades are highly articulated with shading elements, balconies, varied setbacks and a range of materials. The development will also be supported by a carefully crafted landscaping plan prepared by a landscape architect who has undertaken considerable work throughout the Adelaide Hills and South Australia.

Paragraph Number	Paragraph	Complies?
7	Access points onto public roads will be <u>minimised</u> through the use of common driveways, and <u>the visual and noise impacts</u> of on-site parking will be minimised through the provision of car-parks which are <u>integrated into the design of the buildings.</u> Where a lot is to be created for a multiple dwelling development, an increased driveway width beyond 6 metres may be necessary to allow for two-way traffic movement.	The proposal only requires 1 access point from Pomona Road to all dwellings. On-site car parking is discreetly placed within respective garages or behind dwellings to be screened from public view.
8	<u>Landscaping will form an integral part of</u> <u>development</u> when viewed from public open space and roads.	The proposal enables the retention of some road side trees. Dwellings on lots 1, 2 and 3 have spacious surrounds allowing for considerable landscaping to be planted adjacent Pomona Road. The applicant has also engaged a qualified landscape architect to prepare a landscaping plan that will be integrated with the development.
9	The Mount Lofty Ranges Watershed Area is of importance to Adelaide's public water supply system. The <u>maintenance and enhancement</u> <u>of water quality and prevention of pollution</u> is a priority and given the multi-use nature of the water supply catchments, a balance between best practice watershed protection and development is required.	The land does not comprise any watercourses. A stormwater system has been designed by a qualified engineer to manage stormwater runoff from the site.

# Numeric Development Plan Assessment Table

Provision	Guideline	Complies?
Minimum Site Area	Group Dwelling = 500 square metres (average) Residential Flat Building = 300 square metres (average)	All group dwellings have a site area that is at least 500 square metres. The average site area for a dwelling in a residential flat building is 414.8 square metres.
Minimum Frontage	Group Dwelling = 15 metres Residential Flat Building = 15 metres	The frontage width of the land comfortably exceeds 15 metres. Each group dwelling will also have a frontage to Pomona Road that exceeds 15 square metres.
Building Height (storeys)	2 storeys	Proposed dwellings will not exceed 2 storeys. Each dwelling has been carefully designed to suit the natural slope of the land.
Front Setbacks	3 metres	The proposed building setbacks from Pomona Road range from 4.2 metres (open sided balcony) up to 8.5 metres. As such, minimum front setback guidelines are satisfied.

		The setback from the primary road frontage is intentionally staggered to provide variation, articulation and an excellent and engaging presentation when viewed from Pomona Road.
Side Setbacks	1 metre	<ul> <li>Proposed group dwellings satisfy minimum side setback guidelines.</li> <li>The outermost side setbacks of the residential flat building also satisfy minimum side setback guidelines.</li> <li>Residential flat buildings are specifically envisaged within the Zone as per Principle 1. As defined by Schedule 1 of the Development Regulations 2008, residential flat buildings by their very nature are "a single building". This generally means limited, or no setback in part. As such, the proposed side setbacks as presented by dwellings on lots 4, 5, 6, 7, 8 and 9 are anticipated within the Zone.</li> </ul>
Back Boundary Setbacks	4 metres	All proposed dwellings satisfy the rear boundary setback guideline other than that proposed on Lot 9 which has a staggered setback down to 3.05 metres. This has no planning consequences upon the locality or neighbouring amenity.
Site Coverage	60 percent	Proposed site coverages satisfy the Development Plan.
		$\checkmark$

Private Open Space	24 square metres	All dwellings satisfy minimum private open space guidelines.
Car Parking	2 spaces (one of which should be covered)	Using the applicable car parking rate in Principle 6 of the Zone, the proposal satisfies the Development Plan with respect to on-site car parking guidelines. 10 more car parking spaces are provided on-site than guided by the Development Plan.
Maximum Garage Door Width	6 metres	Each dwelling has a garage width less than 6 metres. In addition, no garage door directly faces a public road or neighbouring property.



# Arboricultural Impact Assessment and Development Impact Report

Site: 20 Pomona Road, Stirling

Date: Friday, 22 November 2019 ATS5711-020PomRdDIR



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Report Reference Number: ATS5711-020PomRdDIR

Report prepared for Philip Harnett (Associate) URPS

Author Jason Williams, Consulting Arborist, Arborman Tree Solutions Pty Ltd



# Brief Summary

Arborman Tree Solutions was engaged by Philip Harnett at URPS to undertake an Arboricultural Impact Assessment and provide a Development Impact Report for 20 Pomona Road, Stirling. The purpose of the Arboricultural Impact Assessment and Development Impact Report is to identify potential impacts the proposed development may have on the trees within the council verge adjacent to the property.

The proposed development includes the demolition of the existing dwelling and the construction of nine dwellings and associated infrastructure. This report considers recommendations and guidelines as defined within Australian Standard AS4970-2009 *Protection of trees on development sites* (AS4970-2009) for the trees that are to be retained.

In accordance with section 2.2 of the AS4970-2009 the following information is provided:

- > Assessment of the health and structure of the subject trees.
- Identification of the legislative status of trees on site as defined in the Development Act 1993 and the Native Vegetation Act 1991.
- > Identify and define the Tree Protection Zone and Structural Root Zone for each tree assessed.
- > Identify potential impacts the development may have on tree health and/or stability.
- Recommend impact mitigation strategies in accordance with AS4970-2009 for trees to be retained.
- > Provide information in relation to the management of trees.

# **Documents and Information Provided**

The following information was provided for the preparation of this assessment

- Design Drawings: Project No: 181116. Drawing No: C2. Date: 13.02.2019
- Copy of Dean Nicolle's Report dated: 8<sup>th</sup> of February 2019.



# Site Location

# Figure 1: Survey site location - 20 Pomona Road, Stirling





# Methodology

The potential impact of the proposed works on tree condition is considered in accordance with the guidelines in AS4970-2009 *Protection of trees on development sites* (AS4970-2009). When determining potential impacts of an encroachment into a Tree Protection Zone (TPZ), the following should be considered as outlined in section 3.3.4 of AS4970-2009 section 3.3.4;

- a) Location of roots and root development.
- b) The potential loss of root mass from the encroachment.
- c) Tree species and tolerance to root disturbance.
- d) Age, vigour and size of the tree.
- e) Lean and stability of the tree.
- f) Soil characteristics and volume, topography and drainage.
- g) The presence of existing or past structures or obstacles affecting root growth.
- h) Design factors.

Impacts are classified into the following categories: -

- No Impact no encroachment into the TPZ has been identified.
- **Low <10%** the identified encroachment is less than 10% of the TPZ area.
- **Low >10%** the identified encroachment is greater than 10% of the TPZ area however there are factors that indicate the proposed development will not negatively impact tree viability.
- **High >10%** the identified encroachment is greater than 10% of the TPZ area but does not impact the Structural Root Zone (SRZ) or the trunk.
- **Substantial** the identified encroachment is greater than 20% of the TPZ area but does not impact the SRZ or the trunk.
- **Conflicted** the identified encroachment impacts the SRZ and/or the trunk and will result in the removal of the tree.

Trees with calculated encroachments greater than 10% and with an Impact identified as 'Low' have features or considerations identified in clauses in AS4970-2009 3.3.4 which indicate these trees should be sustainable.

Trees with calculated encroachments greater than 10% and with an Impact identified as 'High' do not have any features or considerations identified in clauses in AS4970-2009 3.3.4 and therefore non-destructive excavation and/or tree sensitive construction is required to minimise potential impacts.

Trees with an Impact identified as 'Substantial' have calculated encroachments greater than 20% and therefore alternative design solutions, additional root investigations and/or tree sensitive construction measures are required, in some instances tree removal may be required to accommodate the development.

Trees with an Impact identified as 'Conflicted' directly impact upon the SRZ or the trunk of the tree, additional root investigations or tree sensitive construction measures are not available, and the only option is alternative designs or tree removal.

Regulatory Status, Tree Protection Zones and Development Impacts are shown in Appendix B.

# Findings Tree species identified

Page 4 of 8

Six trees (Trees 29, 30, 32, 33, 35 and 36) have been assessed as part of this report with all six specimens identified as *Eucalyptus obliqua* (Messmate Stringybark). The Messmate Stringybark is an average sized tree reaching 10-20 metres in height and rarely wider than 15 metres. However, there are examples of the tree reaching more than 30 metres tall. The species is native throughout Australia and is also native to the Adelaide Hills. The species is susceptible to fungal pathogens and is performing poorly in some parts of the region.

## <u>Tree Risk</u>

The Risk Assessment was conducted by a Consulting Arborist qualified in the International Society of Arboriculture (ISA) "Tree Risk Assessment" methodology. Of the trees assessed, one tree, Tree 32, was identified as having an elevated potential for failure. This tree should be removed due to its poor health and declining structure. The remaining 5 trees (Trees 29, 30, 33, 35 and 36) were identified as having a Low Risk rating and therefore, no risk mitigation for these trees is warranted or recommended at this time.

## Useful Life Expectancy

Useful Life Expectancy (ULE) is an estimate of how many years a tree will potentially remain viable within its environment. In assessing each tree's ULE, consideration such as tree species, age, health, structure, identified defects and its growing environment are taken into account.

Trees 29, 30, 33, 35 and 36 have an ULE more than 10 years, while Tree 32 has a surpassed ULE given its health and structural issues.

## Legislative Requirements

These six trees have been assessed to determine their legislative status under the *Development Act 1993*. This assists in determining the need for further assessment and reporting in the case of a requirement for a Development Application to undertake tree work such as pruning, removal or development within proximity to the trees. These trees are also located within an area that is controlled under the *Native Vegetation Act 1991*. Therefore, both legislations have been considered regarding the proposed development.

Of the six trees assessed, one has a 'regulated' trunk measurement as it has a trunk circumference greater than two metres; this tree is therefore classified as a Regulated Tree as defined within the *Development Act 1993*.

<u>Regulated Tree</u>; is recognised as any tree in Metropolitan Adelaide or townships in the Adelaide Hills Council or parts of the Mount Barker Council with a trunk circumference of two metres or more. In the case of trees with multiple trunks, those with trunks with a total circumference of two metres or more and an average circumference 625 mm or more. The circumference is measured at a point one metre above natural ground level (SA Dev Act 6A 2008).

## Native Vegetation Act 1991:

Native vegetation refers to any naturally occurring local plant species that is indigenous to South Australia, from small ground covers and native grasses to large trees and water plants. It also includes naturally occurring regrowth and in certain circumstances, dead trees. In some circumstances, the management of native vegetation is protected by legislation.



# **Proposed Development and Calculated Encroachments**

Arborman Tree Solutions was engaged by Philip Harnett at URPS to undertake an Arboricultural Impact Assessment and provide a Development Impact Report for 20 Pomona Road, Stirling. The purpose of this report is to identify potential impacts the proposed development may have on the trees within the council verge adjacent to the property (subject land). The proposed development includes the demolition of the existing dwelling and the construction of nine dwellings and associated infrastructure. This report considers recommendations and guidelines as defined within Australian Standard AS4970-2009 *Protection of trees on development sites* (AS4970-2009) for the trees that are to be retained.

Six trees (Trees 29, 30, 32, 33, 35 and 36) have been assessed as part of this report with all six specimens being identified as *Eucalyptus obliqua* (Messmate Stringybark). These trees are located within the council verge and have been identified as Native Vegetation and are protected under the Native *Vegetation Act 1991*. Tree 32 is a poor specimen which should be removed, while the remaining trees (Trees 29, 30, 33, 35 and 36) are good specimens which should be retained in a future development where possible.

AS4970-2009 provides relevant information and guidelines to assist in protecting trees where development/redevelopment is within proximity to trees. Any tree that requires protection should be retained whilst remaining viable during and post development. Further guidance on how to suitably manage any proposed or encountered encroachments is identified in AS4970-2009. When assessing potential impacts the guidelines in AS4970-2009 section 1.4.5 and 3.2 have been applied to ensure trees identified for retention remain viable and the development is achievable.

## Tree 32

Tree 32 is a semi-mature specimen that displays dieback of branch ends, atypical form and a fungal fruiting body noted on the tree's stem. The tree's structural roots have been severed and damaged at some stage and therefore this tree poses a risk of whole tree failure. This tree has been assessed to determine whether its retention as part of a future development is warranted. Given the tree's poor and declining condition and the level of proposed encroachment into the tree's Tree Protection Zone (21%), this tree has been recommended for removal as best arboricultural practice.

## <u>Tree 36</u>

Tree 36 is a mature specimen that displays good overall condition with a slightly atypical form. This tree is in direct conflict with the proposed driveway as the installation of the driveway will impact the trunk of this tree. Alternative designs to reduce tree-damaging activity from occurring to the tree are not available and therefore, this tree should be removed. Tree 36 is an unregulated tree as per the *Development Act 1993* however, this tree is protected as Native Vegetation under the *Native Vegetation Act 1991*.

## Trees 29, 30, 33 and 35

Trees 29, 30, 33 and 35 display reasonable overall condition and are therefore worthy of retention and protection as part of the proposal. These trees will be impacted by the proposed installation of the retaining walls that are required adjacent to the trees within the subject land. The retaining walls will be staggered over three levels, each level rising 600mm at a time. These trees have a calculated encroachment into each tree's TPZ between 1% and 17%.

Trees 29 and 33 have a 'minor' encroachment of 1% and 8% respectively as defined in AS4970-2009. These trees are therefore unlikely to be impacted by the proposed retaining wall installation. These trees require general tree protection measures during the development to ensure they are not impacted.

Trees 30 and 35 have a 'major' encroachment of 17% and 16% respectively as defined in AS4970-2009. However, these trees should not be impacted by the installation of the retaining walls as the walls can be installed by low impact methodologies such as hand digging. Fill is required within the retaining walls however; this fill will be 600mm deep within the first level only. The first level of retaining wall consists of approximately 6% to 7% of each trees' TPZ. Therefore, water should still be able to penetrate though the soil to the existing ground level for these trees. The use of free-draining-soils within the retaining walls, will help reduce any potential shock to the trees that may occur from the change in their environment.



The potential encroachments have considered the guidelines within AS4970-2009 3.3.4 "*TPZ* encroachment considerations" which identifies additional relevant factors that indicate Trees 30 and 35 will not be impacted by the redevelopment. These considerations include: -

- 3.3.4 (f) 'Soil characteristics and volume, topography and drainage.' The trees are located on the lower side of the grade which indicates substantial root activity should not be within the subject land. This is due to tree roots' inability to grow up hill.
- 3.3.4 (h) 'Design factors.'

Although it is unlikely that substantial root activity will be in the subject land, the installation of the retaining wall posts, can be installed by hand digging. This will reduce the likelihood of damaging the roots, if any, during the installation of the retaining wall.

Trees 32 and 36 require removal to accommodate the proposed redevelopment. Trees 29, 30, 33 and 35 display reasonable overall and can be retained as part of the proposed redevelopment of the subject land. If the recommendations within this document and the guidelines of AS4970-2009 are closely adhered to, Trees 29, 30, 33 and 35 are not expected to be compromised by this development.



# Recommendation

The following recommendations are presented based on the Arboricultural Impact Assessment and have been provided to appropriately manage the six identified trees:

## **Pre- Development**

- 1. Appoint a Project Arborist to be consulted on all matters relating to the care and maintenance of the trees and the Tree Protection Zone (TPZ).
- 2. A Tree Protection Plan (TPP) is required to provide guidance and clarification of the demolition and construction phase within the trees' TPZ.
- 3. Trees 32 and 36 should be removed. These trees are council assets and therefore written approval from the Adelaide Hills Council is required prior to their removal.
- 4. Trees 32 and 36 have been identified as Native Vegetation and are protected under the *Native Vegetation Act 1991*. Approval to remove these trees is required from the Native Vegetation Council.
- 5. Erect a protective fence to protect as much of the TPZ as practical of each tree to be retained to prevent unauthorised entry, ensure the area is clearly signed TREE PROTECTION ZONE NO ACCESS. The fence must be constructed with sturdy temporary fencing, 1.8 metres high. An example of this is shown in Appendix E Tree Protection Zone Guidelines. This sign and fence can be removed once the development has concluded. The fences are to be installed prior to beginning of the development phase.

## Development

- 1. No storage of material, equipment or temporary building is permitted within the cordoned off TPZ's.
- 2. Nothing is to be attached to the trees, including temporary service wires, nails, screws, signs or any other fixing device.

## **TPZ Compliance**

1. Certificates of compliance should be attained from a suitably Qualified Arborist at specified development intervals (see Appendix E Tree Protection Zone Guidelines).

## **Post Construction**

The Project Arborist should inspect the trees once the development has concluded. This is to verify the trees' condition have not declined and to identify any potential remediation, if required, for the trees.

Thank you for the opportunity to provide this report. Should you have any questions or require further information, please contact me and I will be happy to be of assistance.

Yours sincerely,

JASON WILLIAMS Consulting Arboriculturist Graduate Certificate in Arboriculture Diploma of Arboriculture Australian Arborist Tier 1 License AL-2703 Arboriculture Australia - Registered Consulting Arborist International Society of Arboriculture – Tree Risk Assessment (TRAQ) Quantified Tree Risk Assessment (QTRA) Licensee – 5775 VALID Tree Risk Assessment (VALID) – 2018



# Definitions

Size:	approximate height and width of tree in metres, this may be recorded in a range.
Age:	identification of the maturity of the subject tree.
Useful Life Expectancy:	expected number of the years that the subject specimen will remain alive and sound in its current location and/or continues to achieve the relevant Principles of Development Control.
Health:	visual assessment of tree health.
Structure:	visual assessment of tree structure.
Circumference:	trunk circumference measured at one metre above ground level. This measurement is used to determine the status of the tree in relation to the <i>Development Act 1993</i> .
Diameter at Breast Height (DBH):	trunk diameter measured at 1.4 metres above ground level used to determine the Tree Protection Zone as described in Australian Standard AS4970-2009 <i>Protection of trees on development sites</i> .
Diameter at Root Buttress (DRB):	trunk diameter measured just above the root buttress as described in Australian Standard AS4970-2009 <i>Protection of trees on development sites</i> and is used to determine the Structural Root Zone.
Tree Damaging Activity	Tree damaging activity includes those activities described within the <i>Development Act 1993</i> such as removal, killing, lopping, ringbarking or topping or any other substantial damage such as mechanical or chemical damage, filling or cutting of soil within the TPZ. Can also include forms of pruning above and below the ground.
Tree Protection Zone:	area of root zone that should be protected to prevent substantial damage to the tree's health.
Structural Root Zone:	calculated area within the tree's root zone that is considered essential to maintain tree stability.
Project Arborist	A person with the responsibility for carrying out a tree assessment, report preparation, consultation with designers, specifying tree protection measures, monitoring and certification. The Project Arborist must be competent in arboriculture, having acquired through training, minimum Australian Qualification Framework (AQTF) Level 5, Diploma of Horticulture (Arboriculture) and/or equivalent experience, the knowledge and skills enabling that person to perform the tasks required by this standard.
Important:	When assessing trees against the <i>Development Act 1993</i> and local Development Plan the term "Important" is used when assessing a tree's amenity, aesthetic and environmental contribution. Commissioner Nolan of the Environment, Resource and Development Court in the case of <i>Savoy Developments Pty Ltd v Town of Gawler</i> [2013] SAERDC 32 defined "Important" in the following manner:
	"In my view, for habitat to be raised to the level of 'important' (as sought by Objective 2(d)), it must be beyond that likely to be expected in any mature tree of indigenous origins – that is, it is beyond the normal level that might be expected or that it is so unique or special that it may be considered important."
	Whilst this definition relates to Habitat Value this definition has been considered and applied when assessing all Objectives that use the term " <i>Important</i> ".

# References

Australian Standard AS4970–2009 *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, Illinois, USA.



# Appendix A - Tree Assessment Methodology



# **Tree Assessment Form (TAF©)**

Record	Description				
Tree	In botanical science, a tree is a perennial plant which consists of one or multiple trunks which supports branches and leaves. Trees are generally taller than 5 metres and will live for more than ten seasons, with some species that live for hundreds or thousands of seasons.				
Genus and Species	Botanical taxonomy of trees uses the binominal system of a genus and species, often there are subspecies and subgenus as well as cultivars. When identifying tree species, identification techniques such as assessing the tree's form, flower, stem, fruit and location are used. Identifying the right species is critical in assessing the tree's legalisation and environmental benefit. All efforts are made to correctly identify each tree to species level, where possible. Genus is the broader group to which the tree belongs e.g. <i>Eucalyptus, Fraxinus</i> and <i>Melaleuca</i> . Species identifies the specific tree within the genus e.g. <i>Eucalyptus camaldulensis, Fraxinus griffithi</i> or <i>Melaleuca styphelioides</i> . Trees will also be assigned the most commonly used Common Name. Common Names are not generally used for identification due to their nonspecific use, i.e. <i>Melia azedarach</i> is commonly known as White Cedar in South Australia but is also called Chinaberry Tree, Pride of India, Beadtree, Cape Lilac, Syringa Berrytree, Persian Lilac, and Indian Lilac; equally similar common names can refer to trees from completely different Genus e.g. Swamp Oak, Tasmanian Oak and English Oak are from the <i>Casuarina, Eucalyptus</i> and <i>Quercus</i> genus's respectively.				
Height	Tree height is estimated by the arborist at the time of assessment. Tree height is observed and recorded in the following ranges; <5m, 5-10m, 10-15m and >20m.				
<b>Spread</b> Tree crown spread is estimated by the arborist at the time of assessment and ret the following ranges <5m, 5-10m, 10-15m, 15-20m, >20m.					
Health	Tree health is assessed using the Arborman Tree Solutions - Tree Health Assessment Method that is based on international best practice.				
StructureTree structure is assessed using Arborman Tree Solutions - Tree Structur Method that is based on international best practice.					
Tree Risk Assessment	Tree Risk is assessed using Tree Risk Assessment methodology. The person conducting the assessment has been trained in the International Society of Arboriculture Tree Risk Assessment Qualification (TRAQ), Quantified Tree Risk Assessment (QTRA) and/or VALID Tree Risk Assessment (VALID). Refer to the Methodology within the report for additional information.				
Legislative Status	Legislation status is identified through the interpretation of the Development Act 1993 Status the Natural Resource Management Act 2004, the Native Vegetation Act 1991 and/or an other legislation that may apply.				
MitigationMeasures to reduce tree risk, improve tree condition, remove structural fla other conditions as appropriate may be recommended in the form of pruning in the Tree Assessment Findings (Appendix B). Tree pruning is recommended accordance with AS4373-2007 Pruning amenity trees where practical measures to mitigate risk is not possible and the risk is unacceptable, then or further investigation is recommended.					



# **Useful Life Expectancy (ULE)**

ULE Rating	Definition				
Surpassed	The tree has surpassed its Useful Life Expectancy. Trees that achieve a surpassed ULE may do so due to poor health, structure or form. Additionally, trees that are poorly located such as under high voltage powerlines or too close to structures may also achieve a surpassed ULE. Trees that achieve this status will be recommended for removal as there are no reasonable options to retain them.				
<10 years	The tree displays either or both Poor Health and/or Structure and is considered to have a short Useful Life Expectancy of less than ten years. Some short-lived species such as <i>Acacia sp.</i> may naturally achieve a short ULE.				
>10 years	The tree displays Fair Health or Structure and Good Health or Structure and is considered to have a Useful Life Expectancy of ten years or more. Trees identified as having a ULE of >10, will require mitigation such as pruning, stem injections or soil amelioration to increase their ULE.				
>20 years	The tree displays Good Health and Structure and is considered to have an extended Useful Life Expectancy of more than twenty years.				

# Maturity (Age)

Age Class	Definition					
Senescent	The tree has surpassed its optimum growing period and is declining and/or reducing in size May be considered as a veteran in relation to its ongoing management. Tree will hav generally reached greater than 80% of its expected life expectancy.					
Mature	A mature tree is one that has reached its expected overall size, although the tree's trunk is still expected to continue growing. Tree maturity is also assessed based on species; as some trees are much longer lived than others. Tree will have generally reached 20-80% of its expected life expectancy.					
Semi Mature	A tree which has established but has not yet reached maturity. Normally tree establishment practices such as watering will have ceased. Tree will generally not have reached 20% of its expected life expectancy.					
A newly planted tree or one which is not yet established in the landscape. Tree practices such as regular watering will still be in place. Tree will generally be a specimen up to five years old; this may be species dependant.						

# **Tree Health Assessment (THA©)**

Category	Description				
Good	Tree displays normal vigour, uniform leaf colour, no or minor dieback (<5%), crown density (>90%). When a tree is deciduous, healthy axillary buds and typical internode length is used to determine its health. A tree with good health would show no sign of disease and no or minor pest infestation was identified. The tree has little to no pest and/or disease infestation.				
Fair	Tree displays reduced vigour abnormal leaf colour, a moderate level of dieback (<15%), crown density (>70%) and in deciduous trees, reduced axillary buds and internode length. Minor pest and/or disease infestation potentially impacting on tree health. Trees with fair health have the potential to recover with reasonable remedial treatments.				
Poor	Tree displays an advanced state of decline with low or no vigour, chlorotic or dull leaf colour, with high crown dieback (>15%), low crown density (<70%) and/or in deciduous trees, few or small axillary buds and shortened internode length. Pest and or disease infestation is evident and/or widespread. Trees with poor health are highly unlikely to recover with any remedial treatments; these trees have declined beyond the point of reversal.				
Dead	The tree has died and has no opportunity for recovery.				



# **Tree Structural Assessment (TSA©)**

Category	Description				
Good	Little to no branch failure observed within the crown, well-formed unions, no included bark, good branch and trunk taper present, root buttressing and root plate are typical. Trees that are identified as having good health display expected condition for their age, species and location.				
Fair	The tree may display one or more of the following a history of minor branch failure, included bark unions may be present however, are stable at this time, acceptable branch and trunk taper present, root buttressing and root plate are typical. Trees with fair structure will generally require reasonable remediation methods to ensure the tree's structure remains viable.				
Poor	History of significant branch failure observed in the crown, poorly formed unions, unstable included bark unions present, branch and/or trunk taper is abnormal, root buttressing and/or root plate are atypical.				
Failed	The structure of the tree has or is in the process of collapsing.				

# Tree Form Assessment (TFA©)

Category	Description				
Good Form is typical of the species and has not been altered by structures, the environmetrees.					
Fair The form has minor impacts from structures, the environment or adjacent trees which hat its shape. There may be slight phototropic response noted or moderate pruning whattered the tree's form.					
Poor	The tree's form has been substantially impacted by structures, the environment, pruning or other trees. Phototropic response is evident and unlikely to be corrected.				
Atypical	Tree form is highly irregular due to structures or other trees impacting its ability to correctly mature. Extreme phototropic response is evident; or the tree has had a substantially failure resulting in its poor condition, or extensive pruning has altered the tree's form irreversibly.				

# **Priority**

Category	Description				
Low	Identified works within this priority should be carried out within 12 months.				
Medium	Identified works within this priority should be carried out within 6 months.				
High	Identified works within this priority should be carried out within 3 months.				
Urgent	Identified works within this priority should be carried out immediately. Works within this priority rating will be brought to attention of the responsible person at the time of assessment.				



# **Tree Retention Rating (TRR)**

The Tree Retention Rating is based on a number of factors that are identified as part of the standard tree assessment criteria including Condition, Size, Environmental, Amenity and Special Values. These factors are combined in a number of matrices to provide a Preliminary Tree Retention Rating and a Tree Retention Rating Modifier which combine to provide a Tree Retention Rating that is measurable, consistent and repeatable.

## **Preliminary Tree Retention Rating**

The Preliminary Tree Retention Rating is conducted assessing Tree Health and Structure to give an overall Condition Rating and Height and Spread to give an overall Size Rating. The following matrices identify how these are derived.

Condition Matrix						
Structure	Health					
	Good	Fair	Poor	Dead		
Good	C1	C2	C3	C4		
Fair	C2	C2	C3	C4		
Poor	C3	C3	C4	C4		
Failed	C4	C4	C4	C4		

Size Matrix						
Crowood	Height					
Spread	>20	15-20	10-15	5-10	<5	
>20	S1	S1	S1	S2	<b>S</b> 3	
15-20	S1	S1	S2	<b>S</b> 3	<b>S</b> 3	
10-15	S1	S2	S2	<b>S</b> 3	S4	
5-10	S2	S3	S3	S4	S5	
<5	S3	S3	S4	S5	S5	

The results from the Condition and Size Matrices are then placed in the Preliminary Tree Retention Rating Matrix.

Preliminary Tree Retention Rating						
C:		Condition				
Size	C1	C2	C3	C4		
S1	High	Moderate	Low	Low		
S2	Moderate	Moderate	Low	Low		
S3	Moderate	Moderate	Low	Low		
S4	Moderate	Moderate	Low	Low		
S5	Low	Low	Low	Low		

The Preliminary Tree Retention Rating gives a base rating for all trees regardless of other environmental and/or amenity factors and any Special Value considerations. The Preliminary Tree Retention Rating can only be modified if these factors are considered to be of high or low enough importance to warrant increasing or, in a few cases, lowering the original rating.


#### **Tree Retention Rating Modifier**

The Preliminary Tree Retention Rating is then qualified against the recognised Environmental and Amenity benefits that trees present to the community thereby providing a quantitative measure to determine the overall Tree Retention Rating. Data is collected in relation to Environmental and Amenity attributes which are compared through a set of matrices to produce a Tree Retention Rating Modifier.

Environmental Matrix				
Habitat				
Origin	Active	Inactive	Potential	No Habitat
Indigenous	E1	E1	E2	E3
Native	E1	E2	E3	E3
Exotic	E2	E3	E3	E4
Weed	E3	E3	E4	E4

Amenity Matrix				
Aesthetics				
Character	High	Moderate	Low	None
Important	P1	P1	P2	P3
Moderate	P1	P2	P3	P3
Low	P2	P3	P3	P4
None	P3	P3	P4	P4

Tree Retention Rating Modifier						
Environment						
Amenity	E1 E2 E3 E4					
P1	High	High	Moderate	Moderate		
P2	High	Moderate	Moderate	Moderate		
P3	Moderate	Moderate	Moderate	Moderate		
P4	Moderate	Moderate	Moderate	Low		

#### **Tree Retention Rating**

The results of the Preliminary Tree Retention Rating and the Tree Retention Rating Modifier matrices are combined in a final matrix to give the actual Tree Retention Rating.

Tree Retention Rating Matrix			
Tree Retention Rating Preliminary Tree Retention Rating			
Modifier	High	Moderate	Low
High	Important	High	Moderate
Moderate	High	Moderate	Low
Low	Moderate	Low	Low



#### Special Value Trees

There are potentially trees that have Special Value for reasons outside of normal Arboricultural assessment protocols and therefore would not have been considered in the assessment to this point; to allow for this a Special Value characteristic that can override the Tree Retention Rating can be selected. Special Value characteristics that could override the Tree Retention Rating would include factors such as the following:

#### Cultural Values

Memorial Trees, Avenue of Honour Trees, Aboriginal Heritage Trees, Trees planted by Dignitaries and various other potential categories.

#### Environmental Values

Rare or Endangered species, Remnant Vegetation, Important Habitat for rare or endangered wildlife, substantial habitat value in an important biodiversity area and various other potential categories.

Where a tree achieves one or more Special Value characteristics the Tree Retention Rating will automatically be overridden and assigned the value of Important.

#### Tree Retention Rating Definitions

- **Important** These trees are considered to be important and will in almost all instances be required to be retained within any future development/redevelopment. It is highly unlikely that trees that achieve this rating would be approved for removal or any other tree damaging activity. Protection of these trees should as a minimum be consistent with Australian Standard AS4970-2009 *Protection of trees on development sites* however given the level of importance additional considerations may be required.
- **High** These trees are considered to be important and will in most instances be required to be retained within any future development/redevelopment. It is unlikely that trees that achieve this rating would be approved for removal or any other tree damaging activity. Protection of these trees should be consistent with Australian Standard AS4970-2009 *Protection of trees on development sites*.
- **Moderate** These trees are considered to be suitable for retention however they achieve less positive attributes than the trees rated as Important or High and as such their removal or other tree damaging activity is more likely to be considered to be acceptable in an otherwise reasonable and expected development. The design process should where possible look to retain trees with a Moderate Retention Rating. Protection of these trees, where they are identified to be retained, should be consistent with Australian Standard AS4970-2009 *Protection of trees on development sites*.
- Low These trees are not considered to be suitable for retention in any future development/redevelopment; trees in this category do not warrant special works or design modifications to allow for their retention. Trees in this category are likely to be approved for removal and/or other tree damaging activity in an otherwise reasonable and expected development. Protection of these trees, where they are identified to be retained, should be consistent with Australian Standard AS4970-2009 *Protection of trees on development sites*.



#### **Development Impact Assessment**

Potential development impacts were determined in accordance with Australian Standard 4970-2009 *Protection of trees on development sites.* The identification of the impact of development considers a number of factors including the following:

- a. The extent of encroachment into a tree's Tree Protection Zone by the proposed development as a percentage of the area.
- b. Results of any non-destructive exploratory investigations that may have occurred to determine root activity.
- c. Any required pruning that may be needed to accommodate the proposed development.
- d. Tree species and tolerance to root disturbance.
- e. Age, vigour and size of the tree.
- f. Lean and stability of the tree.
- g. Soil characteristics and volume, topography and drainage.
- h. The presence of existing or past structures or obstacles potentially affecting root growth.
- i. Design factors incorporated into the proposed development to minimise impact.

Impacts were classified into the following categories:

- **None** The proposed development does not impact on the tree.
- **Low** The proposed development is unlikely to impact the health of the tree.
- **Moderate** The proposed development is expected to impact the health of the tree however mitigation strategies are available to maintain tree condition.
- **High** The proposed development is expected to substantially the health and potentially the stability of the tree.
- **Conflicted** The proposed development substantially affects the tree including the Structural Root and/ the trunk.

Trees with an impact identified as 'Low' require general Tree Protection Zone management.

Trees with Low Retention Ratings and High or Conflicted impacts are recommended for removal as alternative designs or installation methods are not warranted.

Trees with a Moderate Retention Rating and High or Conflicted impacts are recommended for further investigation such as minor design alteration, other considerations or removal.

Trees with a High Retention Rating and High or Conflicted impacts are recommended for alternative installation methods, alternative designs or if these are not practicable or are unreasonable, tree removal may be recommended.



# Appendix B - Tree Assessment Findings

Unregulated

Moderate

Low

Protect Root Zone

29

#### Messmate Stringy-bark

Inspected:	4 November 2019	1 A	Y			12		
Height:	>10 metres	and the state	<b>和19</b> 10月	at at		P.	The second	C-Ma
Spread:	>5 metres	200	西白		GN/ 4	A BAR	T AN	MA:
Health:	Fair	144		St.	in KE	Kar.	and the second	
Structure:	Good			1. 11.	6 13 M			6
Form:	Poor	. All		Mar .		NA P		
							Salas	
Trunk Circumferen	ce: <2 metres		S. State	115		14/20		
Useful Life Expecta	ancy: >10 years						· ·	Acti
Tree Protection Zor	ne: 3.48 metres	1					ALL.	
Structural Root Zor	ne: 2.05 metres	Le CAL	1211		1 A	r -	185	余英

#### Observations

There is minor dieback of branch ends throughout the crown.

#### Legislative Status

This tree is not regulated by the Development Act 1993. This tree does not achieve a regulated trunk circumference.

#### **Retention Rating**

This tree has a Moderate Retention Rating and could be considered for retention in any future development.

#### **Development Impact**

The identified encroachment is less than 10% of the Tree Protection Zone area and the proposed development is not expected to have a noticeable impact on the viability of the tree.

#### Recommendation

Protect the root zone area for this tree.



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## Messmate Stringy-bark

Inspected:	4 November 2019	
Height:	>10 metres	all a second and the second
Spread:	>10 metres	
Health:	Good	A STANDARD ST
Structure:	Fair	
Form:	Poor	
		NAME OF THE STATE
Trunk Circumference	e: >2 metres	A PARA AND A PARA
Useful Life Expectar	ncy: >10 years	
Tree Protection Zone	e: 7.35 metres	
Structural Root Zone	e: 2.85 metres	
Observations		

The tree has a minor history of branch failure.

Legislative Status	Regulated			
This tree is identified as a Regulated Tree as defined in the Development Act 1993. This tree has a trunk circumference greater than two metres and is not subject to any exemption from regulation.				
Retention Rating	Moderate			
This tree has a Moderate Retention Rating and could be considered for retention in any future development.				
Development Impact	Low			
The identified encroachment is greater than 10% of the Tree Protection Zone area however the soil topography and drainage indicate that substantial root activity in this area is unlikely.				
Recommendation	Protect Root Zone			

#### Recommendation

Protect the root zone area for this tree.



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#### Messmate Stringy-bark

Inspected:	4 November 2019	ENTRY AND A THE AND	
Height:	>10 metres	ZANGARAN COMP	R April
Spread:	>10 metres		1
Health:	Poor	NO 2 COLORIA	A
Structure:	Poor	A LA MULAC	
Form:	Fair	KARA	
Trunk Circumferend	ce: <2 metres		
Useful Life Expecta	ncy: Surpassed		
Tree Protection Zon	e: 6.60 metres		
Structural Root Zon	e: 2.65 metres	the state	
Observations			
There is extensive d	ecay within the prima	ary structure.	

#### **Legislative Status** Unregulated This tree is not regulated by the Development Act 1993. This tree does not achieve a regulated trunk circumference. Low

#### **Retention Rating**

This tree has a Low Retention Rating and should not form a material constraint to the redevelopment of this site.

#### **Development Impact**

The identified encroachment is greater than 20% of the Tree Protection Zone area but does not impact the Structural Root Zone or the trunk.

#### Recommendation

Tree removal is required to support the proposed development.



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Substantial

Remove

Unregulated

Moderate

Low

Protect Root Zone

## Messmate Stringy-bark

Inspected:	4 November 2019	. And
Height:	>10 metres	APTA
Spread:	>10 metres	
Health:	Good	
Structure:	Good	
Form:	Poor	
Trunk Circumference	e: <2 metres	-
Useful Life Expectar	icy: >20 years	and the
Tree Protection Zone	e: 4.44 metres	
Structural Root Zone	e: 2.25 metres	, 184



#### Observations

The health and structure of this tree indicate it is in good overall condition and has adapted to its environment.

#### Legislative Status

This tree is not regulated by the Development Act 1993. This tree does not achieve a regulated trunk circumference.

#### **Retention Rating**

This tree has a Moderate Retention Rating and could be considered for retention in any future development.

#### **Development Impact**

The identified encroachment is less than 10% of the Tree Protection Zone area and the proposed development is not expected to have a noticeable impact on the viability of the tree.

#### Recommendation

Protect the root zone area for this tree.



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Unregulated

Moderate

Low

Protect Root Zone

35

## Messmate Stringy-bark

Inspected:	4 November 2019	
Height:	>10 metres	
Spread:	>10 metres	
Health:	Fair	
Structure:	Good	
Form:	Fair	
Trunk Circumferenc	e: <2 metres	
Useful Life Expectar	ncy: >10 years	-
Tree Protection Zon	<b>e:</b> 5.64 metres	
Structural Root Zon	e: 2.51 metres	



#### Observations

There is minor dieback of branch ends throughout the crown.

#### Legislative Status

This tree is not regulated by the Development Act 1993. This tree does not achieve a regulated trunk circumference.

#### **Retention Rating**

This tree has a Moderate Retention Rating and could be considered for retention in any future development.

#### **Development Impact**

The identified encroachment is greater than 10% of the Tree Protection Zone area however the soil topography and drainage indicate that substantial root activity in this area is unlikely.

#### Recommendation

Protect the root zone area for this tree.



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Unregulated

Moderate

## Messmate Stringy-bark

Inspected:	4 November 2019
Height:	>10 metres
Spread:	>10 metres
Health:	Good
Structure:	Good
Form:	Fair
Trunk Circumference	e: <2 metres
Useful Life Expectan	cy: >20 years
Tree Protection Zone	e: 6.96 metres
Structural Root Zone	2.71 metres



#### Observations

The health and structure of this tree indicate it is in good overall condition and has adapted to its environment.

#### Legislative Status

This tree is not regulated by the Development Act 1993. This tree does not achieve a regulated trunk circumference.

#### **Retention Rating**

This tree has a Moderate Retention Rating and could be considered for retention in any future development.

Development Impact	Conflicted
The identified encroachment impacts the Structural Root Zone or the trunk.	
Recommendation	Remove

Tree removal is required to support the proposed development.



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# Appendix C - Mapping





# Appendix D - Tree Assessment Summary



# **Tree Assessment Summary**

Tree No.	Botanic Name	Legislative Status	Retention Rating	Development Impact	TPZ Radius	Observations	Recommendation
29	Eucalyptus obliqua	Unregulated	Moderate	Low	3.48 metres	There is minor dieback of branch ends throughout the crown.	Protect Root Zone
30	Eucalyptus obliqua	Regulated	Moderate	Low	7.35 metres	The tree has a minor history of branch failure.	Protect Root Zone
32	Eucalyptus obliqua	Unregulated	Low	Substantial	6.60 metres	There is extensive decay within the primary structure.	Remove
33	Eucalyptus obliqua	Unregulated	Moderate	Low	4.44 metres	The health and structure of this tree indicate it is in good overall condition and has adapted to its environment.	Protect Root Zone
35	Eucalyptus obliqua	Unregulated	Moderate	Low	5.64 metres	There is minor dieback of branch ends throughout the crown.	Protect Root Zone
36	Eucalyptus obliqua	Unregulated	Moderate	Conflicted	6.96 metres	The health and structure of this tree indicate it is in good overall condition and has adapted to its environment.	Remove



## Appendix E - Tree Protection Zone Guidelines

#### **Tree Protection Zone General Specifications and Guidelines**

The Tree Protection Zone(s) is identified on the site plan. The TPZ is an area where construction activities are regulated for the purposes of protecting tree viability. The TPZ should be established so that it clearly identifies and precludes development/construction activities including personnel.

If development activities are required within the TPZ then these activities must be reviewed and approved by the Project Arborist. Prior to approval, the Project Arborist must be certain that the tree(s) will remain viable as a result of this activity.

#### Work Activities Excluded from the Tree Protection Zone:

- a) Machine excavation including trenching;
- b) Excavation for silt fencing;
- c) Cultivation;
- d) Storage;
- e) Preparation of chemicals, including preparation of cement products;
- f) Parking of vehicles and plant;
- g) Refuelling;
- h) Dumping of waste;
- i) Wash down and cleaning of equipment;
- j) Placement of fill;
- k) Lighting of fires;
- I) Soil level changes;
- m) Temporary or permanent installation of utilities and signs, and
- n) Physical damage to the tree.

#### **Protective Fencing**

Protective fencing must be installed around the identified Tree Protection Zone (See Figure1). The fencing should by chain wire panels and compliant with AS4687 - 2007 *Temporary fencing and hoardings*. Shade cloth or similar material should be attached around the fence to reduce dust, other particulates and liquids entering the protected area.

Temporary fencing on 28kg bases are recommended for use as this eliminates any excavation requirements to install fencing. Excavation increase the likelihood of root damage therefore should be avoided where possible throughout the project.

Existing perimeter fencing and other structures may be utilised as part of the protective fencing.

Any permanent fencing should be post and rail with the set out determined in consultation with the Project Arborist.

Where the erection of the fence is not practical the Project Arborist is to approve alternative measures.



- 3 Mulch installation across surface of TPZ (at the discretion of the project arborist). No excavation, construction activity, grade changes, surface treatment or storage of materials of any kind is permitted within the TPZ.
- 4 Bracing is permissible within the TPZ. Installation of supports should avoid damaging roots.

Figure 1 Showing example of protection fencing measures suitable.

#### **Other Protection Measures**

#### General

When a TPZ exclusion area cannot be established due to practical reasons or the area needs to be entered to undertake construction activities then additional tree protection measures may need to be adopted. Protection measures should be compliant with AS4970-2009 and approved by the Project Arborist

#### Installation of Scaffolding within Tree Protection Area.

Where scaffolding is required within the TPZ branch removal should be minimised. Any branch removal required should be approved by the Project Arborist and performed by a certified Arborist and performed in accordance with AS4373-2007. Approval to prune branches must be documented and maintained.

Ground below scaffold should be protected by boarding (e.g. scaffold board or plywood sheeting) as shown in Figure below. The boarding should be left in place until scaffolding is removed.



Figure 2 – Showing scaffold constructed within TPZ.

#### **Ground Protection**

Where access is required within the TPZ ground protection measures are required. Ground protection is to be designed to prevent both damage to the roots and soil compaction.

Ground protection methods include the placement of a permeable membrane beneath a layer of noncompactable material such as mulch or a no fines gravel which is in turn covered with rumble boards or steel plates.



Figure 3 – Ground protection methods.

#### **Document Source:**

Diagrams in this document are sourced from AS4970-2009 Protection of trees on development sites. Further information and guidelines are available in within that document.

#### Paving Construction within a Tree Protection Zone

Paving within any Tree Protection Zone (TPZ) must be carried out above natural ground level unless it can be shown with non-destructive excavation (AirSpade® or similar) that no or insignificant root growth occupies the proposed construction area.

Due to the adverse effect filling over a Tree Protection Zone (TPZ) can have on tree health; alternative mediums other than soil must be used. Available alternative mediums include structural soils or the use of a cellular confinement system such as *Ecocell*®.

#### **Ecocell**®

Ecocell® systems are a cellular confinement system that can be filled with large particle sized gravels as a sub-base for paving systems to reduce compaction to the existing grade.

#### Site preparation

- Clearly outline to all contracting staff entering the site the purpose of the TPZ's and the contractors' responsibilities. No fence is to be moved and no person or machinery is to access the TPZ's without consent from the City of Unley and/or the Project Arborist.
- Fence off the unaffected area of the TPZ with a temporary fence leaving a 1.5 metre gap between the work area and the fence; this will prevent machinery access to the remaining root zone.

#### Installation of Ecocell® and EcoTrihex Paving®

- Install a non-woven geotextile fabric for drainage and separation from sub base with a minimum of 600mm overlap on all fabric seams as required.
- > Add Ecocell®, fill compartments with gravel and compact to desired compaction rate.
- If excessive groundwater is expected incorporate an appropriate drainage system within the bedding sand level.
- > Add paving sand to required depth and compact to paving manufacturer's specifications.
- Lay EcoTrihex Paving® as per manufactures specifications and fill gaps between pavers with no fines gravel.
- Remove all debris, vegetation cover and unacceptable in-situ soils. No excavation or soil level change of the sub base is allowable for the installation of the paving.
- Where the finished soil level is uneven, gullies shall be filled with 20 millimetre coarse gravel to achieve the desired level.



This construction method if implemented correctly can significantly reduce and potentially eliminated the risk of tree decline and/or structural failure and effectively increase the size of the Tree Protection Zone to include the area of the paving.

#### **Certificates of Control**

Stage in development	Tree management process						
Stage in development	Matters for consideration	Actions and certification					
Development submission	Identify trees for retention through comprehensive arboricultural impact assessment of proposed construction. Determine tree protection measures Landscape design	Provide arboricultural impact assessment including tree protection plan (drawing) and specification					
Development approval	Development controls Conditions of consent	Review consent conditions relating to trees					
Pre-construction (Sections 4 and 5)							
Initial site preparation	State based OHS requirements for tree work	Compliance with conditions of consent					
	Approved retention/removal	Tree removal/tree retention/transplanting					
	Refer to AS 4373 for the requirements on the pruning of amenity trees	Tree pruning Certification of tree removal and pruning					
	Specifications for tree protection measures	Establish/delineate TPZ Install protective measures					
		Certification of tree protection measures					
Construction (Sections 4 and 5)							
Site establishment	Temporary infrastructure Demolition, bulk earthworks, hydrology	Locate temporary infrastructure to minimize impact on retained trees Maintain protective measures Certification of tree protection measures					
Construction work	Liaison with site manager, compliance Deviation from approved plan	Maintain or amend protective measures Supervision and monitoring					
Implement hard and soft landscape works	Installation of irrigation services Control of compaction work Installation of pavement and retaining walls	Remove selected protective measures as necessary Remedial tree works Supervision and monitoring					
Practical completion	Tree vigour and structure	Remove all remaining tree protection measures Certification of tree protection					
Post construction (Section 5)							
Defects liability/ maintenance period	Tree vigour and structure	Maintenance and monitoring Final remedial tree works Final certification of tree condition					

#### Document Source:

This table has been sourced from AS4970-2009 Protection of trees on development sites. Further information and guidelines are available in within that document.

# Tree Protection Zone



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