



Canopy Tree Planting in Residential Areas

To promote climate responsive landscape design in residential development to support thermal comfort, reduce the urban heat island effect and improve medium density housing.

Final: August 2019

Version Control		
Date	Authorisation	Summary of version
February 2019	Draft Report	Draft report peer reviewed by Glossop Town Planning
July 2019	Council Adopted (DCF53/19)	Final Report: Canopy Tree Planting in Moreland background report Adopted by Council
August 2019	Delegated Change	Minor changes to the Council adopted version to: <ul style="list-style-type: none"> • To correctly reference the new name of the Moreland Energy Foundation as Australian Energy Foundation. • Minor grammatical changes to the proposed standard B13 tree planting requirements in the Residential Growth Zone and Mixed Use Zone Schedules

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Introduction

This report is guided by research and findings from the Moreland Urban Heat Island Action Plan (2016-2026), Medium Density Housing Review (2018) and Moreland Urban Forest Strategy (2017 -2026). Recommendations within this report aim to implement actions of these strategies to achieve improvements in the urban climate by improving the canopy cover in the private realm.

Canopy tree planting in the private realm within infill development is primarily implemented through the planning process. However, tree planting directed through the planning process is unable to keep up with the net loss of canopy cover throughout the municipality as a consequence of urban consolidation.

Recent satellite and aerial images show that Moreland is not only hotter and has less vegetation and open spaces than many municipalities in Melbourne, but our community is also more vulnerable to climate change. Moreland's Urban Heat Island Effect Action Plan (UHIEAP) and Urban Forest Strategy (UFS) outline the reasons for these increased temperatures is due to an increased amount of hard surfaces and the planting of small trees and loss of canopy cover in both the private and public realm. These strategies recognise that Moreland's temperature will continue to increase without a change and a strategic approach to tree planting.

These strategies identify the role of private land in addressing Moreland's climate changes, including necessary interventions to achieve Council's commitment for sustainable neighbourhoods as set out in Moreland's Council Plan:

Moreland will be known for its proud diversity, and for being a connected, progressive and sustainable city in which to live, work and play.

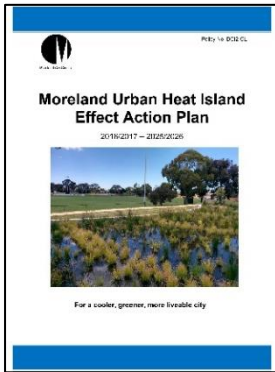
Council's vision for sustainable neighbourhoods underpins the way that Council intends to plan for and manage population growth and associated development into the future, for the overall health and wellbeing of the community and to achieve environmentally sustainable development. If we want to fulfil the vision for a sustainable Moreland, then it is important that we take some important steps towards greening our municipality through increasing the amount of shade trees and vegetation (new and encouraging the retention of established trees/vegetation), improving the provision of vegetation and nurturing our urban forest.

The recommendations within this report implement this vision and actions of the UFS and UHIEAP by directing improvements in the quality of tree planting in the private realm to enrich the urban environment without impacting the opportunity to provide additional housing for Moreland's growing population. This is consistent with the findings and recommendations of Moreland's Medium Density Housing Review (MDHR), that landscaping improves the quality of medium density housing.

Analysis of the size and location of private open spaces in planning applications for medium density development determined that there is an opportunity to include specific tree size, locations and tree numbers within schedules of the residential zones within the Moreland Planning Scheme to provide improved canopy cover in the private realm without impacting on housing yield. This analysis informs the implementation of the UHIEAP, UFS and MDHR actions to utilise the Moreland Planning Scheme to achieve greater canopy coverage on private land to help mitigate the urban heat island effect and improve the quality of medium density housing in Moreland.

Strategic Framework

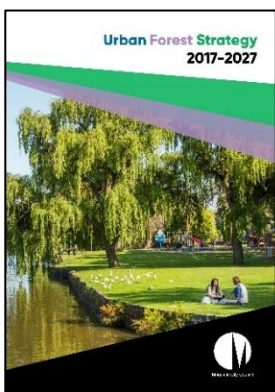
The following Moreland and State Government documents have informed the preparation of this report, its analysis findings and conclusions. For further detail on documents listed below, see Appendix 1.



Moreland Urban Heat Island Action Plan (2016-2026) was adopted by Council in June 2016 and contains goals, strategies, targets and actions to start Moreland on the path to achieving the vision:

Moreland in 2026 will be cooler and more liveable with improved protection from urban heat

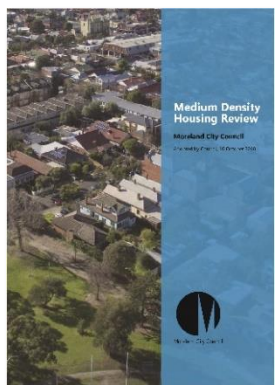
The plan details increasing tree canopy cover across the municipality is key to achieve this goal.



Moreland Urban Forest Strategy (2017-2027) was adopted by Council in August 2017 to deliver practical measures that guide the sustainable planning, planting, management, resourcing and protection of vegetation across Moreland to achieve the vision:

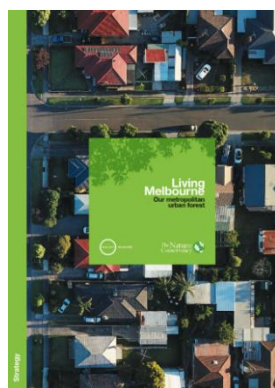
To promote and encourage the transformation of Moreland into a municipality where healthy trees and vegetation are a core part of the urban environment

Council intends to achieve this vision by establishing practices that nurture the urban forest and double the canopy by 2030.



Medium Density Housing Review (2018) prepared and adopted by Council in October 2018 investigated the quality of townhouse and unit development within Moreland. The extensive and broad ranging inputs provided a detailed understanding of what is driving the quality of medium density outcomes and how they can be improved.

Increasing canopy cover and landscaping was one of a number of actions the review identified. These changes can improve the appearance and quality of medium density housing for those who live in this housing and the broader Moreland community.



Living Melbourne: Our Metropolitan Urban Forest (2019) the purpose of this document is to shift Melbourne's approach to the urban forest, identifying its contribution to the creation of a resilient city, using evidence to prepare actions to connect, extend and enhance urban greening across the metropolitan area. Actions include:

- Protect and restore species habitat, and improve connectivity
- Set targets and track progress
- Scale up greening in the private realm
- Collaborate across sectors and regions
- Build a toolkit of resources to underpin implementation

Balancing population growth & greening

Medium density housing in Moreland

Moreland currently receives approximately 400 applications a year for medium density housing.

Maximising the amount of tree canopy within Moreland's medium density housing without impacting housing yield is the key driver of this project. Currently, trees and landscaping are determined once the layout has been established, resulting in trees being chosen based on the space within a determined layout. Redesigning the built form on each site to facilitate greater canopy trees, and subsequently canopy cover, reverses this trend by considering the size of trees first and ensuring there is adequate space within the layout for a meaningful canopy to grow

An analysis of all planning applications lodged for medium density development in September 2018 (24 relevant applications) was conducted to understand the relationship between site size, typology, open spaces, built form and zoning. Key findings from this review are detailed in Table 1, which indicates that there is great potential to increase the requirements for planting in medium density development.

Table 1: Key findings from case study sample of medium density housing applications lodged in September 2018

Zoning	96% of the applications were located in the Neighbourhood Residential or General Residential Zone.
Typology	91% were traditional living in design, with the recreational spaces provided as ground level secluded private open space.
Permeability	The majority of applications provided a layout with at least 30% permeability, which is 10% greater than the minimum amount to comply with Rescode Standard B9.
Garden Area	87% were on sites of more than 400m in size, triggering a minimum garden area requirement.
Front Yards	Front yards were at least 5m deep in 74% of applications, and 83% had a front yard of at least 40 square meters in area, with the median front yard width and size being 15.2m and 69m ² respectively.
Secluded Private Open Spaces (SPOS)	All but one application had at least one of the dwelling with a SPOS with a minimum depth of 4m or more.
Easements	Almost 50% of applications had an easement on the land that transverses at least one dwellings secluded private open space.
Yield	Applications for three or more dwellings were on lots greater than 500m ² in size.
Underdevelopment	5 applications considered to be an underdevelopment of the site, being two dwellings on a lot greater than 650m ² in size.

Opportunities for planting in Neighbourhood Residential and General Residential Zone areas

As the above analysis of medium density development indicated the significant opportunity to provide additional planting, spatial analysis of the private open spaces in medium density development was conducted to determine the largest size tree that can be accommodated in the existing private open spaces to maximise the long-term shading benefits whilst not impacting on dwelling yield. The results of this analysis are set out in this section.

Planting opportunities in the front setback

Tree planting within the front setback can provide shading benefit to both the private and public realm. Moreland encourages broad tree-canopy in private front yards to shade footpaths and roads so long as trees are maintained, and minimum clearance requirements are met. With this understanding, Council is not in opposition with private tree canopies of 45m² in size projecting over public land as it can provide an overall community benefit. This provides an opportunity for larger trees to be planted within the front setback.

The ability for a 45m² sized canopy tree to fit within front yards was analysed against the case study sample of applications. Table 2? illustrates various sized front yards of the case study sample with a tree with a 45m² sized canopy tree (7.6m wide canopy) within the front yard, only allowing up to 40% of the canopy to project over the public realm. This is considered a conservative approach as trees with this size canopy could overhang part of the built form such as porch structures to provide beneficial cooling of the roof structure through shading.

This examination demonstrated that on smaller lot sizes with small front setbacks of less than 4.5m, it was difficult to accommodate the majority of a 45m² canopy tree (sample 1 in Table 2). On larger lots with deeper front setbacks the majority of a 45m² tree canopy could be accommodated in the front yard, with an acceptable amount of overhang into the private realm. This analysis is demonstrated in Table 2 with 45m² canopy trees shown as a green circle within front setbacks of different sizes and shapes.

Table 2: Sample of case study applications on lots of varying size and shape demonstrating a tree with a 45m² canopy in the front yard

Sample	FRONT SETBACKS - 45m ² (7.6m wide) canopy shown in green	
1	Lot size	278m ²
	Front yard area	31m ²
	Front setback	3.6m
2	Lot size	439m ²
	Front yard area	41m ²
	Front setback	4.8m

Table 2: Sample of case study applications on lots of varying size and shape demonstrating a tree with a 45m² canopy in the front yard

Sample	FRONT SETBACKS - 45m ² (7.6m wide) canopy shown in green	
3	Lot size	575m ²
	Front yard area	47m ²
	Front setback	6.9m
4	Lot size	696m ²
	Front yard area	50m ²
	Front setback	8.1m

Planting opportunities in other open spaces

A similar analysis was undertaken for trees with the remaining private open spaces of the case study applications. The largest part of the remaining private open spaces was the secluded private open spaces (SPOS) of the proposed dwellings. These open spaces were generally smaller and more constrained than the front yard due to buildings on adjacent sites, the built form layout on the subject site and the presence of drainage and sewage easements.

Considering that the minimum canopy for a broad canopy tree is 20m² (as defined by the Moreland online Tree Finder Tool – see section What tree planting can be achieved at page 23 for further detail) and that each SPOS should provide adequate deep soil and ground area for this size tree, a 20m² sized canopy tree (5m wide canopy) was chosen as a measurable canopy for this analysis.

Table 3 illustrates side by side type development can accommodate this size tree (demonstrated as a green circle) in both dwellings SPOS regardless of the lot size or presence of an easement.

Table 3: Sample of case study applications of on lots of varying size and shape demonstrating trees with a 20m² (5m wide) canopy in the secluded private open spaces

Sample	SIDE BY SIDE TYPOLOGY - 20m ² (5m wide) canopy shown in green	
1	Lot size	278m ²
	SPOS size	28m ² & 25m ²
2	Lot size	387m ²
	SPOS size	53m ² & 53m ²

Table 3: Sample of case study applications of on lots of varying size and shape demonstrating trees with a 20m² (5m wide) canopy in the secluded private open spaces

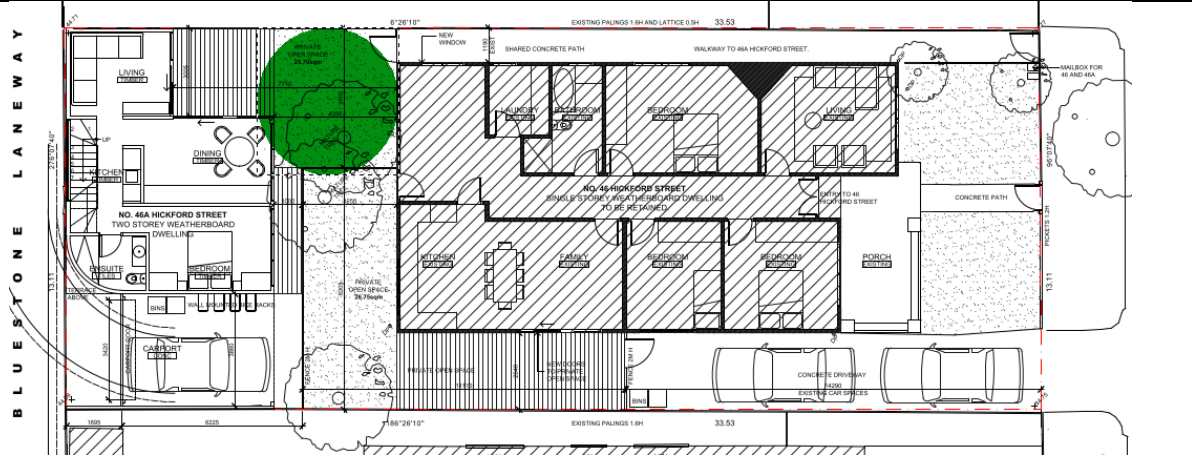
Sample	SIDE BY SIDE TYPOLOGY - 20m ² (5m wide) canopy shown in green	
3	Lot size	446m ²
	SPOS size	26m ² & 25m ²
4	Lot size	585m ²
	SPOS size	42m ² & 52m ²

There were a number of applications within the case study sample that seek to construct a second dwelling to the rear of an existing dwelling. Within this typology, retaining the existing dwelling and the existence of a rear easement constrains the site layout to provide space for only one 20m² canopy tree, as illustrated in Table 3. However, in the majority of the applications with this typology, modification to the new dwellings layout would open up the open space to provide an open area for a second tree with a 20m² canopy tree without impacting yield. For example, Sample 2 in Table 4 demonstrates a layout with a new single storey dwelling in the rear. Modifying this dwelling to a double storey form, or reducing the bedroom numbers to two, would open up a pocket of open space outside the easement to accommodate a second tree.

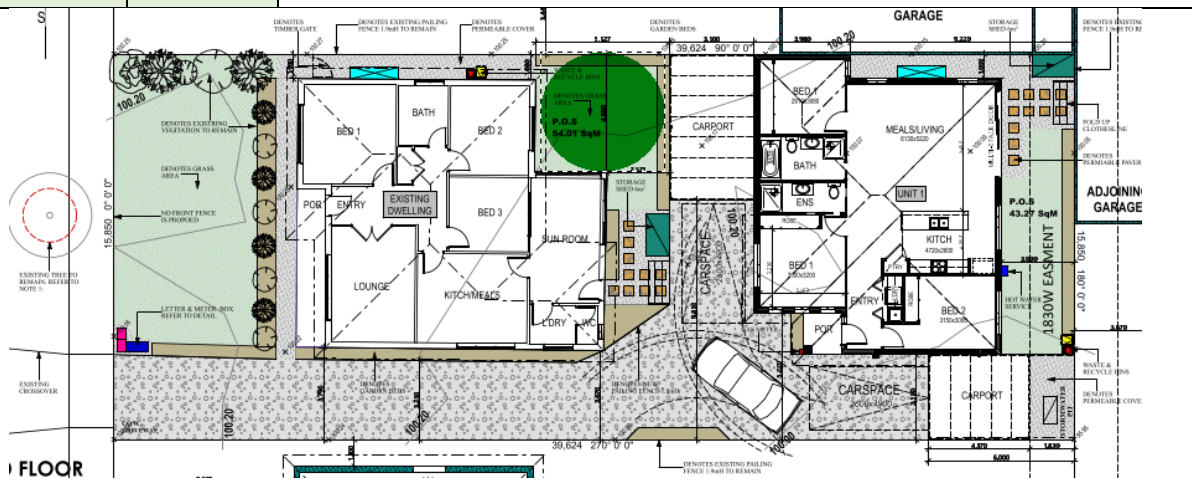
Table 4: Sample of case study applications on lots of varying size and shape demonstrating trees with a 20m² (5m wide) canopy in the secluded private open spaces

Sample TWO DWELLINGS (existing dwelling retained) - 20m² (5m wide) canopy shown in green

1	Lot size	439m ²
	SPOS size	26m ² & 25m ²



2	Lot size	628m ²
	SPOS size	28m ² & 36m ²



3	Lot size	697m ²
	SPOS size	31m ² & 45m ²

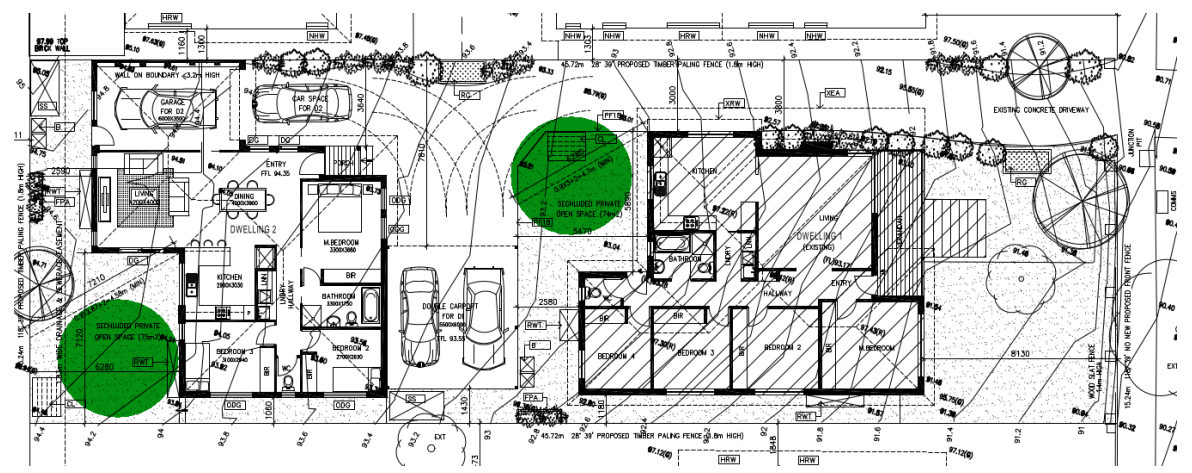
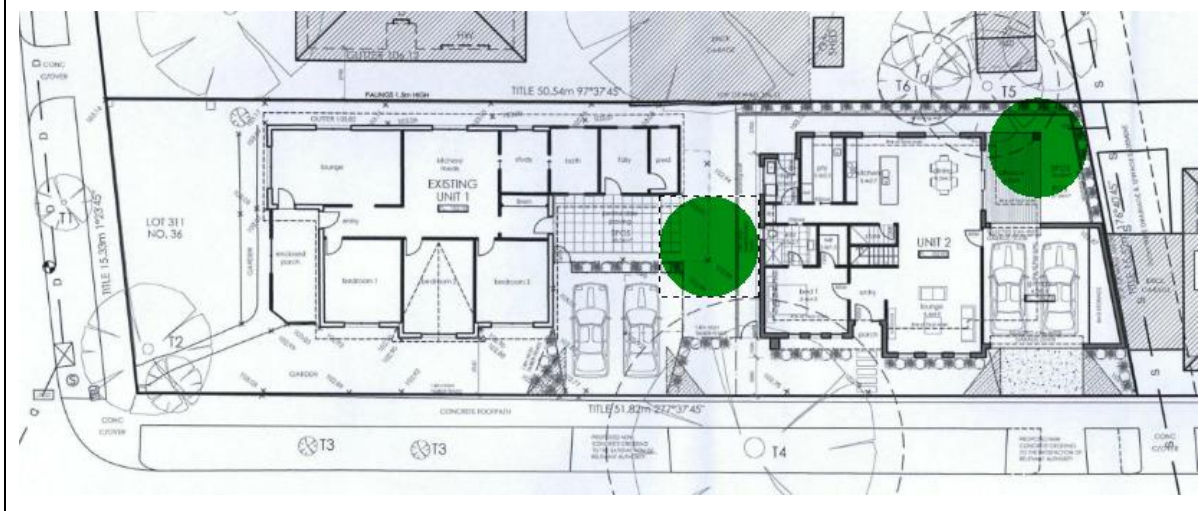


Table 4: Sample of case study applications on lots of varying size and shape demonstrating trees with a 20m² (5m wide) canopy in the secluded private open spaces

Sample	TWO DWELLINGS (existing dwelling retained) - 20m ² (5m wide) canopy shown in green	
Lot size	779m ²	
SPOS size	35m ² & 34m ²	



The case study applications for three or more dwellings identified that whilst the garden area had increased the depth of the SPOS, the depth would need to further increase to accommodate a canopy of 20m² entirely within the SPOS of the dwellings.

The approach to allow some overhang of the canopy across the property boundary was also considered acceptable within these spaces, however at a much lesser degree. Considering that Australian Standard 4970-2009, Protection of trees on development sites, states that an incursion of more than 10% of the Tree Protection Zone (TPZ) is a major encroachment and may require a detailed root investigation, a 10% overhang of the canopy would be a tolerance that would not inhibit development on abutting allotments and the viability of any tree.

Figure 1 demonstrates a 10% overhang of a circular 20m² canopy equates to 2m² area that extends 0.8m into an abutting allotment.

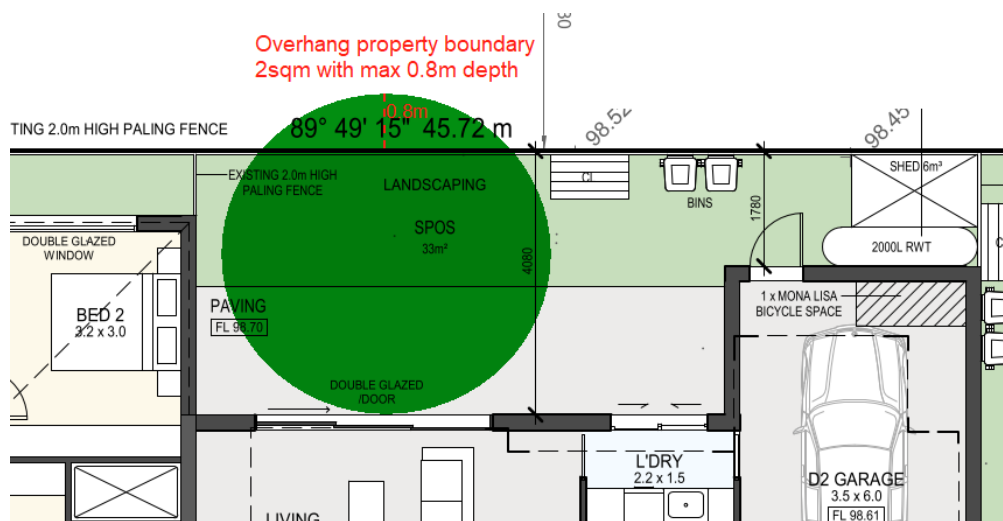


Figure 1: Demonstrating 10% overhang of a tree with a 20m² canopy.

Using this tolerance, a 20m² canopy tree would require the depth of a secluded private open space to be at least 4.2m. The analysis of the case study sample identified in the majority of the applications at least one of the secluded private open spaces had this depth.

Applying this tolerance to the analysis to development layouts for three or more dwellings found that there were private open spaces outside of the front setback that could accommodate at least two trees with a 20m² canopy. The analysis also determined that in many instances the layout could be modified to accommodate additional trees at tree planting rate of one per dwelling without impacting yield or bedroom numbers. The Table 5 illustrates examples of this outcome from the case study samples, with trees being shown:

- Entirely within the SPOS;
- With a 0.8m tolerance over the property boundary; and
- Where a modified building footprint could provide space for an additional tree without greatly impacting the development outcome.

Table 5: Sample of case study applications on lots of varying size and shape demonstrating trees with a 20m² canopy in the secluded private open spaces.

Sample	THREE or MORE DWELLINGS - 20m ² (5m wide) canopy shown in green	
1	Lot size	585m ²
	SPOS size	26m ² , 32m ² & 26m ²
2	Lot size	624m ²
	SPOS size	45m ² , 30m ² & 31m ²

Table 5: Sample of case study applications on lots of varying size and shape demonstrating trees with a 20m² canopy in the secluded private open spaces.

Sample	THREE or MORE DWELLINGS - 20m ² (5m wide) canopy shown in green	
3	Lot size	664m ²
	SPOS size	54m ² , 36m ² & 36m ²
4	Lot size	696m ²
	SPOS size	30m ² , 33m ² & 52m ²
5	Lot size	710m ²
	SPOS size	31m ² , 28m ² & 43m ²

Table 5: Sample of case study applications on lots of varying size and shape demonstrating trees with a 20m² canopy in the secluded private open spaces.

Sample	THREE or MORE DWELLINGS - 20m ² (5m wide) canopy shown in green	
6	Lot size	1067m ²
	SPOS size	26m ² , 49m ² , 45m ² & 49m ²

Planting Opportunities in Residential Growth Zone and Mixed Use Zone areas

Medium Density Development within Moreland’s Residential Growth (RGZ) and Mixed Use Zones (MUZ) intends to provide housing at increased densities to that within the Neighbourhood Residential and General Residential Zone to support Melbourne’s growing population. Whilst policy within the Moreland Planning Scheme seeks to encourage apartment type development within these zones, it is not uncommon for townhouse development with a reverse living in architectural style. A consequence of a reverse living typology is site coverage is maximised, ground level open spaces are smaller than other residential zones, and the built form often cantilevers over open spaces, limiting the opportunity for canopy tree planting.

Consideration needs to be given to this purpose to provide housing at greater densities within the RGZ and MUZ and avoid onerous tree canopy provisions that may stifle desired development outcomes.

The Design and Development Overlay 24 (DDO24) affects Moreland’s lots zoned Residential Growth Zone 2 (RGZ2) and some lots zoned Residential Growth Zone 1 (RGZ1) and include specific front, side and rear setback requirements that influence layouts to contain small sized open spaces. Key metrics in DDO24 are also translated in the RGZ2 schedule (but not the RGZ1 schedule) include for residential development:

- Front setbacks of at least 3m
- Minimum rear setback of 3m

These key metrics would direct spaces for tree planting, with Table 6? illustrating two examples of applications within the RGZ2 with space for a 20m² canopy in the front setback. These examples also demonstrate with some minor modifications, a second tree can be accommodated within a site layout.

Using the deep soil planting calculation within Clause 55.07-4 (Deep soil areas and canopy trees) and Clause 58.03-5 (Landscaping), no tree would be required for layout demonstrated in sample 1 and only one tree within the layout in sample 2 detailed in Table 6.

Table 6: Sample of case study applications demonstrating trees with a 20m² canopy in the private open spaces.

Sample	Residential Growth Zone - 20m ² (5m wide) canopy shown in green	
1	Lot size	587m ²
2	Lot size	696m ²

The Brunswick Activity Centre (BAC) contains a large pocket of RGZ1 and MUZ, with the DDO19, DDO20, DDO20 allowing in instances zero lot lines that has the potential to create conflict with a prescribed tree planting on the lot. RGZ1 and MUZ land outside the BAC however are commonly developed with a townhouse typology and accordingly could accommodate trees as demonstrated in Table 6. However, in instances where a design cannot accommodate broad canopy tree planting, alternative planting such as a row of narrow trees demonstrated along the boundaries in the examples in Table 6, can provide an amount of shading as beneficial as one larger tree. This type of planting in fact provides useful shading the expanse of hard-surfaces of the driveway.

An audit on undeveloped MUZ land within Moreland identified many as larger lot holdings that include substantial street frontages greater than the standard lot frontages within Moreland’s hinterland. Any townhouse type development would result in a number of dwellings fronting the street(s) and the opportunity for more than one tree where front setbacks are required. An example of such is the

development within the MUZ pocket fronting Stewart Street, Ivory Way, Roberts Street and Ryan Street Brunswick East (Figure 10) demonstrating a large number of townhouses fronting streets with setbacks that could accommodate canopy trees.



Figure 2: Street view of townhouses along Roberts Street, Brunswick East

Learning from planting requirements for Apartment Development

To supplement the spatial analysis undertaken for medium density development, Council has also reviewed the provisions for planting in apartment development which were introduced into the Moreland Planning Scheme quite recently on 13 April 2017. Any requirements for planting in medium density housing should at least replicate apartment development requirements, or exceed them, given the extensive space availability demonstrated in the above analysis of medium density housing.

Clause 58 of the Moreland Planning Scheme includes expanded objectives and standards to Clause 55 that relate to apartment development. Of particular interest is the landscaping provision of Clause 58.03-5 which provides additional objectives and standards focused on environmental outcomes, including reducing the urban heat effects. Table 7 illustrates in bold underline the aspects of Clause 58.03-5 that differ from Clause 55:

<i>Table 7: Clause 55 and Clause 58 Landscaping comparison</i>	
Clause 55.03-08	Clause 58.03-5
<p><u>Landscaping objectives</u></p> <ul style="list-style-type: none"> ▪ To encourage development that respects the landscape character of the neighbourhood. ▪ To encourage development that maintains and enhances habitat for plants and animals in locations of habitat importance. 	<p><u>Landscaping objectives</u></p> <ul style="list-style-type: none"> ▪ To encourage development that respects the landscape character of the area. ▪ To encourage development that maintains and enhances habitat for plants and animals in locations of habitat importance. ▪ To provide appropriate landscaping.

Table 7: Clause 55 and Clause 58 Landscaping comparison

Clause 55.03-08	Clause 58.03-5
<ul style="list-style-type: none"> ▪ To provide appropriate landscaping. ▪ To encourage the retention of mature vegetation on the site. 	<ul style="list-style-type: none"> ▪ To encourage the retention of mature vegetation on the site. ▪ <u>To promote climate responsive landscape design and water management in developments that support thermal comfort and reduces the urban heat island effect.</u>
<p>Standard B13 The landscape layout and design should:</p> <ul style="list-style-type: none"> ▪ Protect any predominant landscape features of the neighbourhood. ▪ Take into account the soil type and drainage patterns of the site. ▪ Allow for intended vegetation growth and structural protection of buildings. ▪ In locations of habitat importance, maintain existing habitat and provide for new habitat for plants and animals. ▪ Provide a safe, attractive and functional environment for residents. <p>Development should provide for the retention or planting of trees, where these are part of the character of the neighbourhood.</p> <p>Development should provide for the replacement of any significant trees that have been removed in the 12 months prior to the application being made.</p> <p>The landscape design should specify landscape themes, vegetation (location and species), paving and lighting.</p> <p>Development should meet any additional landscape requirements specified in a schedule to the zone.</p>	<p>Standard D10 The landscape layout and design should:</p> <ul style="list-style-type: none"> ▪ Be responsive to the site context. ▪ Protect any predominant landscape features of the area. ▪ Take into account the soil type and drainage patterns of the site <u>and integrate planting and water management.</u> ▪ Allow for intended vegetation growth and structural protection of buildings. ▪ In locations of habitat importance, maintain existing habitat and provide for new habitat for plants and animals. ▪ Provide a safe, attractive and functional environment for residents. ▪ <u>Consider landscaping opportunities to reduce heat absorption such as green walls, green roofs and roof top gardens and improve on-site stormwater infiltration.</u> ▪ <u>Maximise deep soil areas for planting of canopy trees.</u> <p>Development should provide for the retention or planting of trees, where these are part of the urban context.</p> <p>Development should provide for the replacement of any significant trees that have been removed in the 12 months prior to the application being made.</p> <p>The landscape design should specify landscape themes, vegetation (location and species), paving and lighting.</p> <ul style="list-style-type: none"> ▪ <u>Development should provide the deep soil areas and canopy trees specified in Table D2.</u> ▪ <u>If the development cannot provide the deep soil areas and canopy trees</u>

Table 7: Clause 55 and Clause 58 Landscaping comparison

Clause 55.03-08	Clause 58.03-5
	<p><u>specified in Table D2, an equivalent canopy cover should be achieved by providing either:</u></p> <ul style="list-style-type: none"> ▪ <u>Canopy trees or climbers (over a pergola) with planter pits sized appropriately for the mature tree soil volume requirements.</u> ▪ <u>Vegetated planters, green roofs or green facades.</u>
<p><u>Decision guidelines</u> Before deciding on an application, the responsible authority must consider:</p> <ul style="list-style-type: none"> ▪ Any relevant neighbourhood character objective, policy or statement set out in this scheme. ▪ Any relevant plan or policy for landscape design in the Municipal Planning Strategy and the Planning Policy Framework. ▪ The design response. ▪ The location and size of gardens and the predominant plant types in the neighbourhood. ▪ The health of any trees to be removed. ▪ Whether a tree was removed to gain a development advantage. 	<p><u>Decision guidelines</u> Before deciding on an application, the responsible authority must consider:</p> <ul style="list-style-type: none"> ▪ Any relevant plan or policy for landscape character and <u>environmental sustainability</u> in the Municipal Planning Strategy and the Planning Policy Framework. ▪ The design response. ▪ The location and size of gardens and the predominant plant types in the area. ▪ The health of any trees to be removed. ▪ <u>The suitability of the proposed location and soil volume for canopy trees.</u> ▪ <u>The ongoing management of landscaping within the development.</u> ▪ <u>The soil type and drainage patterns of the site.</u>

Whilst Clause 58.03-5 is specific to apartment typology, it could easily be applied to medium density development. In particular, the objective *“to promote climate responsive landscape design and water management in developments that support thermal comfort and reduces the urban heat island effect”* is considered an appropriate intent and character for all development in Moreland considering urban heat is a growing issue for the municipality. Utilising aspects of the standard and decision guidelines will also support the evaluation of a proposed landscape response against this objective.

Ensuring the success of planting in Medium Density Development

Tree size guidance

Tree size guidance is already referenced within the Moreland Planning Scheme within Table B5 of Clause 55.07-4 (Deep soil areas and canopy trees) and Table D2 of Clause 58.03-5 (Landscaping) associated with apartment developments (Table 8), and can be summarised as:

- Small: 6-8 metre high trees
- Medium: 8-12 metre high trees
- Large: at least 12 metre high trees

Site area	Deep soil areas	Minimum tree provision
750 - 1000 square metres	5% of site area (minimum dimension of 3 metres)	1 small tree (6-8 metres) per 30 square metres of deep soil
1001 - 1500 square metres	7.5% of site area (minimum dimension of 3 metres)	1 medium tree (8-12 metres) per 50 square metres of deep soil or 1 large tree per 90 square metres of deep soil
1501 - 2500 square metres	10% of site area (minimum dimension of 6 metres)	1 large tree (at least 12 metres) per 90 square metres of deep soil or 2 medium trees per 90 square metres of deep soil
>2500 square metres	15% of site area (minimum dimension of 6 metres)	1 large tree (at least 12 metres) per 90 square metres of deep soil or 2 medium trees per 90 square metres of deep soil

Note: Where an existing canopy tree over 8 metres can be retained on a lot greater than 1000 square metres without damage during the construction period, the minimum deep soil requirement is 7% of the site area.

Table 8: Table D2 of at Clause 58.03-5 (Landscaping) of the Moreland Planning Scheme demonstrating canopy tree size and deep soil areas for apartment development at Clause 58.03-5 (Landscaping).

This table also directs tree planting at a rate of 1 small tree per 30sqm of deep soil area, with deep soil area determined as 5% of the site area. This is a useful measure that could be translated to townhouse development within residential zones seeking higher densities such as the Residential Growth Zone and Mixed Use Zone areas.

Providing adequate space around a tree is essential to ensuring a tree reaches its full potential. This project is formulated around trees with a broad canopy to maximise their shading benefits. The Moreland's online Tree Finder tool provides a list of recommended tree species with their tree height, shape, maximum canopy area and deep soil areas defined. This project concentrated on the trees

listed with canopy areas of 20m² or more as these trees at maturity will have a substantial canopy that can provide shading and cooling benefits. An evaluation of these tree species identified a link between canopy area and the required ground soil area regardless of the tree size (summarised in Table 9).

Table 9: Connection between particular sized canopy trees and the minimum deep soil area.

Tree Size	Canopy area at maturity (m ²)	Canopy width (m)	Minimum ground soil area (m ²)
Small, Medium or Large Trees	20	5	10
	28	6	14
	38	7	19
	50	8	25
	64	9	32
	79	10	39
	113	12	57
	133	13	66
	177	15	88
	314	20	157

The majority of medium density housing in Moreland does not include basement car parking, which maximises the opportunity for deep soil planting. Considering that Standard B28 of Clause 55.05-4 requires each dwelling to provide at least a 25m² area of secluded private open space, and the majority of case study applications included front yards of at least 25m², there would be adequate ground soil area for trees with canopies of 20m²-50m² at the very least to be planted in the front setback and each secluded private open space of a development.

Space for a tree above ground is as important as the area below ground for a tree to grow. The Moreland Medium Density Housing Review identified that with the introduction of the garden area, the amount of private open spaces on lots has grown, and in particular enlarged the depth and total area of dwellings SPOS. The case studies for this project supported this finding and demonstrated that at least one of the SPOS proposed within the multi dwelling development layout was at least 4m deep.

Easements

Drainage and sewage easements are a common feature on residential lots within Moreland, often running along the rear boundary at widths of approximately 1.8m-3m. Infrastructure within these easements are associated with Yarra Valley Water, Melbourne Water and Council and vary in depth (0.8m-2m) and in material (UPVC, vitrified clay, concrete or terracotta).

Within medium density development, an easement is often included within at least one dwellings' secluded private open space. Tree planting within these spaces is not a common practice and not encouraged by beneficiaries of easements due to the potential damage roots can cause to infrastructure, with Yarra Valley Water outlining approximately 70% of all blockages are caused by tree roots invading infrastructure.

Melbourne Water's Planting Near Sewers, Drains and Water Mains Guide recommends that any trees or shrubs planted near an asset should be planted with a root barrier, described as a tough material that is wrapped around the base of the plant when it is planted to restrict the root system as the plant grows. Whilst the use of a root barrier can protect infrastructure, it may also restrict the growing

potential of a tree. Tree planting within an easement is therefore not considered within the scope of this project.

The existence of an easements within a developable lot can not only subsequently constrain a site layout but also may impact the available space for tree planting.

What tree planting can be achieved

The spatial analysis recognises that there is opportunity for larger trees to be planted within medium density housing to help mitigate the change in climate caused by urban consolidation. In particular, it is possible for most medium density development within the Neighbourhood Residential Zone and General Residential Zone to provide the space for a broad canopy tree in the front setback and canopy tree planting in each secluded private open space as detailed below:

Lots with front setbacks less than 4.5m

A minimum of 1 broad canopy tree within the front setback that is:

- 6-8m in height at maturity
- Achieve a canopy width of at least 5m at maturity
- Located within permeable area of at least 10m² and 4.5m wide.

Lots with front setbacks of 4.5m or more

A minimum of 1 broad canopy tree within the front setbacks that is:

- 8m-15m in height at maturity
- Achieve a canopy width of at least 7m at maturity
- Located within a 4.5m x 4.5m permeable area.

All

At least one broad canopy tree within the secluded private open space of each dwelling that is:

- 6-8m in height at maturity
- Achieve a canopy width of at least 5m at maturity
- Located within a 4.5m x 4.5m permeable area.

Increased canopy tree planting is also considered achievable in medium density housing within Residential Growth Zone and Mixed Use Zone but at a lesser extent than within the Neighbourhood Residential and General Residential Zones. It is suggested that space for canopy trees with a 20m² canopy could be achieved either in the front setback and an equivalent space somewhere else within the lot in the following manner:

Canopy trees within the front setback and remaining private open spaces that are:

- A height of 6m-8m at maturity
- A canopy width of at least 5m at maturity
- At least one tree in the front setback within a permeable area of at least 10m² and 4.5m wide where a residential front setback of at least 3m is required by a provision of the scheme.
- At least one tree within the remaining private open spaces within a permeable area of at least 4.5m x 4.5m.

Size of trees

The [Moreland's online Tree Finder Tool](#) was developed in 2018/2019 to provide a publicly accessible tool to help the community choose appropriate tree species with a number of searchable options including the purpose of the tree, size of the open space area and the size of a tree. It is anticipated that this tool will be frequently updated to increase the number trees.

The size of trees within the recommended metrics was considered against the features of trees (height, canopy area and width) within this tool to provide consistency and ease in end user use. The Moreland's online Tree Finder tool includes trees with 38m² canopy (7m canopy width) and 50m² canopy (8m canopy width) that generally align with trees with a 45m² canopy used in the case study analysis. Referencing a slightly smaller canopy of 38m² would ensure the case study analysis remains relevant to the canopy size chosen within the recommended metrics. Moreland's online Tree Finder tool also includes trees with 20m² canopy (5m canopy width).

Positioning

To achieve an optimal outcome, trees should be positioned to shade the large areas of hard surfacing exposed to the northern and western sun within the urban environment, such as the walls of buildings, roofing, driveways, roads and footpaths. However, due to the heights allowed within the residential zones and that the predominate layout separates the open spaces from much of the driveway, the optimal outcome could not be achieved without impacting housing yield.

Nevertheless, a reasonable outcome can be achieved with the planting of trees with larger canopies. Larger trees in the front setback have the potential to provide shading to part of the driveway, walls and ground floor roofing of dwellings in addition to footpaths and roads (Figure 3 & 4). Shading from trees within the secluded private open spaces could extend to walls and ground floor roofing and has the potential to provide shading to hard surfaces on abutting lots.



Figure 3: Front trees casting shade on the dwelling, driveway and footpath.



Figure 4: Canopy trees casting shade over the shared accessway and dwellings.

Additional vegetation, such as shrubs and grasses throughout a site will also provide cooling benefits to the urban environment. Cooling from lower level vegetation would benefit large surface areas where canopy shading cannot be easily achieved, such as driveways. Nature strips are often included adjacent to driveways within medium density development and should be encouraged in all medium density housing regardless of the zoning as described below. This is supported by DDO24 which encourages tree planting along property boundaries.

Driveways and accessways

Where a common accessway or driveway is provided, the canopy tree(s) should be located to provide some shading to the accessway or driveway.

Planting to be provided along the length of any driveway.

Alternatives

Whilst these metrics specify a size, space and location for tree planting, it is acknowledged that alternative landscaping could achieve an equivalent canopy shade. In particular, two smaller trees with a canopy width of 5m or a row of narrow trees could provide an equivalent shade to one canopy tree with a 7m canopy width. Conversely, one tree with a canopy width of 7m could be positioned between two dwellings to provide equivalent shading to the planting of one smaller tree within each dwelling's SPOS. For this reason, it is important that any provision provides opportunity for alternative planting arrangements to be considered.

Using the Victoria Planning Provisions to improve greening

Choosing the right Planning Provision Tool

There are a number of Victoria Planning Provisions (VPP) within the Moreland Planning Scheme that can be utilised to direct particular landscaping outcomes, and in particular specific canopy tree planting outcomes. Table 10 assesses the effectiveness of utilising of each of these tools to provide the new canopy tree planting direction to improve the urban landscape and has informed a decision on the most appropriate tool to implement the findings of this Report.

Table 10: Analysis of available planning provisions for planning schemes.

Provision	Purpose	Effectiveness
Local Policy-Neighbourhood Character	Guide the future character of areas of Moreland.	Useful in providing a direction on the future green character and landscape outcome sought within development. However, this policy is a character policy not an environmental policy.
Local Policy-Environmentally Sustainable Development	Directs new medium density development to provide an urban ecology that will contribute to sustainable development outcomes	Explicit in directing a design that will contribute to mitigating the UHIE, retention of trees, and biodiversity. However, the policy is commonly conditioned to compliance on medium density planning permits rather than given consideration in the initial design of development.
Schedules to Residential Zones	Include a variation to B13 with specific tree numbers, size and location as per the canopy metrics	Development industry generally complies with variations in schedules. This has been proven with high compliance with Moreland's Neighbourhood Residential Schedule that seeks trees to be planted in the private realm.
Heritage Overlay	Protection and management of significant heritage features including trees	Used for identifying and retaining specific established trees with heritage significance, which subsequently contribute to maintaining canopy coverage of Moreland. This is not a useful tool to direct the planting of trees to improve climate conditions.
Design and Development Overlay	Direction to a specific design and built form outcome	Used to implement requirements based on a demonstrated need to control built form and the built environment. It may contain specific landscaping requirements however the primary use is to control the scale and design of buildings with landscaping in the spaces. Could be used to direct particular tree planting outcomes.

Table 10: Analysis of available planning provisions for planning schemes.

Provision	Purpose	Effectiveness
Environmental Landscaped Overlays (Environmental Significance, Vegetation Protection & Significant Landscape Overlays)	Protection of identified landscape features	Primarily used in valuing and protecting an existing significant landscape feature or character (eg a creek corridor, woodlands, reserves, indigenous trees/grasses), which subsequently contributes to canopy coverage through the protection of existing vegetation. This is not a useful tool to direct planting of trees to improve climate conditions.

The analysis undertaken has identified that the recommended tree canopy metrics fit best as an additional requirement to Clause 55 Landscaping Standard B13 to be included in the schedule to the relevant residential zone. To confirm this conclusion, extensive analysis was also undertaken of other metropolitan planning schemes (set out in Appendix 5), and it was found that this approach is consistent with other Planning Schemes that include variations to Standard B13 within their residential zone schedules to direct minimum tree numbers, characteristics of the trees, and dimensions to accommodate the trees.

Whilst a Design and Development Overlay could also be utilised to implement the tree canopy metrics, this is considered a secondary tool that would add an additional layer of complexity, compared to using the residential zone schedules that already needs to be considered with all medium density planning applications.

Amendment VC110 introduced in March 2017 implemented the Government’s response to recommendations of the Managing Residential Development Advisory Committee by adding a new term garden area and amending the residential zones of all planning schemes, including new Neighbourhood Character Objective/Design Objective and Decision Guidelines sub clauses within the zone schedules. These two new subclauses provide the opportunity to include specific objectives and guidelines to support the landscaping outcomes Moreland seeks to help mitigate the urban heat island effect.

Utilising existing policy within Clause 58.03-5 (Landscaping) relating to apartment buildings is recommended to be incorporated within the residential zone schedules as objectives and decision guidelines. This will fill the gap identified in landscaping policy between apartment development and medium density development for a consistent response to the urban heat island effect across all residential development within Moreland.

Changes to the Moreland Planning Scheme

Residential zone changes

Tables 11-12 summarises the proposed changes to the Neighbourhood Residential, General Residential, Residential Growth and Mixed Use Zones detailed in Appendix 6.

<i>Table 11: Proposed changes to the Neighbourhood Residential Zone and General Residential Zone schedules</i>	
Neighbourhood Character Objective	<p>Insert a new objective:</p> <ul style="list-style-type: none"> <i>To promote climate responsive landscape character through increased tree canopy and vegetation to improve thermal comfort and reduce the urban heat island effect.</i>
Requirements of Clause 55 - Standard B13	<p>Replace the existing requirements to Standard B13 with the following:</p> <p><i>At least one canopy tree should be located within the front setback that meets the following requirements:</i></p> <ul style="list-style-type: none"> <i>For front setbacks of less than 4.5m:</i> <ul style="list-style-type: none"> <i>Located within permeable area within the site of at least 10m² and 4.5m wide.</i> <i>Reach a height of 6m-8m at maturity</i> <i>Achieve a canopy width of at least 5m at maturity</i> <i>For front setbacks of 4.5m or more:</i> <ul style="list-style-type: none"> <i>Located in a permeable area within the site of at least 4.5m x 4.5m</i> <i>Reach a height of 8m-15m at maturity</i> <i>Achieve a canopy width of at least 7m at maturity</i> <p><i>At least one canopy tree should be located within the secluded private open space of each dwelling that meets the following requirements:</i></p> <ul style="list-style-type: none"> <i>Located within a permeable area within the site of at least 4.5m x 4.5m</i> <i>Reach a height of 6m-8m at maturity</i> <i>Achieve a canopy width of at least 5m at maturity</i> <p><i>Where a common accessway or driveway is provided, the canopy tree(s) should be located to provide shading to the accessway or driveway, if practical.</i></p> <p><i>Additional planting should be provided along any driveway.</i></p>
Application Requirements	<p>Modify the application requirement for an existing vegetation plan to:</p> <ul style="list-style-type: none"> <i>A landscape plan showing existing trees (on the site and adjacent to the site) retained and any proposed for removal, tree and vegetation selection and planting plan in accordance with this schedule and the Moreland Tree Planting Manual for Residential Zones.</i>

Table 11: Proposed changes to the Neighbourhood Residential Zone and General Residential Zone schedules

Decision Guidelines	<p>Replace the existing decision guidelines with the following:</p> <ul style="list-style-type: none"> • <i>Whether there is opportunity to retain existing vegetation.</i> • <i>Whether the landscaping will provide suitable shading and cooling of the urban environment to reduce heat absorption and re-radiation of hard surfaces.</i> • <i>The suitability of the proposed location and soil volume for canopy tree health.</i> • <i>Whether alternative combination of canopy trees or climbers achieve equivalent or increased canopy cover to the requirements listed in 4.0.</i>
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Table 12: Proposed changes to the Residential Growth Zone and Mixed Use Zone schedules

Neighbourhood Character Objective	<p>Insert a new objective:</p> <ul style="list-style-type: none"> • <i>To promote climate responsive landscape character through increased tree canopy and vegetation to improve thermal comfort and reduce the urban heat island effect.</i>
Requirements of Clause 55 (Standard B13)	<p>Replace the existing requirements to Standard B13 with the following:</p> <p><i>The development should provide canopy trees to meet the following requirements:</i></p> <ul style="list-style-type: none"> • <i>At least one canopy tree within the front setback in a permeable area of at least 10m² (with a dimension of not less than 4.5m) within the site, where a residential front setback of at least 3m is required; and</i> • <i>At least one canopy tree elsewhere on the site with a permeable area within the site of at least 4.5m x 4.5m.</i> • <i>Where a common accessway or driveway is provided, the canopy tree(s) should be located to provide shading to the accessway or driveway, if practical.</i> <p><i>Additional planting should be provided along any driveway.</i></p> <p><i>Canopy trees are required to have a height of 6m-8m at maturity and a canopy width of at least 5m at maturity.</i></p>
Application Requirements	<p><u>RGZ</u></p> <p>Modify the application requirement for an existing vegetation plan to:</p> <ul style="list-style-type: none"> • <i>A landscape plan showing existing trees (on the subject site and adjacent to the site) retained and any proposed for removal, tree and vegetation selection, planting plan and irrigation in accordance with this schedule and the Moreland Tree Planting Manual for Residential Zones.</i> <p><u>MUZ</u></p> <p>Insert the following decision guidelines:</p> <ul style="list-style-type: none"> • <i>A landscaping plan showing existing trees (on the site and adjacent to the site) retained and any proposed for removal,</i>

Table 12: Proposed changes to the Residential Growth Zone and Mixed Use Zone schedules	
	<i>tree and vegetation selection, planting plan and irrigation prepared in accordance with schedule.</i>
Decision Guidelines	<p>Insert the following decision guidelines:</p> <ul style="list-style-type: none"> • <i>Whether there is opportunity to retain existing vegetation.</i> • <i>Whether the canopy tree(s) and landscaping is suitable to shade and cool buildings, hard surfaces and spaces, and reduce heat absorption and re-radiation from hard surfaces.</i> • <i>The suitability of the proposed location and soil volume for canopy tree health.</i> • <i>Whether alternative combination of canopy trees or climbers achieve equivalent or increased canopy cover to the requirements listed in 4.0.</i>

Other changes

Table 13 outlines other minor changes to policy to ensure consistency with the changes proposed in the residential zone schedules (detailed in Appendix 7).

Table 13: Proposed changes to other provisions of the Moreland Planning Scheme		
Clause 21.03	Strategic Framework - Urban Design, Built Form and Landscape Design Implementation	<p>Insert the following to the implementation of Clause 21.03-4:</p> <p><i>Apply tree canopy planting in accordance with the requirements of the schedules to the residential zones.</i></p>
Clause 21.04 Clause 72.04	Reference Documents Incorporated Documents	<p>Replace the Moreland Street Landscape Strategy 2012-2022 with the updated Moreland Urban Forest Strategy 2016-2026</p> <p>Modify the Moreland Tree Planting Manual for Residential Zones 2014 to update and remove conflicts summarised below:</p> <ul style="list-style-type: none"> • Remove section 'Matching Tree Size to Available Space' • Add reference to the Moreland Tree Finder Tool • Additional tree planting details relating to irrigation of planters and root barriers
Clause 22.01	Neighbourhood Character Policy	<p>Modify the wording to be consistent with the changes to the zone schedules to state:</p> <p>Ensure new development is designed, as confirmed on a landscape plan, to:</p> <ul style="list-style-type: none"> • <i>Maximise opportunities to retain existing canopy trees;</i> • <i>Include planting in the front setback with at least one canopy tree in accordance with the schedule to the zone;</i>

Table 13: Proposed changes to other provisions of the Moreland Planning Scheme

		<ul style="list-style-type: none"> • <i>Include planting of canopy trees in the secluded private open spaces of each dwelling in accordance with the schedule to the zone;</i> • <i>Maximise opportunities for tree planting in side and rear setbacks, and landscaping along driveways and vehicle accessways; and</i> • <i>Trees should be selected in accordance with the Moreland Tree Planting Manual for Residential Zones.</i>
Clause 43.02 - Schedule 24	Design and Development Overlay	Modify sub clause 2.0 to remove the date associated with the Moreland Tree Planting Manual for Residential Zones.

Peer review of methodology and proposed amendment

To further confirm that the planning tools set out above are an appropriate way to implement the findings of this Report in the Planning Scheme, Glossop Town Planning were engaged to undertake a peer review of the Canopy Trees in Moreland Methodology Report (Draft, February 2019) and the accompanying draft planning scheme amendment documentation. The peer review examined the strategic justification for the amendment, considered the technical correctness of the drafting and identified gaps in the methodology or improvements required in drafting.

The review determined that the proposed changes to the Moreland Planning Scheme were strategically justified based on findings from Moreland’s UFS, UHIEAP, Street Landscape Strategy and this background report, and outlined the proposed amendment demonstrates consistency with state and local policy. In particular, the amendment clearly supports the objective of Clause 15.02 and gives effect to the specific strategy to:

“Reduce the urban heat island effect by greening urban areas, buildings, transport corridors and open spaces with vegetation”.

And

“...the amendment is consistent with existing local policy within the Moreland Planning Scheme. Particularly, it furthers the objectives and strategies at Clause 21.03-4 ‘Urban Design’ in relation to landscaping. It provides detailed guidance on how to achieve effective canopy tree planting to meet the strategies and policy objectives at this clause.”

Glossop Town Planning supported Council’s use of the residential zones as the primary implementation tool and considered that the rationale and analysis undertaken by Council of the VPP tools was justified. Furthermore, *“the amendment makes efficient use of the VPP’s”*, it removes redundant provisions, does not repeat provisions already in the planning scheme but builds on existing provisions such as Clause 58.03-5 *“to apply a level of consistency and fill an identified gap between landscaping policy that applies to apartment development and medium density development”*.

The review recommended some areas for improvement, such as an analysis of the DDO tool, modifications to the RGZ and MUZ schedules and further testing of the tree planting within these areas. This work has been incorporated into this report in response to the review.

Glossop Town Planning concluded:

‘We consider that the implementation of the Canopy Trees in Moreland report, and other supporting documentation, will provide appropriate guidance for tree planting in residential areas and account for a recognised strategic need and deficiency in planting. It effectively addresses a gap in policy for landscaping requirements in the townhouse typology, whilst acknowledging that the garden area requirements in some zones are leading to improved outcomes.

The proposed amendment is generally drafted appropriately to be consistent with State and local policy and to effectively implement the findings of the strategic documents that underpin the strategic justification.

We observe that the draft amendment generally makes efficient use of the Victoria Planning Provisions and that the right ‘tools’ have been utilised in implementation. The proposed variations to Standard B13 are generally clearly drafted, practical and strategically justified”

Council's commitment to improving the urban climate (public and private land)

Council is actively doing their part to grow canopy cover across the municipality through the following projects. These efforts on public land, along with improving tree planting in medium density housing will improve the urban landscape on both private and public land to benefit all.

Findings from Moreland's current projects & initiatives

- **Moreland Council is actively implementing actions of the UFS and UHIEAP to improve Moreland's urban climate, including increasing canopy cover throughout Moreland by:**
 - **Creating new public parks**
 - **Planting larger trees to maximise canopy cover**
 - **Planting program that plants 5000 new trees per year in public open spaces**
 - **Prioritising planting in vulnerable areas**
 - **Improving irrigation of public open spaces**

Expanding canopy cover in public spaces

Moreland's Street Tree Planting Program aim is to increase canopy cover by planting 5000 new trees per year, with prioritising tree planting in parks and streets that are most vulnerable to urban heat. The strategic approach to planting has also changed, with Council focused on planting larger trees where possible to maximise canopy cover.

Conserving water

Water is critical to ensure open spaces remain green and plantings survive hot summers. [Watermap 2020](#) is Council's Integrated Water Management Plan that outlines both corporate and community projects required to achieve improvements in stormwater quality and also water conservation. Managing water resources is critical in ensuring existing and future vegetation is healthy and vibrant.

Park Close to home

[A Park Close to Home \(2017\)](#) is a plan to fill open space gaps in Moreland. This project is about creating and improving access to open space in the areas that need it most with a commitment to the creation of at least two new parks in areas with the lowest access to open space by 2021. The new parks and upgrades to parks utilise the Open Space Contribution Levy funds that have been collected through subdivision applications following the introduction of the Subdivision Act 1988.

In March 2019, Moreland Council purchased two large parcels of land (2000m² and 2600m²) for two new parks in areas of Brunswick with poor access to public open space. With these new land parcels, Council is on track to delivering the two new parks by 2021.

Transitioning to a zero carbon Council

[Zero Carbon Evolution - Refresh to 2020 \(ZCE\)](#) was adopted by Council in January 2019 and sets out an ambitious plan to achieve a 22 per cent reduction in carbon emissions across the Moreland community by 2020. A reduction of this scale would see the municipality living within its 'carbon budget' and on track to zero carbon.

Local Law

In 2018 Council introduced the Local Law Clause 2.5 'Protection of mature trees'. The purpose of this local law is to protect existing and future mature trees on private land through necessitating a [Tree](#)

[Works Permit](#) be obtained from council prior to the pruning or removing of a mature or significant tree on private property.

New resources

Council has recently added an additional resource in the new Urban Forestry Officer to manage Moreland's Street Tree Planting Program and implementation of the UFS. Additionally, Council has employed two new planning enforcement officers to increase proactive enforcement to contribute to better development outcomes with a particular focus on ESD, accessibility and landscaping.

Sustainable Buildings Policy

Through implementation of the Sustainable Buildings Policy, Council are applying heat mitigation techniques to buildings across the municipality.

Partnerships

Australian Energy Foundation is a long-term key partner for Council helping our community tackle Climate Change. Australian Energy Foundation's Positive Charge team are advising our community on saving energy and improving comfort in their home through actions that will have immediate effect like insulation, shading and cool roofs. Council is actively seeking partnerships and funding opportunities to progress a number of projects as well as providing support to encourage our community to take action.

Significant tree register

Council has begun evaluating a large number of trees within the municipality for their significance, with the aim to produce a significant tree register to be introduced into the Moreland Planning Scheme. The purpose of the significant register is to recognise, celebrate and protect the exceptional trees that exist on privately or publicly owned land.

Conclusion

Analysis outlined in this Report demonstrates that with minor changes to the site layout, multi dwelling townhouse development could better utilise the private open spaces to maximise tree canopy, with the planting of larger canopy trees without impacting dwelling yield. Recognising the different built form outcomes within different residential zones, the extent of canopy tree planting recommended varies between different residential zones.

Neighbourhood Residential Zone (NRZ) and General Residential Zone (GRZ)

Residential development within Moreland's Neighbourhood Residential and General Residential Zones can in most instances include a layout to accommodate:

- Broad canopy trees that can reach 8-12m in height and a canopy width of 7m within a permeable area in front yards; and
- Broad canopy trees that can reach 6-8m in height and a canopy width of 5m within a permeable area in the courtyards of each dwelling.

The NRZ and GRZ affect approximately 80% of all residentially zoned land and provide the greatest opportunity to grow canopy cover on residential land.

Residential Growth Zone (RGZ) and Mixed Use Zone (MUZ)

Medium Density Development within Moreland's Residential Growth and Mixed Use Zones intends to provide housing at increased densities to support Melbourne's growing population. Whilst policy within the Moreland Planning Scheme seeks to encourage apartment type development within these zones, it is not uncommon for townhouse development with a reverse living in architectural style. A consequence of a reverse living typology is site coverage is maximised, ground level open spaces are smaller than other residential zones, and the built form often cantilevers over open spaces, limiting the opportunity for canopy tree planting.

Nevertheless, analysis has determined greater canopy cover is also achievable in medium density housing within RGZ and MUZ but at a lesser extent than within the NRZ and GRZ. In most instances townhouse style development in the RGZ and MUZ could accommodate:

- At least two broad canopy trees of 6-8m in height and a canopy width of 5m within a permeable area, with at least one tree located in the front setback

Changes to the Moreland Planning Scheme

The Moreland Planning Scheme already utilises residential zone schedules to direct particular tree planting requirements where a Clause 55 assessment is required (as an additional requirement to the landscaping Standard B13) with high compliance by applicants. Expanding these canopy tree planting requirements is recommended to direct a particular tree size and location will provide greater clarity to applicants and property owners when designing new medium density housing.

It is also proposed to change the planning scheme to include new decision guidelines and the following neighbourhood character objective to support the changes to Standard B13:

- To promote climate responsive landscape character through increased tree canopy and vegetation to improve thermal comfort and reduce the urban heat island effect.

Changes to other provisions in the Moreland Planning Scheme as set out in Appendix 7 are also recommended to ensure consistency with these new landscaping requirements, including updating the reference to the Moreland Tree Planting Manual for Residential Zones.

Appendix 1- Strategic Framework

Urban Heat Island Effect Action Plan (UHIEAP)

The Moreland Urban Heat Island Action Plan (2016-2026) was adopted by Council in June 2016 and contains goals, strategies, targets and actions to start Moreland on the path to achieving the vision:

Moreland in 2026 will be cooler and more liveable with improved protection from urban heat

Relevant conclusions from the Moreland Urban Heat Island Effect Action Plan (2016-2026)

- The Urban Heat Island Effect (UHIE) is having a real affect across Moreland with Moreland experiencing very few cool places and a significant number of very hot spaces.
- UHIE is getting worse in Moreland’s residential areas, with infill development being a major cause due to the loss of mature trees on both private and public land, and increases in hard surfaces that trap, absorb and radiate heat.
- The Urban Heat Island Action Plan focuses on strategies to change the physical environment to address UHIE, which has wide reaching social, economic and environmental benefits.
- A key goal of the Urban Heat Island Action Plan is to reduce the impact of extreme heat events in Moreland and creating a cooler, greener more liveable city.
- Increasing tree canopy cover across the municipality is as a key action of the plan to achieve this goal.
- Tree canopy is considered the most efficient method to combat environmental impacts of climate change (urban heat island effect) to reduce summer temperatures and improve the thermal comfort of buildings and open spaces through reducing heat absorption and re-radiation of heat by shading hard surfaces and structures. Canopy shading also has economic benefit of prolonging the life of infrastructure and reducing energy use in buildings by lowering mechanical cooling requirements and subsequently avoiding further carbon emissions.
- Through planning applications for medium density housing, specific canopy tree planting for long term canopy cover can improve climate conditions within residential areas of the municipality.

The Moreland UHIEAP reports that during heatwaves most parts of the City can be four to seven degrees warmer than surrounding rural areas and that Moreland’s UHIE vulnerability is overall high across the municipality, with a high number of extremely hot places and with very few cool places. The Moreland UHIEAP concluded that the Moreland community is highly vulnerable during heatwaves, in particular the most affected are the elderly, the very young and those with pre-existing medical conditions. The UHIEAP also determined that Moreland’s natural assets, such as green space and trees, are also at risk due to reduced water and heat stress, with the loss of these natural asset impacting animals that living in them and which further increase the UHIE.

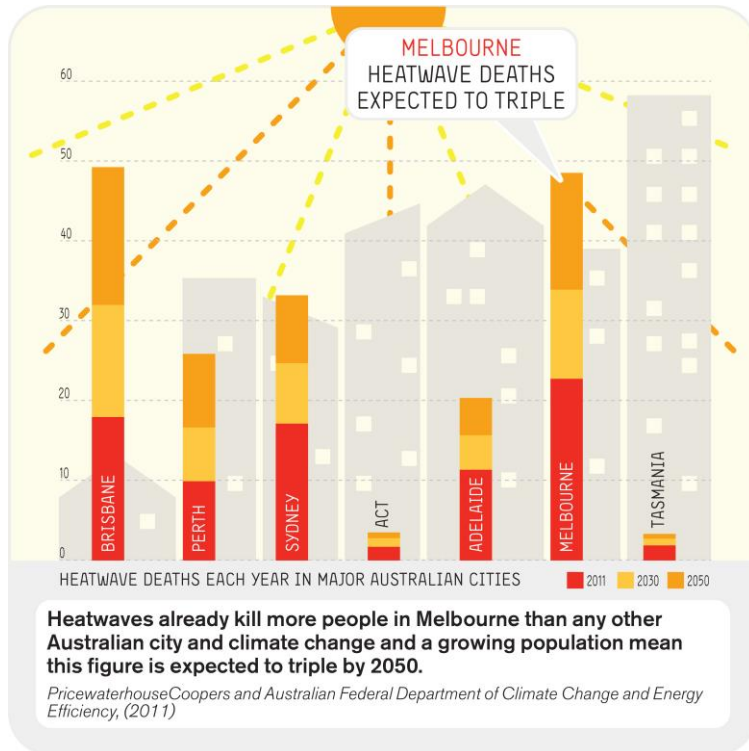


Figure 1: Heatwaves kill more people in Melbourne than any other Australian city and is expected to rise

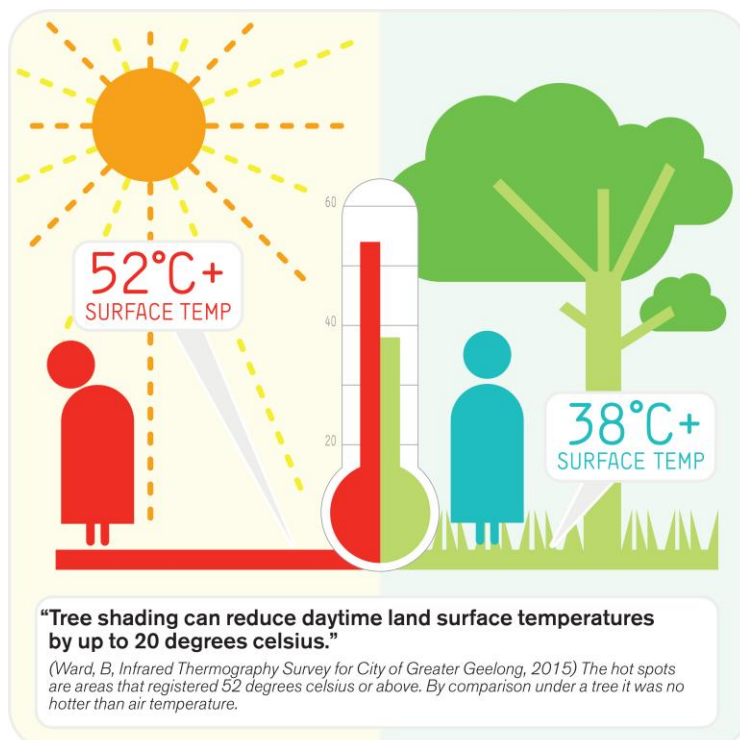


Figure 2: Tree Shading can reduce daytime land surface temperatures by up to 20 degrees celsius

Moreland Urban Forest Strategy 2017

The Moreland Urban Forest Strategy 2017 was adopted by Council in August 2017 to deliver practical measures that guide the sustainable planning, planting, management, resourcing and protection of vegetation across Moreland to achieve the vision:

To promote and encourage the transformation of Moreland into a municipality where healthy trees and vegetation are a core part of the urban environment

Council intends to achieve this vision for greening Moreland by establishing practices that nurture the urban forest and double the canopy by 2030 to improve the health and wellbeing of current and future generations.

Relevant conclusions from the Moreland Urban Forest Strategy (2017-2026)

- **The benefits of a healthy urban forest are vast and include numerous social, environmental and economic benefits to a community, including improving the summer temperatures and comfort of the urban environment through shading and cooling.**
- **Moreland has a relatively young urban forest providing 14% canopy cover comprising of 9% private trees and 5% public trees.**
- **The extent of the urban forest across Moreland is in decline. Urban consolidation has been the main cause of the decline (both private and public trees). In the private realm, new developments are incorporating larger building footprints that replace existing tree canopy and include a layout that can only accommodate small trees. In the public realm, established trees are being removed to facilitate new vehicle crossings which are also reducing the available green space within the road reserve for new street tree planting.**
- **The dominance of small trees both on private and public land has constrained the growth of the urban forest. Poor establishment and maintenance practices were also found to be the cause of underperforming trees.**
- **The Urban Forest Strategy (2017-2026) recommends a significant shift in approach to managing and resourcing the urban forest to realise a vision where healthy trees and vegetation are a core part of the urban environment.**
- **UFS actions direct a change in tree selection and planting methods towards planting medium to larger trees to improve shading, cooling, biodiversity, energy savings, air quality, health benefits and amenity in Moreland.**
- **The strategy identified a further 30% of Moreland's land area where canopy trees could be planted, including 14% on private land and 16% on public land to**

Moreland UFS outlines that Moreland's urban forest refers to all trees and other vegetation in public and private spaces and includes street and park trees, front and backyard trees, grasslands, wetlands, nature strips, balcony plants, and green roofs and walls. Benefits of the urban forest are vast and include environmental, health and economic benefits as summarised in figure 3. The recommendations within this report focus on implementing actions of the UFS to deliver environmental benefits and in particular shading and cooling benefits.

Benefits of Trees

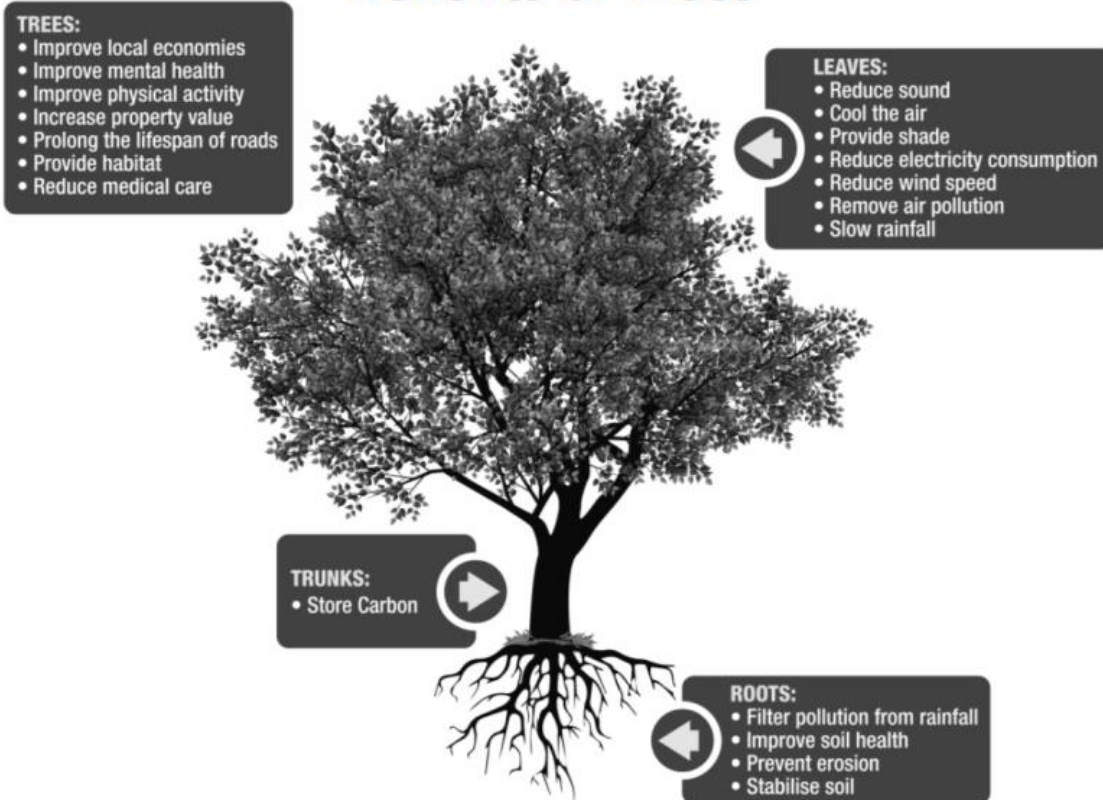


Figure 3: The benefits of trees

Canopy cover is used as a proxy measurement for the extent of the urban forest and is a measure of the physical coverage of the combined tree canopy cover over the land. The UFS measured the change of this over time, location and composition of the canopy to help Council and the community understand where we are performing well and areas that may need intervention.

The UFS concluded that the overall canopy cover in 2016 was 14% of Moreland's total land area, with private land being the largest contributor (figure 5). However, private canopy was demonstrating a decline contributing only 9.2% in 2016 compared to 12.7% in 1989, with urban consolidation being the key cause of the decline. As a result, the burden for providing future tree canopy in Moreland was increasingly shifting to the public realm and Council. There is an increasing reliance on Council parks and road reserves for canopy cover and green space as dwelling construction removes existing trees and limits future tree planting opportunities.

Tree canopy on public land (street and park trees) conversely demonstrated growth from 1.3% in 1989 to 5% in 2016. In recognising the low cover on public land, Moreland City Council has planted over 40,000 trees over the last decade through a range of programs including: the in-fill planting program, park renewals, streetscape improvements program, and annual capital works projects.

Whilst the number of trees on public land has grown substantially, the UFS details 57% of all trees are less than 5m in height, a strategic decision in order to assist in maintaining trees, and reduce complaints arising from conflicts with other assets (powerlines, signage, vehicles etc), tree root damages, overhanging limbs and storm damage. The implications of this approach have emerged, with small trees dominating the municipality and constraining the growth of the urban forest. A key action of the UFS is to change the approach in managing and resourcing the urban forest with directing the planting of larger trees to maximise canopy cover and its benefits.

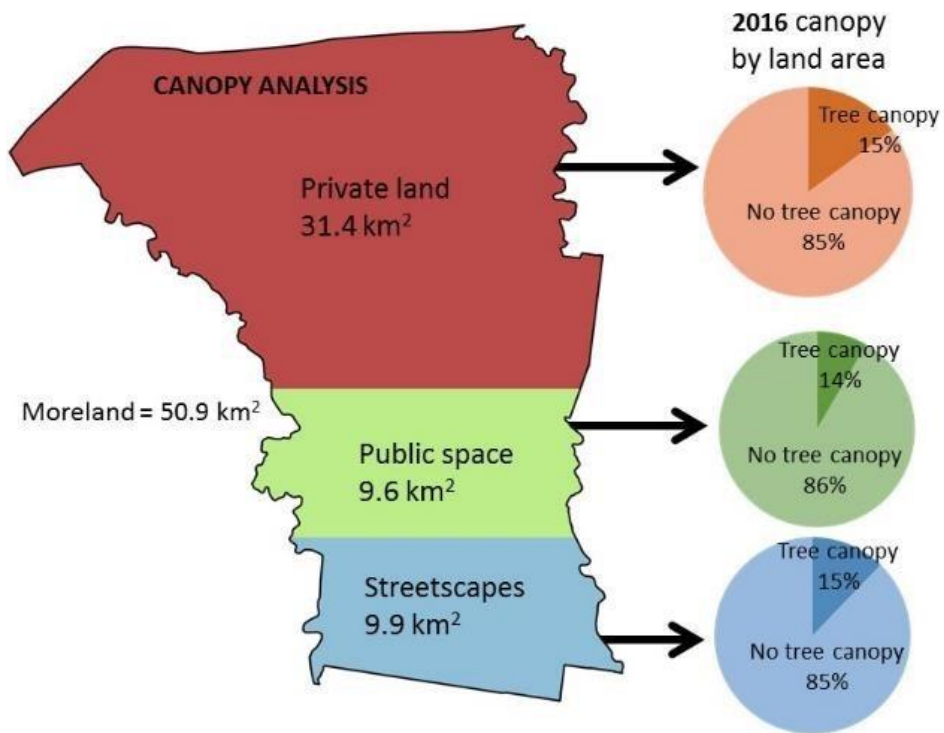


Figure 4: Contribution of canopy trees in Moreland by land area in 2016

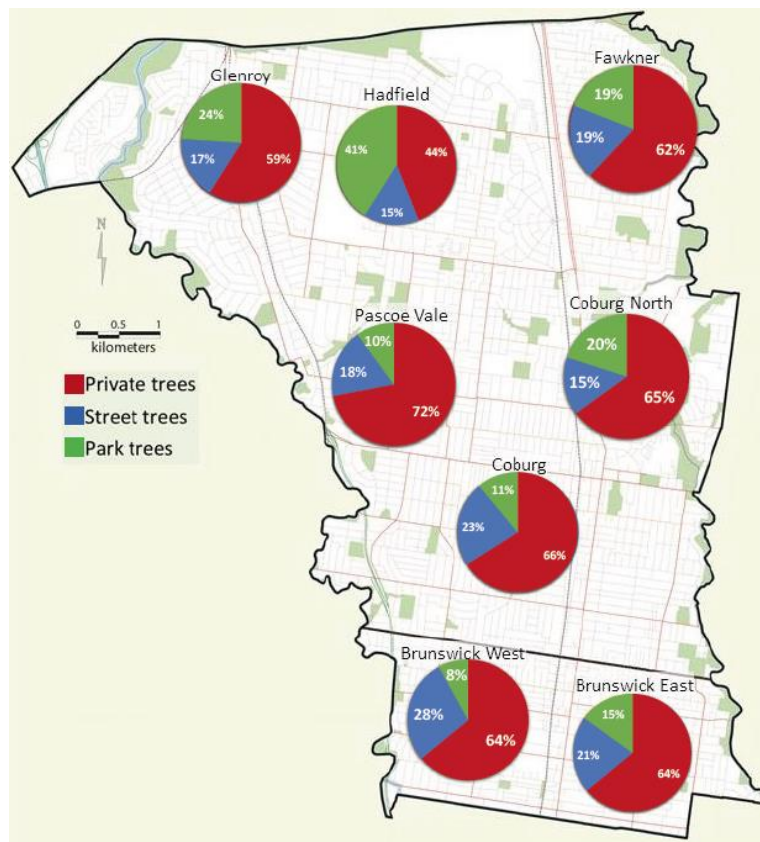


Figure 5: Breakdown of tree canopy contribution within each suburb in 2016 and demonstrating private tree canopy provides the greatest contribution to Moreland's urban forest in each suburb.

Moreland's 14% overall canopy cover compares with 17.3% tree canopy cover in Darebin and 18.5% in Yarra. In contrast, Wyndham in Melbourne's west has 3.1% cover but 80% grass cover while Manningham in Melbourne east has 40% canopy cover (Figure 6). Critically, the canopy analysis has identified significant scope for increasing canopy cover across Moreland's public and private realm. The UFS identified that there is a further 30% of Moreland's land area where canopy trees could be planted, including 14% on private land and 16% on public land.

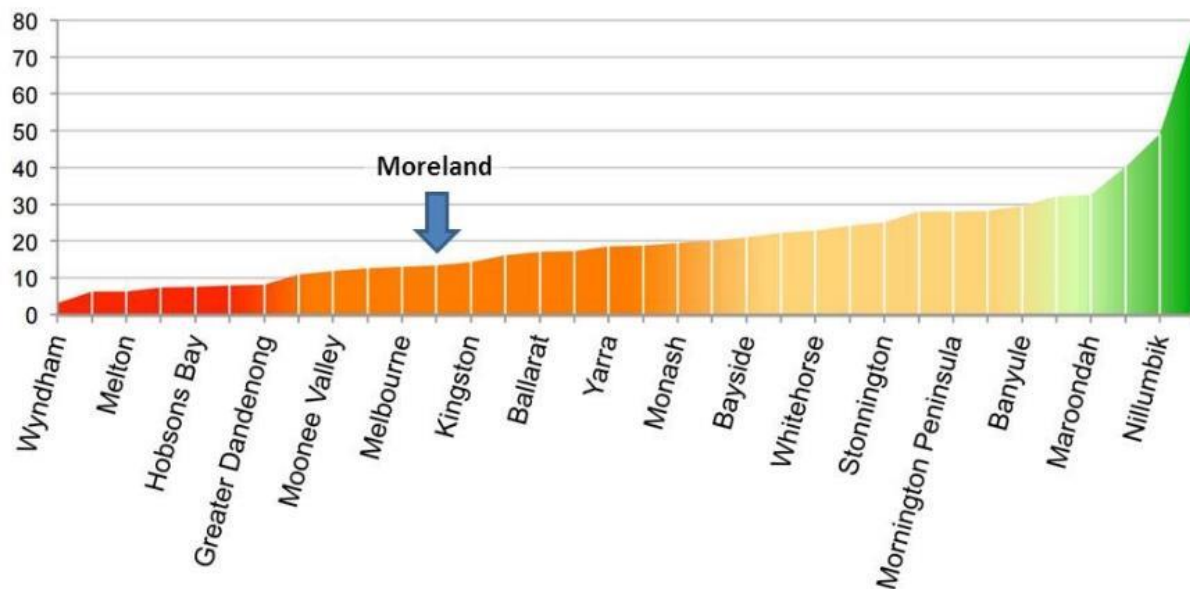
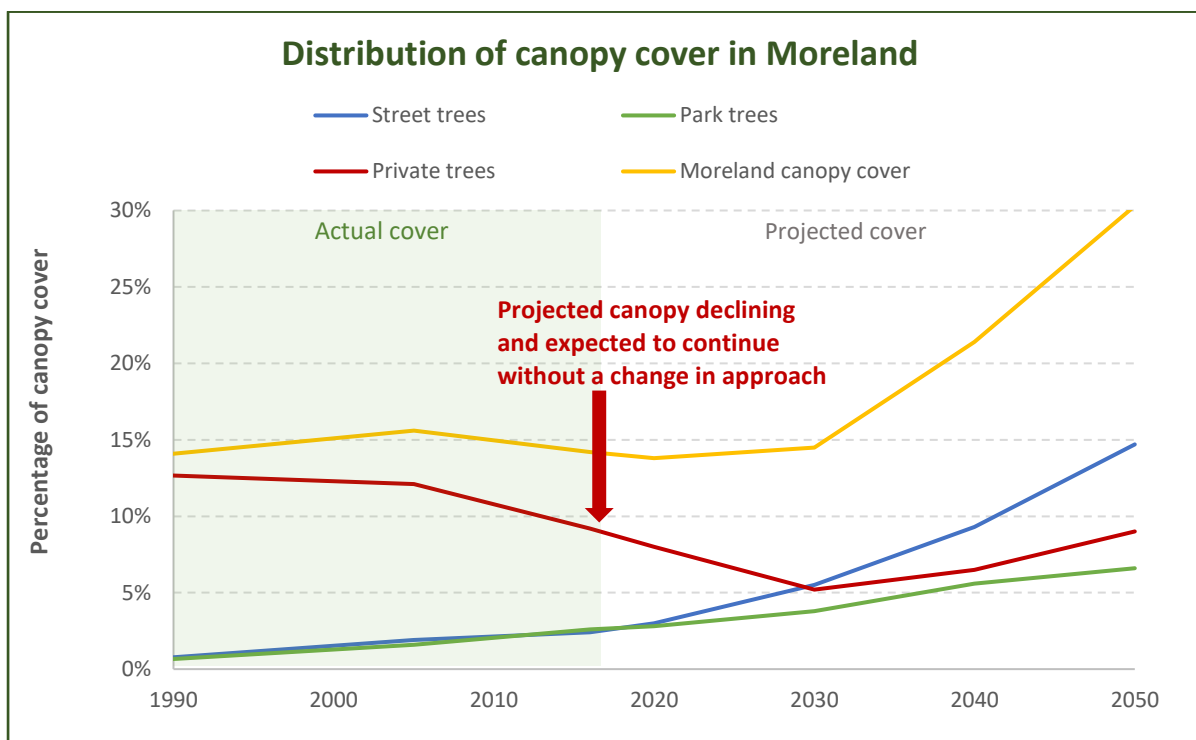


Figure 6: Canopy cover (%) for selected Victorian Local Government Areas

It is anticipated that Moreland's population will grow by 43,000 people in the next twenty years, with household size expected to decline. To accommodate this growth and change in household size, Moreland needs an extra 38,000 dwellings over the next two decades (at least 1,900 new dwellings yearly). Over the last 10 years, Moreland has added about 1,150 new dwellings to its housing stock each year, with a shift from the type of detached housing to townhouses, units and apartments offering residents greater diversity of dwelling types than in the past. This growth of housing is anticipated to grow to achieve the housing stock to support the future population.

With this steady pace of housing growth, urban infill development is resulting in larger building footprints, losses of tree canopy on the private and public land, and reduced opportunity for new planting with smaller backyards. This change in urban ground cover results in less shade and moisture to keep Moreland cool.



	1989	2005	2016	2020	2030	2040	2050
Street trees	0.7%	1.9%	2.4%	3.0%	5.5%	9.3%	14.7%
Park trees	0.6%	1.6%	2.6%	2.8%	3.8%	5.6%	6.6%
Private trees	12.7%	12.1%	9.2%	8.0%	5.2%	6.5%	9.0%
Moreland canopy cover	14.0%	15.6%	14.2%	13.8%	14.5%	21.4%	30.3%

Figure 7: Actual and Projected Tree Canopy Cover under the implementation of the Urban Forest Strategy, 2017-2050

Despite Council's efforts to increase canopy cover in the public realm (streets and parks), the loss in the private realm is negating the overall impact. The 'dynamic equilibrium' in tree canopy cover change, whereby canopy losses are approximately offset by concurrent canopy growth, cannot be achieved without changes in purposeful tree planting on the private and public land. A change in approach towards planting medium to large trees in the public realm is a key action of the Urban Forest Strategy to achieve a goal of 15% canopy contribution on public land by 2050. Planning policy that informs infill residential development in the Moreland Planning Scheme is considered an appropriate method to achieve the improved canopy cover outcomes on the private realm by utilising the open spaces already being provided in medium density housing.

Medium Density Review

This Medium Density Housing Review (MDHR) prepared and adopted by Council in October 2018 investigated the quality of townhouse and unit development within Moreland and included recommendations about how it can be improved, including increasing canopy cover and landscaping.

Relevant conclusions from Medium Density Housing Review (2018)

- **The amount of medium density housing in the northern part of Moreland is equal to the number of apartments being delivered in the southern part of Moreland.**
- **The minimum open space requirement of Rescode leads to inadequate private open spaces. Nevertheless, ground level private open space in medium density housing has grown in total area and in width since the introduction of the garden area requirement into the Moreland Planning Scheme.**
- **The garden area requirement has influenced site layout and has almost eliminated reverse living style dwellings within the Neighbourhood Residential Zone and General Residential Zone.**
- **Landscape plans generally indicated tree planting within the private open spaces of medium density development in excess of the Scheme. However, an audit of built medium density development in 2018 demonstrated that only 8% complied with the endorsed plans and 60% of developments had either not planted or not maintained the landscaping as shown on the endorsed plans.**
- **The MDHR determined landscaping improves the quality of medium density housing, and consequently recommendation one of the MDHR was to amend the Moreland Planning Scheme to increase tree canopy and landscaping outcomes.**

Medium density housing is housing that contains two or more dwellings on a lot where each dwelling has its own entrance at ground level. Subject to meeting detailed design requirements, medium density housing is permitted in all residential zones across Victoria. Moreland City Council determines on average approximately 400 applications for medium density development a year, which represents almost a third of all planning applications.

Medium density development occurs in all suburbs of Moreland, influenced by lot sizes, availability of developable lots and land economics.

The MDHR identified that over the past 10 years Glenroy and Pascoe Vale and to a lesser extent Coburg, have seen the largest amount of medium density housing built. Suburbs like Glenroy and Pascoe Vale have had in the order of 150-170 units and town houses built each year over the past 10 years. At the other end of the spectrum suburbs like Fawkner and Hadfield have had around 25-30 units and townhouses built each year.

Over the past 10 years Brunswick East and Brunswick have seen 170-180 high density dwellings built each year and Coburg has had around 60 high density dwellings built each year over this period. The quantum of unit and townhouse development in Glenroy and Pascoe Vale over the past decade is about the same as the quantum of apartment development in Brunswick East and Brunswick.

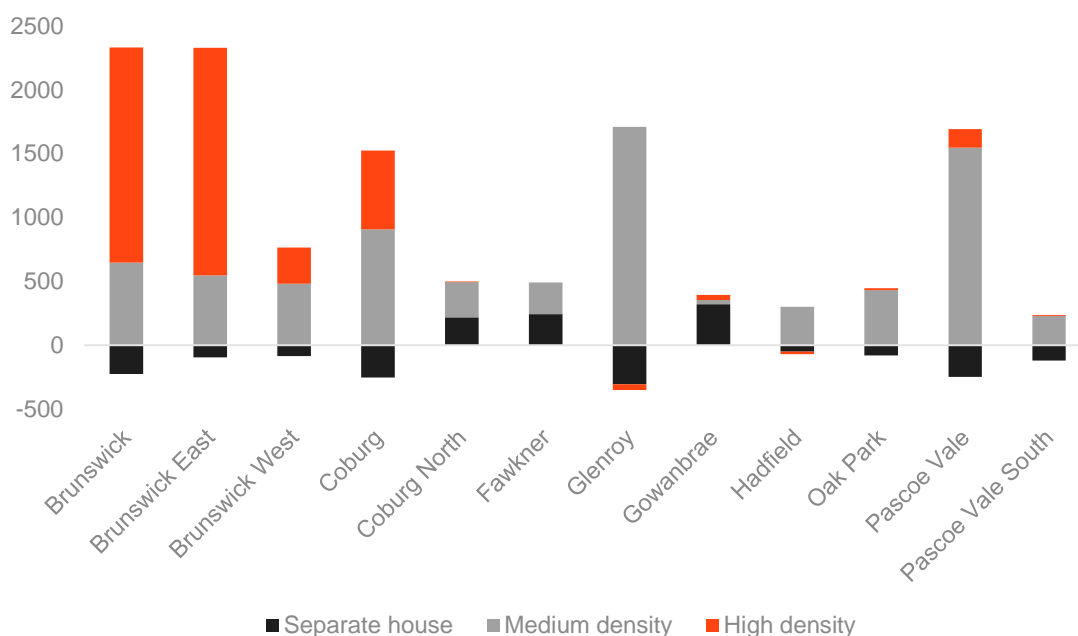


Figure 8: Net dwelling change by housing type and suburb, 2006-16, ABS, Census of Population and Housing (2016)

The MDHR was informed by a collation of inputs of various types that have considered medium density housing in Moreland from multiple angles to provide an evidence-base understanding of medium density development in Moreland. Table 13 provides a summary of these inputs that included the following key findings:

- Thermal comfort of dwellings needs improvement
- Rescode leads to inadequate private open spaces
- The private open spaces have grown with the introduction of the garden area requirement
- Landscaping is critical to the success of a development
- Whilst landscaped plans indicate tree planting, actual tree planting largely didn't occur

The MDHR conclusively found that the introduction of a minimum garden area requirement to sites within the Neighbourhood Residential and General Residential Zones influenced typology and site layout, and resulted in substantial increases in the size and quality of the private open spaces in medium density development. However, whilst planning approvals require particular landscaping and ESD outcomes, there are issues with on ground compliance.

Input	Topic	Findings
Occupant Survey	Thermal Comfort	A third (34%) of respondents were dissatisfied with the thermal comfort of their home and identified thermal comfort as an area for improvement. 65% said their home had no external shading to windows (such as awnings, blinds, screens, eaves or trees).
	Open Space	More than half (57%) of respondents stated the amount of open space meets their needs but in open ended question around a quarter (27%) of

		people said the quality of their open space could be improved.
	Landscaping and Trees	Nearly half (42%) of respondents said there are not enough trees around their development and in an open-ended question 16% identified that landscaping could be improved.
Case study of 513 dwellings (built and unbuilt)	Open Space	<p>In 2018 as a result of the introduction of the garden area requirement, on average, 38% of the site area is now open space, 15% greater than in 2015.</p> <p>Ground level private open space since the garden area has increased, demonstrating:</p> <ul style="list-style-type: none"> • an average courtyard size of 47 square meters (Rescode compliance, minimum of 25 square meters) • courtyard dimensions increased to 4-5 meters or more (Rescode compliance, minimum dimension of 3m).
	Landscaping	The 2015 built case studies showed that in 26% of instances trees indicated on landscape plans had not been planted. In the 2018 case studies, as a result of the increased amount and dimension of open spaces and the new requirement for canopy trees to be planted contained in the GRZ and NRZ schedule, canopy trees in excess of the scheme requirement were indicated on the landscape plan in 71% of applications.
	Typology	The introduction of the garden area requirement has all but eliminated reverse living in the Neighbourhood Residential Zone and General Residential Zone. The garden area requirement has incentivised provision of the private open space to all dwellings at ground level rather than on a balcony and at the same time has resulted in an increase in the size and dimensions of these private courtyards.
Interview of Architects and Designers	Open Space	<p>The minimum dimensions of Rescode leads to inadequate Private Open Space.</p> <p>Garden area requirement within the Neighbourhood Residential Zone and General Residential Zone is a game changer.</p> <p>Rainwater tanks could be put either under floor, under garage or under the stairs to allow better use of private open space.</p>
	Landscaping	<p>Landscaping is critical to success of development</p> <p>Screen planting should be used for both screening the building and shading.</p>

Planning Permit Audit	ESD	70% non-compliance with ESD requirements
	Landscaping	60% of developments haven't planted or maintained landscaping shown on the endorsed landscape plan and only 9% were compliant with the endorsed landscape plan

Moreland Planning Scheme

The Moreland Planning Scheme includes a strategic vision to:

- protect the biodiversity, amenity and recreational values of existing and new open spaces
- direct landscaping to green the urban environment
- encourage the utilisation of green features to combat climate conditions

Strategic Vision in the Moreland Planning Scheme

- **The creation of sustainable neighbourhoods is a key objective for the municipality and is at the core of actions, strategies and policies of Moreland Council including the Moreland Planning Scheme.**
- **The Moreland Planning Scheme includes a number of existing State and local policy to support the use of vegetation/tree planting to managing changes in climate and in particular the UHIE for the long-term resilience of communities. In particular, the following polices provide the strategic justifications for the proposed tree planting requirements in the Moreland Planning Scheme:**
 - **State policy at Clause 15.02 (Energy and Efficiency) outlines greening urban areas as a strategy to reducing the UHIE and achieve the objective *“To encourage land use and development that is energy and resource efficient, supports a cooler environment and minimises greenhouse gas emissions”*.**
 - **Local policy at Clause 21.03-4 (Urban Design, Built Form and Landscape Design) that provides detailed guidance on how to achieve effective canopy tree planting to meet landscaping and cooling strategies and policy objectives at this clause.**

Municipal Strategic Statement (MSS)

The MSS vision is to create sustainable neighbourhoods with an emphasis on the social, cultural, environmental and economic wellbeing of the population, and applies seven strategic directions to guide Council's planning decisions to assist in achieving this vision.

The recommended changes to the Moreland Planning Scheme to provide greater canopy cover on private land are justified by strategies within the MSS (Table 14), and in particular how they aim to realise the sustainability and landscaped vision of residentially zoned areas.

Table 14: MSS objectives and strategies that underpin the sustainability and landscaped outcomes within residential zone areas.

Housing Clause 21.03-3	Objective 7: <i>To provide housing diversity to meet community needs</i>	Strategies: <i>Encourage incremental housing growth designed to respect existing neighbourhood character and enhance landscape character, in the General Residential Zone (GRZ).</i> <i>Encourage minimal housing growth in the Neighbourhood Residential Zone (NRZ), designed to create an enhanced low density, open and landscaped character.</i>
	Objective 8: <i>To contribute to housing affordability.</i>	Strategies: <i>Reduce the ongoing living costs associated with housing, by ensuring development is designed to maximise energy efficiency in accordance with the relevant objectives and strategies included in Clause 21.03-5 Environmentally Sustainable Design.</i>
Urban Design, Built Form and Landscape Design Clause 21.03-4	Objective 12: <i>To ensure development is integrated with landscape design to improve aesthetic quality and amenity for occupants and the public domain.</i>	Strategies: <i>Encourage development to maximise retention of existing vegetation and large trees.</i> <i>Ensure development provides sufficient space and conditions for planting of new canopy and screening trees.</i> Ensure landscape design: <ul style="list-style-type: none"> - <i>Integrates development with the surrounding environment</i> - <i>Provides for summer shading of buildings and private open spaces and allows for access to winter sun</i> - <i>Contributes to reduction of the urban heat island effect</i> - <i>Incorporates water sensitive urban design.</i>
Environmentally Sustainable Development Clause 21.03-5	Objective 13: <i>To encourage development to contribute to environmental sustainability</i>	Strategies: <i>Encourage development to incorporate environmentally sustainable design in the following areas: energy efficiency, water resources, indoor environment quality, stormwater management, transport, waste management and urban ecology in accordance with</i>

Table 14: MSS objectives and strategies that underpin the sustainability and landscaped outcomes within residential zone areas.

		<i>Clause 22.08 Environmentally Sustainable Development.</i>
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State Provisions in the Moreland Planning Scheme

There are a number of State policies within the Planning Policy Framework summarised in Table 15 that encourage tree planting to improve the urban landscape. The Energy and Resource Efficiency provision at Clause 15.02 provides strategic justification for the recommended changes to the Moreland Planning Scheme which aim to use canopy cover to assist in mitigating the UHIE.

Table 15: Key State policy at Clause 15.02 (Energy and Efficiency)

<p>Energy and Resource Efficiency Clause 15.02</p>	<p><u>Objective:</u> <i>To encourage land use and development that is energy and resource efficient, supports a cooler environment and minimises greenhouse gas emissions</i></p>	<p><u>Strategies:</u> <i>Improve the energy, water and waste performance of buildings and subdivisions through environmentally sustainable development.</i></p> <p><i>Promote consolidation of urban development and integration of land use and transport.</i></p> <p><i>Improve efficiency in energy use through greater use of renewable energy technologies and other energy efficiency upgrades.</i></p> <p><i>Support low energy forms of transport such as walking and cycling.</i></p> <p><i>Reduce the urban heat island effect by greening urban areas, buildings, transport corridors and open spaces with vegetation.</i></p> <p><i>Encourage retention of existing vegetation and planting of new vegetation as part of development and subdivision proposals.</i></p>
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Appendix 2 – Review of existing policy in the Moreland Planning Scheme

Table 16 of relevant provisions within the Moreland Planning Scheme.

Type	Clause	Name	Climate and Landscape purpose
VPP	13	Environmental Risks and Amenity	Policy aiming to strengthen the resilience and safety of communities by adopting environmental management and risk management approaches to mitigate against climate change, natural and human made hazards.
VPP	15	Built Environment and Heritage	Policy promotes excellence in the built environment that recognise heritage, architectural, landscaped, cultural, energy and resource efficiency to create places that are functional, comfortable, accessible, safe and diverse, and includes the following strategies at Clause 15.02.1S: <ul style="list-style-type: none"> – <i>Reduce the urban heat island effect by greening urban areas, buildings, transport corridors and open spaces with vegetation.</i> – <i>Encourage retention of existing vegetation and planting of new vegetation as part of development and subdivision proposals.</i>
Local Policy Provision (LPP)	21.02	MSS Vision	Directs an improved design quality overall, with a particular emphasis on site responsive design, passive design for energy efficiency, integration with the public realm and integration with landscape design.
LPP	21.03-4	Urban Design, Built form and Landscape Design	Directs development to be integrated with landscape design to improve aesthetic quality and amenity for occupants and the public domain, including encouraging the retention of existing trees, space for new canopy trees, and a design that contributes to reduction of the urban heat island effect and the energy efficiency of dwellings and includes the following strategies: <ul style="list-style-type: none"> <i>12.1 Encourage development to maximise retention of existing vegetation and large trees.</i>

			<p>12.2 Ensure development provides sufficient space and conditions for planting of new canopy and screening trees.</p> <p>12.3 Ensure landscape design:</p> <ul style="list-style-type: none"> – Integrates development with the surrounding environment – Provides for summer shading of buildings and private open spaces and allows for access to winter sun – Contributes to reduction of the urban heat island effect – Incorporates water sensitive urban design.
LPP	21.03-5	Environmentally Sustainable Development	Directs development to contribute to environmental sustainability
LPP	22.01	Neighbourhood Character Policy	<p>Directs development to provide suitable open spaces and landscaping to contribute to an open and green urban environment and includes the following policies:</p> <p><u>General and Neighbourhood Residential Zone areas</u></p> <p><i>Ensure new development is designed, as confirmed on a landscape plan, to:</i></p> <ul style="list-style-type: none"> – Include planting in the front setback of at least one tree, selected in accordance with the Moreland Tree Planting Manual for Residential Zones 2014; – Maximise opportunities for tree planting in side and rear setbacks; and – If located in the Neighbourhood Residential Zone, include planting of one tree in the secluded private open space of each dwelling, selected in accordance with the Moreland Tree Planting Manual for Residential Zones 2014. <p><u>Neighbourhood Residential Zone areas</u></p> <p><i>Ensure new development provides ground level secluded private open space in excess of Clause 55 standards to contribute to a lower density, open and landscaped character.</i></p> <p><u>All Areas</u></p> <p><i>Ensure vehicle crossing provision limits the removal of on street public parking spaces, removal of street trees, and encroachment</i></p>

			<i>into landscaped front setbacks, and maximises pedestrian safety and sight lines.</i>
LPP	22.03	Car Parking	Directs a design that will maximise landscaping in frontages and limits the removal of existing trees.
LPP	22.08	Environmentally Sustainable Development	Pursues best practice environmentally sustainable development from the design stage through to construction and operation to achieve efficiency and benefits through energy performance, water resources, stormwater management, and urban ecology, and includes the following objectives: <ul style="list-style-type: none"> – <i>To protect and enhance biodiversity within the municipality.</i> – <i>To provide environmentally sustainable landscapes and natural habitats, and minimise the urban heat island effect.</i> – <i>To encourage the retention of significant trees.</i> – <i>To encourage the planting of indigenous vegetation.</i>
LPP	32.04, 32.07, 32.08, & 32.09	Mixed Use Zone, Residential Growth, General Residential & Neighbourhood Residential Zone Schedules	Includes or opportunity for tree planting requirements to Standard B13, in particular: <ul style="list-style-type: none"> – Mixed Use Zone Schedule 1 & 2: opportunity to include particular Landscaping requirements. – Residential Growth Zone Schedule 1 & 2: one tree in the front setback – General Residential Zone Schedules 1, 2, 3 & 4: one tree in the front setback – Neighbourhood Residential Zone Schedule 1: one tree in both the front setback and secluded private open space of each dwelling
VPP	55	Two or more dwellings on a lot (Rescode)	Includes objectives that influence site layout, design, built form and facilities of medium density housing, including but not limited to landscaping outcomes (including the retention of significant trees and protection of existing habitats), permeable surfaces, open space integration, design and orientation, and, energy efficiency

Of particular note are the residential zone schedules that include tree planting requirements for medium density development with an additional requirement to the Landscaping Standard B13 of Clause 55. These tree planting requirements however are incapable of achieving the canopy required on developable lots to expand Moreland’s Urban Forest and have a positive influence in managing the UHIE.

The lack of direction to the size of trees prescribed in the Moreland Planning Scheme, and, the limited number required within the General Residential, Residential Growth and Mixed Use Zones, has influenced site layouts with small areas of open space within the front, side and rear setbacks that can only accommodate very small trees of 3-4m in height. This has led to an approach where size of spaces influences tree size, and consequently an expanse of very small trees with limited canopy coverage are being planted throughout Moreland.

The incorporated document, Moreland Tree Planting Manual for Residential Zones 2014, does include a tree planting matrix and a recommended tree species list that provides tree species and planting guidance based on the depth and width of open spaces. However, this document supports the current approach where the shape of the open spaces influences tree size. The manual provides little influence for trees with larger canopies to be planted. Recommendations within this report seek to flip this focus to mandate a minimum width of the open spaces which will inform a site layout to accommodate trees with larger canopies.

Appendix 4 - Review of Reference Documents

The Moreland Tree Planting Manual for Residential Zones, 2014, is an Incorporated Document within the Moreland Planning Scheme that provides planting guidance for development within residential zones, and includes a tree planting space matrix, recommended tree species, tree establishment and tree maintenance guidelines.

The Moreland Landscape Guidelines 2009 is also included in the Moreland Planning Scheme as a reference document. The purpose of these guidelines is to assist developers, property owners and designers in the preparation of landscape plans.

With the introduction of tree canopy requirements within the residential zone recommended within this report, these two documents become obsolete as they no longer provide background information for any policy or provision within the Moreland Planning Scheme.

There is some useful information within these documents that helps planning applicants prepare landscape plans and guides planting to maximise vegetation survival. [Moreland's online Tree Finder tool](#) and tree planting specification sheets, available on the Moreland City Council public website, provide this useful information and would fill a gap in information for the public with the removal of these documents.

Using Practice Note 13 – Incorporated and background documents, the review has determined that with the proposed changes to the planning scheme these manuals are not essential to the administration or enforcement of the planning scheme, are not necessary to determine the extent of a planning control, are not required under any particular Act, provision or ministerial direction, or provide as a guide to exercise discretion by the responsible authority and therefore could be removed from the Moreland Planning Scheme. The upcoming project to implement the Smart Planning Reforms and recommendations of Moreland's Planning Scheme Review is a suitable process to holistically review all reference and incorporated documents including these manuals. Amending these manuals in the interim to remove any conflicts with the propose planning scheme changes is therefore recommended.

Appendix 5 – Other Council Approaches

Banyule, Brimbank, Darebin, Greater Dandenong, Knox, Monash, Stonnington and Whitehorse are Metropolitan Melbourne Councils currently utilising residential zone schedules to direct specific tree planting requirements beyond what Clause 55 requires.

Findings from other Melbourne Planning Schemes

- **There are a number of Metropolitan Councils utilising residential zone schedules to direct particular tree planting outcomes as additional landscaping requirements to Standard B13 of Clause 55, including:**
 - a minimum number of trees within a particular area (front setbacks and private open spaces) or as a ratio of the lot size;
 - specific characteristics of trees such as size, maturity, canopy tree, and species; and,
 - particular dimensions of areas to accommodate trees

The tree planting requirements within these Council’s Planning Schemes are consistent with the recommended changes to the Moreland Planning Scheme outlined further in this report. Table 2 provides a summary of the tree planting elements in the landscaping requirements directed in other Council’s residential zone schedules.

Table 17: Summary of Clause 55 landscaping requirements in other Council’s Residential Zone Schedules

Metro Council	Elements within their residential zone schedules (Landscaping Standard B13)
Banyule	<ul style="list-style-type: none"> • Size of trees • Location of trees • Number of trees based on a ratio of the site area
Brimbank	<ul style="list-style-type: none"> • Height and size of trees • Location of trees • Location based on a minimum POS area • Additional purpose of the trees (screening)
Darebin	<ul style="list-style-type: none"> • Size of trees • Location of trees based on site width • Location of trees based on side setback dimension • Minimum clear area to accommodate each tree (4.5m x 4.5m min area)
Greater Dandenong	<ul style="list-style-type: none"> • Location of canopy trees and landscaping • Tree and landscaping cover based on a percentage of ground level area
Knox	<ul style="list-style-type: none"> • Number of trees based on a ratio of the site area and site width • Location of trees • Location of trees based on site width • Minimum permeable area to accommodate each tree (20m² & minimum 3m radius)
Monash	<ul style="list-style-type: none"> • Number of trees • Size and height of trees • Encourages the retention of trees
Stonnington	<ul style="list-style-type: none"> • Number of trees

Whitehorse	<ul style="list-style-type: none"> • Number of trees • Height of trees • Location of trees • Species of trees
Whittlesea (proposed changes by C200)	<ul style="list-style-type: none"> • Number of trees, including based on a ratio of the site area • Location of trees • Height of trees • Minimum permeable area to accommodate trees (5m x 5m min area)

Whittlesea City Council's Planning Scheme Amendment C200 and Darebin City Council's planning Scheme Amendment C147, which seek/sought to introduce similar tree planting elements to what is proposed in this report (size of trees, number of trees, location of trees and minimum space for trees), raised no issues through the exhibition process to require a Planning Panel hearing.

Appendix 5 – Root Barriers

Trees planted close to a building can cause damage to buildings after construction due to plant roots extracting moisture from the soil resulting in a reduction in soil volume that cause footings to move and cracks within masonry. For this reason, healthy trees are commonly removed to prevent further damage after rectification.

A tree's root system is commonly calculated as extending a horizontal distance equal to its height. In a line of trees, where competition for water exists, the horizontal root spread is one and half times the tree height. The landscaping metrics recommended for the residential zone schedules takes this distance into account by prescribing a minimum permeable area.

Placing tree root barrier between the tree and a buildings foundation are also of benefit to restrict the spread of roots and the subsequent extraction of water from the soil under the footing. This would further protect a buildings integrity and the long term standing of a tree.

Developing an information tool to provide developers and home owners guidance on how to install tree root barriers is recommended to be explore to encourage its installation and the longevity of new buildings and vegetation.

Appendix 6 – Proposed Zone Schedules

~~1.1.20~~
C- SCHEDULE MUZ~~1~~ TO CLAUSE 32.04 MIXED USE ZONE

Shown on the planning scheme map as MUZ~~1~~.

MORELAND MIXED USE AREAS

1.0 Objectives

~~1.1.20~~
C- ~~None specified~~ To promote a climate responsive landscape character through increased tree canopy and vegetation to improve thermal comfort and reduce the urban heat island effect.

2.0 Clause 54 and Clause 55 requirements

~~1.1.20~~
C-

	Standard	Requirement
Minimum street setback	A3 and B6	None specified
Site coverage	A5 and B8	None specified
Permeability	A6 and B9	None specified
Landscaping	B13	<p>None specified <u>The development should provide canopy trees to meet the following requirements:</u></p> <ul style="list-style-type: none"> <u>At least one canopy tree within the front setback in a permeable area of at least 10m² (with a dimension of not less than 4.5m) within the site, where a residential front setback of at least 3m is required</u> <u>At least one canopy tree elsewhere on the site in a permeable area within the site of at least 4.5m x 4.5m</u> <u>Where a common accessway or driveway is provided, the canopy tree(s) should be located to provide shading to the accessway or driveway, if practical.</u> <p><u>Additional planting should be provided along any driveway.</u></p> <p><u>Canopy trees are required to have a height of at least 6m at maturity and a canopy width of at least 5m at maturity.</u></p>
Side and rear setbacks	A10 and B17	None specified
Walls on boundaries	A11 and B18	None specified
Private open space	A17	None specified
	B28	None specified
Front fence height	A20 and B32	None specified

3.0 Maximum building height requirement

~~1.1.20~~
C- None specified.

4.0 Exemption from notice and review

~~1.1.20~~
C- None specified.

5.0 Application requirements

~~32.04~~
C--

~~None specified.~~

The following application requirements apply to an application for a permit under Clause 32.04, in addition to those specified in Clause 32.04 and elsewhere in the scheme and must accompany an application, as appropriate, to the satisfaction of the responsible authority:

- A landscape plan showing existing vegetation (on the subject site and adjacent to the site) retained and any proposed for removal, tree and vegetation selection, planting plan and irrigation in accordance with this schedule.

6.0 Decision guidelines

~~32.09~~
C--

~~None specified.~~

The following decision guidelines apply to an application for a permit under Clause 32.09, in addition to those specified in Clause 32.09 and elsewhere in the scheme which must be considered, as appropriate, by the responsible authority:

- Whether there is opportunity to retain existing vegetation.
- Whether the landscaping will provide suitable shading and cooling of the urban environment to reduce heat absorption and re-radiation of hard surfaces.
- The suitability of the proposed location and soil volume for canopy tree health.
- Whether an alternative combination of canopy trees or climbers will achieve an equivalent or increased canopy cover to the requirements listed in Clause 2.0.

7.0 Signs

~~32.04~~
C--

~~None specified.~~

1.1.20
C

SCHEDULE 1 TO CLAUSE 32.07 RESIDENTIAL GROWTH ZONE

Shown on the planning scheme map as RGZ1.

ACTIVITY CENTRES

1.0 Design objectives

1.1.20
C

~~None specified~~ To promote a climate responsive landscape character through increased tree canopy and vegetation to improve thermal comfort and reduce the urban heat island effect.

2.0 Requirements of Clause 54 and Clause 55

1.1.20
C

	Standard	Requirement
Minimum street setback	A3 and B6	None specified
Site coverage	A5 and B8	None specified
Permeability	A6 and B9	None specified
Landscaping	B13	<p>A minimum of one tree should be planted within the front setback, in accordance with the Moreland Tree Planting Manual for Residential Zones, 2014.</p> <p><u>The development should provide canopy trees to meet the following requirements:</u></p> <ul style="list-style-type: none"> <u>At least one canopy tree within the front setback in a permeable area of at least 10m² (with a dimension of not less than 4.5m) within the site, where a residential front setback of at least 3m is required</u> <u>At least one canopy tree elsewhere on the site in a permeable area within the site of at least 4.5m x 4.5m</u> <u>Where a common accessway or driveway is provided, the canopy tree(s) should be located to provide shading to the accessway or driveway, if practical.</u> <p><u>Additional planting should be provided along any driveway.</u></p> <p><u>Canopy trees are required to have a height of at least 6m at maturity and a canopy width of at least 5m at maturity.</u></p>
Side and rear setbacks	A10 and B17	None specified
Walls on boundaries	A11 and B18	None specified
Private open space	A17	None specified
	B28	None specified
Front fence height	A20 and B32	None specified

3.0 Maximum building height requirement for a dwelling or residential building

1.1.20
C

None specified.

4.0 Application requirements

~~4.0~~
C-

The following application requirements apply to an application for a permit under Clause 32.07, in addition to those specified in Clause 32.07 and elsewhere in the scheme and must accompany an application, as appropriate, to the satisfaction of the responsible authority:

- ~~A~~ landscape plan showing existing vegetation trees (on the subject site and adjacent to the site) retained and any proposed for removal, tree and vegetation selection, planting plan and irrigation in accordance with this schedule and the *Moreland Tree Planting Manual for Residential Zones*, plan that shows any proposed tree removal.
- ~~A landscaping works and planting plan that includes information on tree selection and planting, in accordance with the landscaping requirements of Clause 1.0 of this Schedule and the *Moreland Tree Planting Manual for Residential Zones*, 2014~~

5.0 Decision guidelines

~~5.0~~
C-

The following decision guidelines apply to an application for a permit under Clause 32.07, in addition to those specified in Clause 32.07 and elsewhere in the scheme which must be considered, as appropriate, by the responsible authority:

- Whether the development provides an appropriate transition to properties in an adjoining Zone.
- The requirements of Clause 22.01 Neighbourhood Character Local Policy.
- ~~The requirements of Clause 22.08 Development of Four or More Storeys.~~
- Whether there is opportunity to retain existing vegetation.
- Whether the landscaping will provide suitable shading and cooling of the urban environment to reduce heat absorption and re-radiation of hard surfaces.
- The suitability of the proposed location and soil volume for canopy tree health.
- Whether an alternative combination of canopy trees or climbers will achieve an equivalent or increased canopy cover to the requirements listed in Clause 2.0.
- ~~The *Moreland Tree Planting Manual for Residential Zones*, 2014~~

1.1/20
C

SCHEDULE 2 TO CLAUSE 32.07 RESIDENTIAL GROWTH ZONE

Shown on the planning scheme map as RGZ2.

NEIGHBOURHOOD CENTRES

1.0 Design objectives

1.1/20
C

To ensure built form outcomes are appropriate to the context of Moreland's Neighbourhood Centres.

To improve the quality of higher density and mixed use developments by providing appropriate built form guidance.

To improve amenity outcomes for residents in higher density and mixed use developments and for residents in adjacent buildings.

To ensure that new development makes a positive contribution to the public realm.

To promote climate responsive landscape character through increased tree canopy and vegetation to improve thermal comfort and reduce the urban heat island effect.

2.0 Requirements of Clause 54 and Clause 55

1.1/20
C

	Standard	Requirement
Minimum street setback	A3 and B	In accordance with Standard A3 or B6, or 3 metres, whichever is lesser. Balconies should not encroach into this setback.
Site coverage	A5	None specified
	B8	The site area covered by buildings should not exceed: Small lots (less than 750 square metres) – 60 per cent. Medium lots (751-1,999 square metres) – 70 per cent. Large lots (2,000 square metres or greater) – 80 per cent.
Permeability	A6 and B9	None specified
Landscaping	B13	<u>The development should provide canopy trees to meet the following requirements:</u> <ul style="list-style-type: none"> <u>At least one canopy tree within the front setback in a permeable area of at least 10m² (with a dimension of not less than 4.5m) within the site, where a residential front setback of at least 3m is required</u> <u>At least one canopy tree elsewhere on the site in a permeable area within the site of at least 4.5m x 4.5m.</u> <u>Where a common accessway or driveway is provided, the canopy tree(s) should be located to provide shading to the accessway or driveway, if practical.</u> <u>Additional planting should be provided along the length of any driveway.</u> <u>Canopy trees are required to have a height of at least 6m at maturity and a canopy width of at least 5m at maturity. Development should provide at least one tree should in the front setback, in accordance with the Moreland Tree Planning Manual for Residential Zones, 2014.</u>

	Standard	Requirement
Side and rear setbacks	A10 and B17	<p>Side Setbacks</p> <p>Any part of a building abutting a property within the Commercial 1 Zone, Mixed Use Zone or Residential Growth Zone should be setback:</p> <ul style="list-style-type: none"> Primary outlook (living areas): 4.5 metres from the property boundary. Secondary outlook (bedrooms, kitchens) or no outlook: 2 metres from the property boundary. <p>For any other zone: in accordance with Standard A10 or B17.</p> <p>Rear Setbacks</p> <ul style="list-style-type: none"> A minimum of 3 metres from the property boundary for any part of the building up to a height of 4 metres. A minimum of 6 metres from the property boundary for any part of a building exceeding 4 metres. A minimum of 8.6 metres for any part of a building exceeding 10.5 metres adjacent to a property in the Neighbourhood Residential Zone.
Walls on boundaries	A11 and B18	None specified
Private open space	A17	None specified
	B28	Where a balcony is the only secluded private open space, it must have a minimum area of 8 square metres, a minimum width of 2 metres, and convenient access from a living room.
Front fence height	A20 and B32	None specified

3.0 Maximum building height requirement for a dwelling or residential building

3.0

Building height must not exceed 13.5 metres.

A permit cannot be granted to vary this requirement.

This does not apply to:

- Land where the slope of the natural ground level at any cross section wider than 8 metres of the site of the building is 2.5 degrees or more, in which case building height must not exceed a height of 14.5 metres.
- Land subject to the Special Building Overlay, where the maximum building height may be exceeded by no more than the minimum additional building height required by the overlay provision.

The maximum building height may be exceeded for architectural features and service equipment including plant rooms, lift overruns, structures associated with green roof areas and other such equipment if all of the following are met:

- No more than 50% of the roof area is occupied by the equipment (other than solar panels).
- The equipment is located in a position on the roof so as to minimise additional overshadowing on neighbouring properties and public spaces.
- The equipment does not extend higher than 1.2 metres above the maximum building height.
- The equipment and screening is integrated into the design of the building to the satisfaction of the responsible authority. None specified.

4.0 Application requirements

~~32.07~~
C-

The following application requirements apply to an application for a permit under Clause 32.07, in addition to those specified in Clause 32.07 and elsewhere in the scheme and must accompany an application, as appropriate, to the satisfaction of the responsible authority:

- A landscaping plan showing existing trees (on the subject site and adjacent to the site); retained and any proposed ~~tree for~~ removal, tree and vegetation selection, ~~and~~ planting plan and irrigation; prepared in accordance with ~~Standard B13, Clause 2.0 of this Schedule and the Moreland Tree Planting Manual for Residential Zones, 2014.~~

5.0 Decision guidelines

~~32.07~~
C-

The following decision guidelines apply to an application for a permit under Clause 32.07, in addition to those specified in Clause 32.07 and elsewhere in the scheme which must be considered, as appropriate, by the responsible authority:

- Whether the development provides an appropriate transition to properties in an adjoining Zone.
- Whether the development is consistent with the Moreland Neighbourhood Centres Strategy 2017 and any other policy or planning provision applying to the area.
- Whether an appropriate Building Type has been proposed as per Appendix One of the Moreland Neighbourhood Centres Strategy, 2017.
- Whether the development provides an appropriate transition to properties in an adjoining zone.
- Whether there is opportunity to retain existing vegetation.
- Whether the landscaping will provide suitable shading and cooling of the urban environment to reduce heat absorption and re-radiation of hard surfaces.
- The suitability of the proposed location and soil volume for canopy tree health.
- Whether an alternative combination of canopy trees or climbers will achieve an equivalent or increased canopy cover to the requirements listed in Clause 2.0.
- Whether the development is consistent with the *Moreland Tree Planting Manual for Residential Zones, 2014*

SCHEDULE 1 TO CLAUSE 32.08 GENERAL RESIDENTIAL ZONE

Shown on the planning scheme map as GRZ1.

GENERAL RESIDENTIAL AREAS

1.0 Neighbourhood character objectives

~~None specified.~~ To promote climate responsive landscape character through increased tree canopy and vegetation to improve thermal comfort and reduce the urban heat island effect.

.0 Construction or extension of a dwelling or residential building - minimum garden area requirement

Is the construction or extension of a dwelling or residential building exempt from the minimum garden area requirement?

No

3.0 Permit requirement for the construction or extension of one dwelling or a fence associated with a dwelling on a lot

Is a permit required to construct or extend one dwelling on a lot of between 300 and 500 square metres?

No

Is a permit required to construct or extend a front fence within 3 metres of a street associated with a dwelling on a lot of between 300 and 500 square metres?

No

4.0 Requirements of Clause 54 and Clause 55

	Standard	Requirement
Minimum street setback	A3 and B6	None specified
Site coverage	A5 and B8	None specified
Permeability	A6 and B9	None specified
Landscaping	B13	<p>A minimum of 1 tree should be planted in the front setback, in accordance with the Moreland Tree Planting Manual for Residential Zones, 2014.</p> <p><u>At least one canopy tree should be located within the front setback that meets the following requirements:</u></p> <ul style="list-style-type: none"> • <u>For front setbacks of less than 4.5m:</u> <ul style="list-style-type: none"> - <u>Located within permeable area within the site of at least 10m² and 4.5m wide</u> - <u>Reach a height of 6m-8m at maturity</u> - <u>Achieve a canopy width of at least 5m at maturity</u> • <u>For front setbacks of 4.5m or more:</u> <ul style="list-style-type: none"> - <u>Located within a permeable area within the site of at least 4.5m x 4.5m</u> - <u>Reach a height of 8m-15m at maturity</u> - <u>Achieve a canopy width of at least 7m at maturity</u>

Standard	Requirement
	<p><u>At least one canopy tree should be located within the secluded private open space of each dwelling that meets the following requirements:</u></p> <ul style="list-style-type: none"> • <u>Located within a permeable area within the site of at least 4.5m x 4.5m</u> • <u>Reach a height of 6m-8m at maturity</u> • <u>Achieve a canopy width of at least 5m at maturity</u> <p><u>Where a common accessway or driveway is provided, the canopy tree(s) should be located to provide shading to the accessway or driveway, if practical.</u></p> <p><u>Additional planting should be provided along any driveway.</u></p>
Side and rear setbacks	A10 and B17 None specified
Walls on boundaries	A11 and B18 None specified
Private open space	A17 None specified
	B28 None specified
Front fence height	A20 and B32 None specified

5.0 Maximum building height requirement for a dwelling or residential building

--(ZB)--
C--

None specified.

6.0 Application requirements

--(ZB)--
C--

The following application requirements apply to an application for a permit under Clause 32.08, in addition to those specified in Clause 32.08 and elsewhere in the scheme and must accompany an application, as appropriate, to the satisfaction of the responsible authority:

- A landscape plan showing existing vegetation (on the site and adjacent to the site) retained and any proposed for removal, tree and vegetation selection and planting plan in accordance with this schedule and the *Moreland Tree Planting Manual for Residential Zones*. ~~n-existing-vegetation plan that shows any proposed tree removal.~~
- ~~A landscaping works and planting plan that includes information on tree selection and planting in accordance with the requirements of Clause 3.01 of this schedule and the *Moreland Tree Planting Manual for Residential Zones, 2014*.~~

7.0 Decision guidelines

--(ZB)--
C--

The following decision guidelines apply to an application for a permit under Clause 32.08, in addition to those specified in Clause 32.08 and elsewhere in the scheme which must be considered, as appropriate, by the responsible authority:

- Whether the development provides an appropriate transition to properties in an adjoining zone.
- The requirements of Clause 22.01 Neighbourhood Character Local Policy.
- Whether there is opportunity to retain existing vegetation.
- Whether the landscaping will provide suitable shading and cooling of the urban environment to reduce heat absorption and re-radiation of hard surfaces.

- The suitability of the proposed location and soil volume for canopy tree health.
- Whether an alternative combination of canopy trees or climbers will achieve an equivalent or increased canopy cover to the requirements listed in Clause 4.0.
- *The Moreland Tree Planting Manual for Residential Zones, 2014.*

SCHEDULE 2 TO CLAUSE 32.08 GENERAL RESIDENTIAL ZONE

--(20--
C--

Shown on the planning scheme map as GRZ2.

BALFE PARK PRECINCT, BRUNSWICK EAST

1.0 Neighbourhood character objectives

--(20--
C--

None specified. To promote climate responsive landscape character through increased tree canopy and vegetation to improve thermal comfort and reduce the urban heat island effect.

.0 Construction or extension of a dwelling or residential building - minimum garden area requirement

--(20--
C--

Is the construction or extension of a dwelling or residential building exempt from the minimum garden area requirement?

No

3.0 Permit requirement for the construction or extension of one dwelling or a fence associated with a dwelling on a lot

--(20--
C--

Is a permit required to construct or extend one dwelling on a lot of between 300 and 500 square metres?

No

Is a permit required to construct or extend a front fence within 3 metres of a street associated with a dwelling on a lot of between 300 and 500 square metres?

No

4.0 Requirements of Clause 54 and Clause 55

--(20--
C--

	Standard	Requirement
Minimum street setback	A3 and B6	None specified
Site coverage	A5 and B8	None specified
Permeability	A6 and B9	None specified
Landscaping	B13	<p><u>A minimum of 1 tree should be planted in the front setback, in accordance with the Moreland Tree Planting Manual for Residential Zones, 2014.</u></p> <p><u>At least one canopy tree should be located within the front setback that meets the following requirements:</u></p> <ul style="list-style-type: none"> • <u>For front setbacks of less than 4.5m:</u> <ul style="list-style-type: none"> - <u>Located within permeable area within the site of at least 10m² and 4.5m wide.</u> - <u>Reach a height of 6m-8m at maturity</u> - <u>Achieve a canopy width of at least 5m at maturity</u> • <u>For front setbacks of 4.5m or more:</u> <ul style="list-style-type: none"> - <u>Located in a permeable area within the site of at least 4.5m x 4.5m</u> - <u>Reach a height of 8m-15m at maturity</u> - <u>Achieve a canopy width of at least 7m at maturity</u>

Standard	Requirement
	<p><u>At least one canopy tree should be located within the secluded private open space of each dwelling that meets the following requirements:</u></p> <ul style="list-style-type: none"> <u>Located within a permeable area within the site of at least 4.5m x 4.5m</u> <u>Reach a height of 6m-8m at maturity</u> <u>Achieve a canopy width of at least 5m at maturity</u> <p><u>Where a common accessway or driveway is provided, the canopy tree(s) should be located to provide shading to the accessway or driveway, if practical.</u></p> <p><u>Additional planting should be provided along any driveway.</u></p>
Side and rear setbacks	A10 and B17 None specified
Walls on boundaries	A11 and B18 None specified
Private open space	A17 None specified
	B28 None specified
Front fence height	A20 and B32 None specified

5.0 Maximum building height requirement for a dwelling or residential building

--(ZU--
C--

A building used as a dwelling or a residential building must not exceed a height of 14.5 metres and 4 storeys.

6.0 Application requirements

--(ZU--
C--

The following application requirements apply to an application for a permit under Clause 32.08, in addition to those specified in Clause 32.08 and elsewhere in the scheme and must accompany an application, as appropriate, to the satisfaction of the responsible authority:

- ~~A existing vegetation landscape plan that showing existing vegetation (on the site and adjacent to the site) retained and any proposed for removal, tree and vegetation selection and planting plan in accordance with this schedule and the Moreland Tree Planting Manual for Residential Zones; any proposed tree removal.~~
- ~~A landscaping works and planting plan that includes information on tree selection and planting in accordance with the requirements of Clause 3.01 of this schedule and the Moreland Tree Planting Manual for Residential Zones, 2014.~~

7.0 Decision guidelines

--(ZU--
C--

The following decision guidelines apply to an application for a permit under Clause 32.08, in addition to those specified in Clause 32.08 and elsewhere in the scheme which must be considered, as appropriate, by the responsible authority:

- Whether the development provides an appropriate transition to properties in an adjoining zone.
- The requirements of Clause 22.01 Neighbourhood Character Local Policy
- Whether there is opportunity to retain existing vegetation.

- Whether the landscaping will provide suitable shading and cooling of the urban environment to reduce heat absorption and re-radiation of hard surfaces.
- The suitability of the proposed location and soil volume for canopy tree health.
- Whether an alternative combination of canopy trees or climbers will achieve an equivalent or increased canopy cover to the requirements listed in Clause 4.0.
- _____
- *The Moreland Tree Planting Manual for Residential Zones, 2014*

SCHEDULE 3 TO CLAUSE 32.08 GENERAL RESIDENTIAL ZONE

Shown on the planning scheme map as GRZ3.

BRUNSWICK ACTIVITY CENTRE – SYDNEY ROAD AND UPFIELD CORRIDOR

1.0 Neighbourhood character objectives

~~None specified.~~ To promote climate responsive landscape character through increased tree canopy and vegetation to improve thermal comfort and reduce the urban heat island effect.

.0 Construction or extension of a dwelling or residential building - minimum garden area requirement

Is the construction or extension of a dwelling or residential building exempt from the minimum garden area requirement?

No

3.0 Permit requirement for the construction or extension of one dwelling or a fence associated with a dwelling on a lot

Is a permit required to construct or extend one dwelling on a lot of between 300 and 500 square metres?

No

Is a permit required to construct or extend a front fence within 3 metres of a street associated with a dwelling on a lot of between 300 and 500 square metres?

No

4.0 Requirements of Clause 54 and Clause 55

	Standard	Requirement
Minimum street setback	A3 and B6	None specified
Site coverage	A5 and B8	None specified
Permeability	A6 and B9	None specified
Landscaping	B13	<p><u>A minimum of 1 tree should be planted in the front setback, in accordance with the Moreland Tree Planting Manual for Residential Zones, 2014.</u></p> <p><u>At least one canopy tree should be located within the front setback that meets the following requirements:</u></p> <ul style="list-style-type: none"> • <u>For front setbacks of less than 4.5m:</u> <ul style="list-style-type: none"> - <u>Located within permeable area within the site of at least 10m² and 4.5m wide.</u> - <u>Reach a height of 6m-8m at maturity</u> - <u>Achieve a canopy width of at least 5m at maturity</u> • <u>For front setbacks of 4.5m or more:</u> <ul style="list-style-type: none"> - <u>Located in a permeable area within the site of at least 4.5m x 4.5m</u> - <u>Reach a height of 8m-15m at maturity</u> - <u>Achieve a canopy width of at least 7m at maturity</u>

Standard	Requirement
	<p><u>At least one canopy tree should be located within the secluded private open space of each dwelling that meets the following requirements:</u></p> <ul style="list-style-type: none"> <u>Located within a permeable area within the site of at least 4.5m x 4.5m</u> <u>Reach a height of 6m-8m at maturity</u> <u>Achieve a canopy width of at least 5m at maturity</u> <p><u>Where a common accessway or driveway is provided, the canopy tree(s) should be located to provide shading to the accessway or driveway, if practical.</u></p> <p><u>Additional planting should be provided along any driveway.</u></p>
Side and rear setbacks	A10 and B17 None specified
Walls on boundaries	A11 and B18 None specified
Private open space	A17 None specified
	B28 None specified
Front fence height	A20 and B32 None specified

5.0 Maximum building height requirement for a dwelling or residential building

--(ZU--
C--

A building used as a dwelling or a residential building must not exceed a height of 25 metres and 8 storeys.

6.0 Application requirements

--(ZU--
C--

The following application requirements apply to an application for a permit under Clause 32.08, in addition to those specified in Clause 32.08 and elsewhere in the scheme and must accompany an application, as appropriate, to the satisfaction of the responsible authority:

- An **landscape plan showing** existing vegetation **(on the site and adjacent to the site) retained and any proposed for removal, tree and vegetation selection and planting plan in accordance with this schedule and the *Moreland Tree Planting Manual for Residential Zones* plan that shows any proposed tree removal.**
- A **landscaping works and planting plan that includes information on tree selection and planting in accordance with the requirements of Clause 3.01 of this schedule and the *Moreland Tree Planting Manual for Residential Zones, 2014*.**

7.0 Decision guidelines

--(ZU--
C--

The following decision guidelines apply to an application for a permit under Clause 32.08, in addition to those specified in Clause 32.08 and elsewhere in the scheme which must be considered, as appropriate, by the responsible authority:

- Whether the development provides an appropriate transition to properties in an adjoining zone.
- The requirements of Clause 22.01 Neighbourhood Character Local Policy.
- **Whether there is opportunity to retain existing vegetation.**

- Whether the landscaping will provide suitable shading and cooling of the urban environment to reduce heat absorption and re-radiation of hard surfaces.
- The suitability of the proposed location and soil volume for canopy tree health.
- Whether an alternative combination of canopy trees or climbers will achieve an equivalent or increased canopy cover to the requirements listed in Clause 4.0.
- *The Moreland Tree Planting Manual for Residential Zones, 2014*

SCHEDULE 4 TO CLAUSE 32.08 GENERAL RESIDENTIAL ZONE

Shown on the planning scheme map as GRZ4.

44-46 DAVID STREET, BRUNSWICK

1.0 Neighbourhood character objectives

~~None specified.~~ **To promote climate responsive landscape character through increased tree canopy and vegetation to improve thermal comfort and reduce the urban heat island effect.**

.0 Construction or extension of a dwelling or residential building - minimum garden area requirement

Is the construction or extension of a dwelling or residential building exempt from the minimum garden area requirement?

No

3.0 Permit requirement for the construction or extension of one dwelling or a fence associated with a dwelling on a lot

Is a permit required to construct or extend one dwelling on a lot of between 300 and 500 square metres?

No

Is a permit required to construct or extend a front fence within 3 metres of a street associated with a dwelling on a lot of between 300 and 500 square metres?

No

4.0 Requirements of Clause 54 and Clause 55

	Standard	Requirement
Minimum street setback	A3 and B6	None specified
Site coverage	A5 and B8	None specified
Permeability	A6 and B9	None specified
Landscaping	B13	<p>A minimum of 1 tree should be planted in the front setback, in accordance with the Moreland Tree Planting Manual for Residential Zones, 2014.</p> <p>At least one canopy tree should be located within the front setback that meets the following requirements:</p> <ul style="list-style-type: none"> • For front setbacks of less than 4.5m: <ul style="list-style-type: none"> - Located within permeable area within the site of at least 10m² and 4.5m wide. - Reach a height of 6m-8m at maturity - Achieve a canopy width of at least 5m at maturity • For front setbacks of 4.5m or more: <ul style="list-style-type: none"> - Located in a permeable area within the site of at least 4.5m x 4.5m - Reach a height of 8m-15m at maturity - Achieve a canopy width of at least 7m at maturity

	Standard	Requirement
		<p><u>At least one canopy tree should be located within the secluded private open space of each dwelling that meets the following requirements:</u></p> <ul style="list-style-type: none"> • <u>Located within a permeable area within the site of at least 4.5m x 4.5m</u> • <u>Reach a height of 6m-8m at maturity</u> • <u>Achieve a canopy width of at least 5m at maturity</u> <p><u>Where a common accessway or driveway is provided, the canopy tree(s) should be located to provide shading to the accessway or driveway, if practical.</u></p> <p><u>Additional planting should be provided along any driveway.</u></p>
Side and rear setbacks	A10 and B17	None specified
Walls on boundaries	A11 and B18	None specified
Private open space	A17	None specified
	B28	None specified
Front fence height	A20 and B32	None specified

5.0 Maximum building height requirement for a dwelling or residential building

--(20)--
C--

A building used as a dwelling or a residential building must not exceed a height of 13.5 metres and 4 storeys.

6.0 Application requirements

--(20)--
C--

The following application requirements apply to an application for a permit under Clause 32.08, in addition to those specified in Clause 32.08 and elsewhere in the scheme and must accompany an application, as appropriate, to the satisfaction of the responsible authority:

- ~~A landscaping plan showing existing vegetation (on the site and adjacent to the site) retained and any proposed for removal, tree and vegetation selection and planting plan in accordance with this schedule and the *Moreland Tree Planting Manual for Residential Zones*, plan that shows any proposed tree removal.~~
- ~~A landscaping works and planting plan that includes information on tree selection and planting in accordance with the requirements of Clause 3.01 of this schedule and the *Moreland Tree Planting Manual for Residential Zones, 2014*.~~
-

7.0 Decision guidelines

--(20)--
C--

The following decision guidelines apply to an application for a permit under Clause 32.08, in addition to those specified in Clause 32.08 and elsewhere in the scheme which must be considered, as appropriate, by the responsible authority:

- Whether the development provides an appropriate transition to properties in an adjoining zone.
- The requirements of Clause 22.01 Neighbourhood Character Local Policy.
- Whether there is opportunity to retain existing vegetation.

- Whether the landscaping will provide suitable shading and cooling of the urban environment to reduce heat absorption and re-radiation of hard surfaces.
- The suitability of the proposed location and soil volume for canopy tree health.
- Whether an alternative combination of canopy trees or climbers will achieve an equivalent or increased canopy cover to the requirements listed in Clause 4.0.
- *The Moreland Trees Planting Manual for Residential Zones, 2014*

SCHEDULE 1 TO CLAUSE 32.09 NEIGHBOURHOOD RESIDENTIAL ZONE

Shown on the planning scheme map as **NRZ1**.

LOW DENSITY RESIDENTIAL AREA

1.0 Neighbourhood character objectives

None specified. To promote a climate responsive landscape character through increased tree canopy and vegetation to improve thermal comfort and reduce the urban heat island effect.

2.0 Minimum subdivision area

None specified.

3.0 Permit requirement for the construction or extension of one dwelling or a fence associated with a dwelling on a lot

Requirement	
Permit requirement for the construction or extension of one dwelling on a lot	None specified
Permit requirement to construct or extend a front fence within 3 metres of a street associated with a dwelling on a lot	None specified

4.0 Requirements of Clause 54 and Clause 55

Standard	Requirement
Minimum street setback	A3 and B6 None specified
Site coverage	A5 and B8 None specified
Permeability	A6 and B9 None specified
Landscaping	B13 <u>A minimum of 1 tree should be located within both the front setback and the secluded private open space of each dwelling, in accordance with the Moreland Tree Planting Manual for Residential Zones, 2014</u> <u>At least one canopy tree should be located within the front setback that meets the following requirements:</u> <ul style="list-style-type: none"> • <u>For front setbacks of less than 4.5m:</u> <ul style="list-style-type: none"> - <u>Located within permeable area within the site of at least 10m² and 4.5m wide.</u> - <u>Reach a height of 6m-8m at maturity</u> - <u>Achieve a canopy width of at least 5m at maturity</u> • <u>For front setbacks of 4.5m or more:</u> <ul style="list-style-type: none"> - <u>Located in a permeable area within the site of at least 4.5m x 4.5m</u> - <u>Reach a height of 8m-15m at maturity</u> - <u>Achieve a canopy width of at least 7m at maturity</u>

	Standard	Requirement
		<p><u>At least one canopy tree should be located within the secluded private open space of each dwelling that meets the following requirements:</u></p> <ul style="list-style-type: none"> • <u>Located within a permeable area within the site of at least 4.5m x 4.5m</u> • <u>Reach a height of 6m-8m at maturity</u> • <u>Achieve a canopy width of at least 5m at maturity</u> <p><u>Where a common accessway or driveway is provided, the canopy tree(s) should be located to provide shading to the accessway or driveway, if practical.</u></p> <p><u>Additional planting should be provided along any driveway.</u></p>
Side and rear setbacks	A10 and B17	None specified
Walls on boundaries	A11 and B18	None specified
Private open space	A17	None specified
	B28	None specified
Front fence height	A20 and B32	None specified

5.0 Maximum building height requirement for a dwelling or residential building

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None specified.

6.0 Application requirements

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The following application requirements apply to an application for a permit under Clause 32.09, in addition to those specified in Clause 32.09 and elsewhere in the scheme and must accompany an application, as appropriate, to the satisfaction of the responsible authority:

- An [landscape plan showing existing vegetation trees \(on the site and adjacent to the site\) retained and any proposed for removal, tree and vegetation selection and planting plan in accordance with this schedule and the *Morsland Tree Planting Manual for Residential Zones*, plan that shows any proposed tree removal.](#)
- ~~A landscaping works and planting plan that includes information on tree selection and planting in accordance with the requirements of Clause 3.10 of this Schedule and the *Morsland Tree Planting Manual for Residential Zones, 2014*.~~

7.0 Decision guidelines

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The following decision guidelines apply to an application for a permit under Clause 32.09, in addition to those specified in Clause 32.09 and elsewhere in the scheme which must be considered, as appropriate, by the responsible authority:

- The requirements of Clause 22.01 Neighbourhood Character Local Policy.
- Whether there is opportunity to retain existing vegetation.
- Whether the landscaping will provide suitable shading and cooling of the urban environment to reduce heat absorption and re-radiation of hard surfaces.
- The suitability of the proposed location and soil volume for canopy tree health.
- Whether an alternative combination of canopy trees or climbers will achieve an equivalent or increased canopy cover to the requirements listed in Clause 4.0.

- *The Moreland Tree Planting Manual for Residential Zones, 2014*

Appendix 7 – Other Amended Provisions

21.03 STRATEGIC FRAMEWORK

22/11/2018
C180

This clause provides the MSS objectives and strategies to implement the vision and strategic directions set out in Clause 21.02. It is to be read in conjunction with the *Strategic Framework Plan (Map 1A and 1B)*.

21.03-1 Activity Centres

14/12/2017
C168

Moreland's activity centres are identified on the *Strategic Framework Plan (Maps 1A and 1B)*.

Objective 1

To support a network of activity centres across Moreland to provide residents with walkable access to their daily and weekly shopping and service needs.

Strategies

- 1.1 Encourage a mix of retail, office, commercial, entertainment and community uses to be located within activity centres.
- 1.2 Discourage large scale retail uses from locating out of the defined boundaries of activity centres.
- 1.3 Encourage the Coburg, Brunswick and Glenroy Activity Centres to provide a broad mix of retail uses, commercial and cultural activity, employment options, administrative and civic centre functions, government investment and regional facilities, in accordance with the relevant zones and overlays, and the *Glenroy Structure Plan 2008*.
- 1.4 Encourage Neighbourhood Centres to serve the daily and weekly shopping and service needs of the local community.
- 1.5 Encourage Local Centres to serve the daily convenience needs of the local community, in accordance with the *Moreland Neighbourhood Centres Strategy 2017*.
- 1.6 Facilitate housing growth and change in activity centres in accordance with the objectives and strategies under Clause 21.03-3 Housing and Clause 22.01 Neighbourhood Character.

Objective 2

To facilitate change to the scale of the built form within activity centres in accordance with their size and role in the activity centre network.

Strategies

- 2.1 Encourage the Coburg, Brunswick and Glenroy Activity Centres to accommodate substantial growth and change.
- 2.2 Encourage more modest change in Neighbourhood, in accordance Schedule 24 to the Design and Development Overlay (DDO24).

Objective 3

To support activity centres as important commercial and employment clusters.

Strategies

- 3.1 Ensure retail uses located out of the defined boundaries of activity centres do not undermine the economic viability of activity centres.
- 3.2 Ensure residential uses do not undermine the viability of businesses operating in activity centres. Residential amenity expectations should be consistent with activity centres' role to accommodate a mix of uses with day and night time activity.
- 3.3 Implement the 'agent of change' principle as follows:

- Support the continued operation of existing noise generating uses, including live music venues.
- Require new residential developments and mixed use (incorporating residential) developments to be designed to minimise the potential negative amenity impacts of existing non-residential uses in the vicinity. For example, incorporate design and noise attenuation measures to protect residents from noise and locate bedrooms away from noise sources such as adjoining live music venues, late night entertainment venues, industrial uses, garbage collections areas, vehicle accessways, rail lines and busy roads.
- Encourage new noise generating uses, including live music venues, to integrate noise attenuation measures as appropriate.

21.03-1.1 Implementation

14/12/2017
C168

- Translate the Glenroy Structure Plan/Place Frameworks into planning scheme provisions.
- Apply the Local Policy at Clause 22.01 when an assessment against neighbourhood character is required.
- Apply the Schedule 24 to the Design and Development Overlay (DDO24) to development in Neighbourhood Centres (based on the Moreland Neighbourhood Centres Strategy 2017).
- Apply the Commercial 1 and 2 Zones, Mixed Use Zone and Design and Development Overlay planning tools to ensure an appropriate built form, public realm and improved amenity outcomes are achieved within the Brunswick Activity Centre.
- Apply Clause 22.09 when assessing any new or expanded Entertainment Venues or Licensed Premises.

21.03-2 Land for Industry and Economic Regeneration

22/11/2018
C180

Moreland’s industrial land categories are identified on the *Strategic Framework Plan (Maps 1A and 1B)*.

Objective 4 – Core Industry and Employment Areas (Category 1)

To reinforce and enhance *Core Industry and Employment Areas* as places for industry and complementary employment uses.

Strategies

- 4.1 Support the continued operation of existing industry and encourage new industry and complementary employment uses to locate within *Core Industry and Employment Areas*.
- 4.2 Support the transition to a broader range of employment generating uses in *Core Industry and Employment Areas*, including a mix of industry and office-based uses and other compatible employment uses, as permitted within the relevant zone.
- 4.3 Discourage large scale retail (e.g. supermarkets greater than 1800 square metres) uses, other than restricted retail uses, from locating in *Core Industry and Employment Areas* and encourage these uses to locate within Activity Centres.
- 4.4 Encourage development in *Core Industry and Employment Areas* to be of a high quality to contribute to an overall improvement in the amenity of the area, including low maintenance landscaping and upgrades to adjoining streetscapes.
- 4.5 Encourage non-conforming uses, particularly residential uses, to convert to suitable industrial or business uses.

- 4.6 Encourage the re-use of heritage buildings in the Heritage Overlay for suitable industrial or business uses rather than residential uses (which would otherwise be prohibited but can be considered under the Heritage Overlay).
- 4.7 Support the continued presence of the RMIT College of Textiles and Brunswick Business Incubator within the *Brunswick Core Industry and Employment Area*.
- 4.8 Support the development of education and training facilities with a link to businesses within the *Core Industry and Employment Areas*, including RMIT and the Plumbing Industry Association in the *Brunswick Core Industry and Employment Area*.
- 4.9 Support showrooms, restricted retailing and wholesaling activities on main roads within *Core Industry and Employment Areas*, including:
- The Hume Highway Corridor north of Gaffney Street;
 - Gaffney Street in the North Coburg Core Industry and Employment Area; and
 - Victoria, Albert and Dawson Streets in the *Brunswick Core Industry and Employment Area*.
- 4.10 Encourage the amenity expectations for residential or other sensitive uses within or adjacent to *Core Industry and Employment Areas* to be reflective of the industrial nature of the precincts.
- 4.11 Prohibit the encroachment of new residential uses into *Core Industry and Employment Areas*.

Objective 5 – Employment Areas (Category 2)

To support the transition from traditional industrial uses to a broader range of employment uses and prioritise employment uses over residential uses within *Employment Areas* (Category 2).

Strategies

- 5.1 Protect the continued operation of existing viable industries in *Employment Areas*.
- 5.2 Facilitate the transition of *Employment Areas* to accommodate a broader range of employment generating uses, including a mix of industry and office based uses and other compatible employment uses.
- 5.3 Employment uses are considered to be prioritised over residential uses if either of the following are met:
- Where multi-use development including a residential component is proposed, the amount of employment floor space should be at least equivalent to the amount of all proposed ground and first floor building floor space (inclusive of car parking, other services and circulation space, or
 - Where rezoning of a large site is proposed, a proportion of the site should be allocated to employment uses. The area allocated to employment uses should be to Council's satisfaction, and included in a zone that prohibits residential use.
- 5.4 Encourage flexible floor plate layouts and increased floor to ceiling heights at ground and first floor to facilitate a variety of employment uses over time.
- 5.5 Require new residential and multi-use development in *Employment Areas* to adopt the agent of change principle, by incorporating design and noise attenuation measures to protect residents from noise from nearby businesses, such as locating bedrooms away from noise sources and using appropriate acoustic measures.
- 5.6 Encourage building design and site layouts of industrial and commercial uses in *Employment Areas* to minimise the potential for adverse amenity and environmental impacts on nearby residential uses.

- 5.7 Encourage redevelopment in *Employment Areas* to be of a high quality to contribute to an overall improvement in the amenity of the area, including low maintenance landscaping and upgrades to adjoining streetscapes.
- 5.8 Encourage the amenity expectations for residential or other sensitive uses within or adjacent to *Employment Areas* to be reflective of the multi use nature of the areas and the priority given to employment uses.
- 5.9 Consider the impacts on the viability of existing businesses in deciding whether a site specific or precinct wide rezoning is appropriate.

Objective 6 – Transition Residential Areas (Category 3)

To support change in *Transition Residential Areas (Category 3)* to facilitate quality residential development and contribute to housing supply.

Strategies

- 6.1 Support the rezoning and redevelopment of *Transition-Residential Areas* to allow quality residential development.
- 6.2 Discourage new industry and businesses from locating in *Transition-Residential Areas*.
- 6.3 Discourage existing businesses from expanding in *Transition-Residential Areas*. However where an existing business wishes to expand on their current site, manage the expansion having regard to the impacts on residential uses.
- 6.4 Encourage redevelopment to be of a high quality to contribute to an overall improvement in the amenity of the area and maximise the contribution to the public realm.

21.03-2.1 Implementation

22/11/2018
C190

Core Industry and Employment Areas (Category 1)

Retain the Industrial 1 and 3 Zones to the majority of land in in *Core Industry and Employment Areas (Category 1)* to support industry and complementary businesses and prohibit residential uses.

Apply the Commercial 2 Zone in *Core Industry and Employment Areas* to facilitate restricted retail uses and prohibit residential uses.

Employment Areas (Category 2)

Apply the Industrial 3 Zone or Commercial 2 Zone to *Employment Areas (Category 2)* to prioritise employment.

Where residential uses are to be permitted in *Employment Areas*, apply one of the following zoning and overlay configurations to achieve Strategy 5.3 of Clause 21.03-2:

- The Commercial 1 Zone and prioritise employment uses as per Strategy 5.3;
- The Special Use Zone or Comprehensive Development Zone and use the schedule to the zone to tailor use provisions to establish permit triggers for residential and other uses, as necessary;
- A mix of zones over larger sites as per Strategy 5.3, with zones applied to ensure employment uses are prioritised.

Consider applying the Incorporated Plan Overlay or Development Plan Overlay in conjunction with any rezoning where confirmation of the location of employment uses is required.

Transition Residential Areas (Category 3)

Apply the Mixed Use Zone, Residential Growth Zone or General Residential Zone to *Transition Residential Areas (Category 3)*. Zone selection will be informed by the size and location of the site and the ability to manage off site impacts and integrate with the scale of the surrounding neighbourhood at site or precinct boundaries. Given the objective for *Transition Residential Areas* to make a contribution to overall housing supply, the

Neighbourhood Residential Zone should only be considered in specific circumstances, such as very small and isolated sites.

All Areas

Consider applying the Design and Development Overlay in conjunction with any rezoning where confirmation of design and site layout detail is required.

Apply Clause 22.05 Caretaker's Houses.

21.03-3

29/08/2018
C170

Housing

Objective 7

To provide housing diversity to meet community needs.

Strategies

7.1 Facilitate a range of different housing types in different locations, as follows:

- Encourage increased density housing to be located in the Coburg, Brunswick and Glenroy Activity Centre boundaries, in accordance with the relevant zones and overlays or a Council adopted Place Framework Strategy or Structure Plan.
- Encourage increased density housing to be located within the Commercial, Mixed Use and Residential Growth Zones within the following Neighbourhood Centres:
 - Grantham/Union Streets, West Brunswick
 - Melville Road/Albion Street/Victoria Street, West Brunswick
 - Nicholson Street/Holmes Street/Moreland Road Coburg/Brunswick
 - Bell Street/Melville Road, Pascoe Vale South
 - Gaffney Street/Pascoe Vale Station, Pascoe Vale
 - Gaffney/Sussex Streets, Coburg North
 - Elizabeth Street, Coburg North
 - West Street, Hadfield
 - Bonwick Street, Fawkner
 - Snell Grove, Oak Park
 - Merlynston Station, Merlynston
 - Moreland/Melville Roads, West Brunswick
- Encourage increased density housing to be located on former industrial sites designated as Transition Residential Areas (Category 3) in the Moreland Industrial Land Strategy 2015-2030 that have been rezoned to the Mixed Use Zone (MUZ) or Residential Growth Zone (RGZ).
- Ensure that higher density development on public housing sites in the Mixed Use Zone is designed to meet the relevant built form provisions as set out in the applicable zone and overlay controls.
- Encourage incremental housing growth designed to respect existing neighbourhood character and enhance landscape character, in the General Residential Zone (GRZ).
- Encourage minimal housing growth in the Neighbourhood Residential Zone (NRZ), designed to create an enhanced low density, open and landscaped character.

7.2 Encourage developments of 10 or more dwellings to provide a balance of 1, 2 and 3+ bedroom dwellings.

Objective 8

To contribute to housing affordability.

Strategies

- 8.1 Reduce the ongoing living costs associated with housing, by ensuring development is designed to maximise energy efficiency in accordance with the relevant objectives and strategies included in Clause 21.03-5 Environmentally Sustainable Design.
- 8.2 Encourage developments to include a proportion of affordable rental housing to be owned and managed by a registered Housing Association, Housing Provider or similar not for profit organisation.

Objective 9

To increase the supply of housing that is visitable and adaptable to meet the needs of different sectors of the community.

Strategies

- 9.1 Encourage all dwellings to be visitable by a person with limited mobility by providing:
 - An accessible path from the street and car park areas to a level entry
 - Minimum width of 850mm for doors and 1000mm for hallways at entry level
 - A clear path of travel from the accessible entry to a living area and toilet suitable for people with limited mobility.
- 9.2 Encourage the provision of liveable housing that can be lived in by people with limited mobility (or easily adapted to be lived in) by incorporating the following design features:
 - An accessible path from the street and car park areas to a level entry
 - A bedroom, living area, kitchen, private open space, bathroom and toilet which can be efficiently adapted for people with limited mobility on entry level
 - Minimum width of 850mm for doors and 1000mm for hallways at entry level.

21.03-3.1 Implementation

14/12/2017
C142

- Apply the Residential Growth Zone, General Residential Zone and Neighbourhood Residential Zone in accordance with Strategy 7.1 above and Strategic Direction 3: Housing in Clause 21.02-3.
- Apply Clause 22.01 Neighbourhood Character Policy.
- Apply Clause 22.07 Apartment Developments of Five or More Storeys
- Apply the *Moreland Tree Planting Manual for Residential Zones, 2014* in accordance with the requirements of the schedules to the residential zones.
- Consider the *Livable Housing Design Guidelines* produced by Livable Housing Australia for guidance on design details in the assessment of proposals against Objective 9.
- Apply clause 22.11 Student Accommodation for guidance in the assessment of proposals against Objective 7.

21.03-4 Urban Design, Built Form and Landscape Design

14/12/2017
C158

Objective 10

To ensure development responds and contributes to its context and any relevant heritage significance.

Strategies

- 10.1 Ensure the overall siting and building envelope is based on a considered analysis of the site's context and features, including site size, shape and orientation.
- 10.2 Ensure site design, building frontages, design articulation and internal layout achieve a good interface with and surveillance of the public realm.
- 10.3 Ensure development is designed to contribute to a fine grain urban structure.
- 10.4 Ensure large sites provide a network of public streets, footpaths and lanes connecting through the site into the surrounding street and pedestrian network, as appropriate.
- 10.5 Ensure development contributes to the upgrade of existing streets adjoining the site and undergrounding of powerlines and other utilities, as appropriate.
- 10.6 Ensure service infrastructure such as substations are well concealed or integrated into building design.
- 10.7 Where car stackers are proposed, ensure they are designed to suitable buffer adjoining dwellings from all impacts.
- 10.8 Ensure the conservation and enhancement of heritage places.
- 10.9 Ensure signage is sensitive to the style, scale and character of host buildings, nearby buildings, and streetscapes.

Objective 11

To ensure development maximises passive energy efficiency and creates quality living and working environments.

Strategies

- 11.1 Ensure site layout and building design maximises the efficient use of energy through the following measures:
 - Building orientation and design should maximise solar access and passive design opportunities
 - Building separation, building depth and orientation of internal living spaces should maximise access to daylight and natural ventilation.
- 11.2 Ensure the location of primary outlooks and building separation distances and heights have regard to the ability of adjoining sites to gain adequate access to daylight and outlook (including if redevelopment was to occur).

Objective 12

To ensure development is integrated with landscape design to improve aesthetic quality and amenity for occupants and the public domain.

Strategies

- 12.1 Encourage development to maximise retention of existing vegetation and large trees.
- 12.2 Ensure development provides sufficient space and conditions for planting of new canopy and screening trees.
- 12.3 Ensure landscape design:
 - Integrates development with the surrounding environment
 - Provides for summer shading of buildings and private open spaces and allows for access to winter sun
 - Contributes to reduction of the urban heat island effect
 - Incorporates water sensitive urban design.

21.03-4.1 Implementation

14/12/2017
C142

- Apply the Heritage Overlay to places of recognised State or Local heritage significance.
- Apply Clause 22.01 Neighbourhood Character.
- Apply Clause 22.04 Advertising Signs.
- Apply Clause 22.06 Heritage.
- Apply Clause 22.07 Apartment Developments of Five or More Storeys.
- Apply canopy tree planting in accordance with the requirements in the schedules to the residential zones
- Apply the *Moreland Landscape Guidelines 2009* in the assessment of Landscape Plans.
- Apply the Design and Development Overlay 18 – Sydney Road/Upfield Corridor, Design and Development Overlay 19 – Lygon Street Local Area and Design and Development Overlay 20 – Nicholson Street Local Area to ensure development is appropriately designed and best practice environmental sustainable design is achieved.

21.03-5 Environmentally Sustainable Development

14/12/2017
C168

Objective 13

To encourage development to contribute to environmental sustainability.

Strategies

- 13.1 Encourage development to incorporate environmentally sustainable design in the following areas: energy efficiency, water resources, indoor environment quality, stormwater management, transport, waste management and urban ecology in accordance with Clause 22.08 Environmentally Sustainable Development.
- 13.2 Encourage precinct scale water management and recycling systems.
- 13.3 Encourage precinct scale energy supply that can be shared between developments, including low emission technologies such as co-generation and tri-generation.

21.03-5.1 Implementation

14/12/2017
C142

- Apply Clause 22.08 Environmentally Sustainable Development.
- Apply Clause 22.07 Apartment Developments of Five or More Storeys
- Apply the CSIRO Urban Stormwater Best Practice Environmental Management Guidelines, as appropriate.

21.03-6 Open Space Network

28/01/2016
C162

Objective 16

To protect the biodiversity, amenity and recreational values of the open space network, identified on Map 1.

Strategies

- 16.1 Ensure development does not unreasonably overshadow public open space.
- 16.2 Ensure development does not reduce public access to open space.
- 16.3 Ensure development enhances a sense of safety by maximising interaction, passive surveillance and incidental lighting of open space.
- 16.4 Ensure development adjacent to public open space provides clear separation between public and private land.

- 16.5 Ensure development protects and enhances areas of remnant vegetation and indigenous revegetation as identified in the Moreland Open Space Strategy 2012-2022.
- 16.6 Ensure development does not compromise the ecological integrity of the Merri, Moonee Ponds, Edgars, Westbreen and Merlynston Creek corridors.
- 16.7 Create a continuous public open space corridor with a minimum of 50 metres on each side along the Moonee Ponds, Merri and Edgars Creeks. A minimum of 30 metres from the edge of the embankment on each side should be a vegetated buffer.
- 16.8 Ensure large sites include provision of new public open space on site, if located in a priority area for park provision as identified in the Moreland Open Space Strategy 2012-2022.

21.03-6.1 Implementation

29/01/2016
C162

- Apply the Environmental Significance Overlay (ESO) to the Moonee Ponds, Merri, Edgars and Merlynston Creek corridors.
- Apply the *Development Guidelines for Merri Creek, MCMC 2004* to development within the Merri Creek ESO.
- Implement the Moreland Open Space Strategy 2012-2022.
- Have regard to the *Edgars Creek Conservation and Development Plan, Edwardes Lake to Merri Creek June 2013* in the consideration of applications adjacent to the Edgars Creek corridor.

21.03-7 Community Infrastructure

14/12/2017
C169

Objective 17

To optimise access to community infrastructure (e.g. health, education, social, leisure and cultural facilities), suited to the local community's needs in different locations.

Strategies

- 17.1 Encourage the concentration of State Government services within the Coburg, Brunswick and Glenroy Activity Centres.
- 17.2 Encourage the development of a major health facility and associated infrastructure in the Coburg Activity Centre.
- 17.3 Reinforce the existing cultural, entertainment and educational focus of the 'Brunswick Civic & Cultural Precinct' centred on the Brunswick Town Hall.
- 17.4 Support the location of community infrastructure within the Coburg, Brunswick and Glenroy Activity Centres and within Neighbourhood Centres.
- 17.5 Ensure the design of community facilities allows for multi-purpose use by different groups with the flexibility to adapt to changing needs over time.
- 17.6 Encourage the development of master plans for major community facilities, such as hospitals, schools and large community facilities, to provide for planned expansion and management of impacts on adjoining areas.
- 17.7 Ensure the design and location of community infrastructure contributes to a local sense of place and opportunities for social connections.
- 17.8 Ensure the provision of community infrastructure is based on sound supporting evidence of community need and benefit.
- 17.9 Consider the community benefit of retaining land in a public use zone for community use prior to supporting any rezoning proposal.

21.03-7.1 Implementation

29/01/2016
C162

- Integrate community infrastructure planning with activity centre planning.

- Apply the Development Contribution Plan Overlay to collect development contributions towards community infrastructure, as appropriate.
- Apply the Development Plan Overlay or Incorporated Plan Overlay to implement adopted master plans.

21.04

14/12/2017
C168

REFERENCE DOCUMENTS

- Brunswick Structure Plan 2010 and addendum to the Brunswick Structure Plan 2012
- Central Coburg 2020 Structure Plan 2006
- Colours of Coburg Place Framework and Strategies 2010
- Coburg Activity Centre – Built Form Rationale and Building Envelope 2014
- CSIRO Urban Stormwater Best Practice Environmental Management Guidelines
- Development Guidelines for Merri Creek, MCMC 2004
- Early Years Strategy 2011-2015
- Edgars Creek Conservation and Development Plan, Edwardes Lake to Merri Creek, June 2013
- Glenroy Structure Plan 2008
- Later Years Strategy 2007-2012
- Livable Housing Design Guidelines, Livable Housing Australia
- Moreland Activity Centre Framework 2014
- Moreland Affordable Housing Strategy 2014-2018
- Moreland Apartment Design Code 2015
- Moreland Arts and Culture Strategy 2011-2016
- Moreland Bicycle Strategy 2011
- Moreland Climate Action Plan 2007
- Moreland Economic Development Strategy 2011-2016
- Moreland Human Rights Policy 2016-2026
- Moreland Industrial Land Strategy 2015-2030
- Moreland Integrated Transport Strategy 2010
- Moreland Integrated Water Management Plan 2010
- Moreland Landscape Guidelines 2009
- Moreland Municipal Public Health and Wellbeing Plan 2013-2017
- Moreland Neighbourhood Centres Strategy 2017
- Moreland Open Space Strategy 2012-2022
- Moreland Parking Management Policy 2011
- Moreland Pedestrian Strategy 2010
- Moreland Rights of Way Strategy 2011-2021
- Moreland Stormwater Targets - Stormwater Quality Targets for the City of Moreland, AECOM and the City of Moreland 2012
- Moreland ~~Street Landscape Strategy 2012 – 2022~~ [Urban Forest Strategy 2016-2026](#)
- Moreland Tree Planting Manual for Residential Zones, ~~2014~~
- Moreland Vehicle Crossing (Driveway) Policy 2010
- Pentridge Coburg Design Guidelines and Masterplan 2014
- Pentridge Village Design Guidelines and Masterplan 2009
- Sydney Road and Upfield Corridor Strategic Framework Plan 2014

22.01 NEIGHBOURHOOD CHARACTER

29/03/2018
C170

This policy applies to planning permit applications in the residential or commercial zones, where an assessment is required pursuant to Clause 54 or 55 and to any other permit applications where an assessment against neighbourhood character is required.

22.01-1 Policy Basis

14/12/2017
C169

The protection of neighbourhood character in residential areas is an important issue that is reflected in the purposes of the residential zones and the provisions of Clause 54 and 55.

This policy provides guidance on the consideration of neighbourhood character in the context of providing for housing growth and diversity, as outlined in Strategic Direction 3 in Clause 21.02-3 and Clause 21.03-3 of the Municipal Strategic Statement (MSS).

Increased residential densities are encouraged in the Activity Centre Zone, Commercial 1 Zone, Mixed Use Zone and Residential Growth Zone within the fifteen activity centres listed in Strategic Direction 3 and identified on the *Strategic Framework Plan (Maps 1A and 1B)* in Clause 21.02-4 of the MSS. In these centres, neighbourhood character is expected to change over time, commensurate with the role and size of the centre in the overall network of centres.

Incremental change will be supported in the Commercial and Mixed Use Zones within Local Centres and in the General Residential Zone. New development should be designed to respect existing neighbourhood character, and contribute to an improved landscape character.

Minimal change areas are zoned Neighbourhood Residential Zone. In these areas new development should be designed to contribute to a lower density, open and landscaped character.

22.01-2 Policy Objectives

29/03/2018
C170

Substantial Change Areas (Activity Centre, Commercial, Mixed Use and Residential Growth Zones of Activity and Neighbourhood Centres)

Coburg, Brunswick and Glenroy Activity Centres

- To support substantial change and create a new character of increased density and scale of built form, as defined in the relevant zone, overlay or Structure Plan.

Neighbourhood Centres

- To facilitate an increase in density and scale of built form at a lesser intensity and scale to the larger centres of Coburg, Brunswick and Glenroy.
- To support change towards a new character as defined in Schedule 24 to the Design and Development Overlay (DDO24).

Public housing sites

- To facilitate higher density development on public housing sites in the Mixed Use Zone, as defined in the relevant zone or overlay.

Incremental Change Areas (General Residential Zone and Commercial and Mixed Use Zones of Local Centres)

- To support incremental change to accommodate a mix of single dwellings and infill multi dwelling developments.
- To ensure that the scale and siting of new development respects existing neighbourhood character.
- To ensure that the design and landscaping of new development contributes to an enhanced 'green, leafy' landscape character.

Minimal Change Areas (Neighbourhood Residential Zone)

- To support minimal change to maintain a mix of single dwellings and lower density multi dwelling developments.
- To ensure that the scale and siting of new development respects existing neighbourhood character.
- To ensure that the design and landscaping of new development contributes to a lower density, open and 'green, leafy' landscape character.

22.01-3 Policy

29/03/2018
C170

It is policy to:

Substantial Change Areas (Activity Centre, Commercial, Mixed Use and Residential Growth Zones in Activity and Neighbourhood Centres)

Coburg, Brunswick and Glenroy Activity Centres

- Ensure new development is designed to meet the relevant built form provisions set out in the relevant zone, overlay or Structure Plan as follows:
 - Coburg – Schedule 1 to the Activity Centre Zone (ACZ1);
 - Brunswick – Schedules 18, 19 and 20 to the Design and Development Overlay (DDO18, DDO19 and DDO20) and Schedule 1 to the Residential Growth Zone; and
 - Glenroy – Schedule 1 to the Residential Growth Zone (RGZ1) and the Glenroy Structure Plan.

Neighbourhood Centres

- Ensure new development is designed to meet the provisions set out in Schedule 24 to the Design and Development Overlay (DDO24) and if applicable, Schedule 2 to the Residential Growth Zone (RGZ2)
- Ensure building height does not exceed four storeys unless it can be demonstrated that:
 - The prevailing height of surrounding buildings is five or more storeys, in which case the prevailing height should not be exceeded; or
 - The site is large enough to allow the visual impacts of the development to be mitigated through the design response. In such cases, the building height at the interface with adjoining properties and at street frontages should not exceed four storeys.
- Ensure development is designed to provide a suitable transition at interfaces with adjoining zones. This may include a transition in height and/or suitable landscaping.
- Encourage contemporary architecture.

Public Housing Sites

- To facilitate higher density development on public housing sites in the Mixed Use Zone, as defined in the relevant zone or overlay.

Incremental and Minimal Change Areas (Commercial and Mixed Use Zone areas in Local Centres, General and Neighbourhood Residential Zones)

Commercial and Mixed Use Zone areas (Local Centres not designated for growth)

- Ensure building height does not exceed three storeys unless it can be demonstrated that the site is large enough to allow the visual impacts of the development to be mitigated through the design response. In such cases, the building height at the interface with adjoining properties and at street frontages should be no more than three storeys.

General and Neighbourhood Residential Zone areas

- In the General Residential Zone, ensure building height does not exceed two storeys unless it can be demonstrated that:

- The prevailing height of surrounding buildings is three or more storeys, in which case the prevailing height should not be exceeded; or
- The site is large enough to allow the off-site impacts of the development to be mitigated through the design response. In such cases, the building height at the interface with adjoining properties and the public realm should be no more than two storeys with setbacks provided to ensure the levels above two storeys are visually recessive.
- Ensure new development is designed to respect the prevailing built form scale, siting and appearance of the surrounding context, particularly with regard to front and side setbacks of surrounding buildings and openness of rear yards, as documented in the Neighbourhood and Site Description.
- Ensure development in rear yards is single storey unless it can be demonstrated that:
 - The prevailing character is not one of open rear yards and garden outlooks; and/or
 - The building envelope respects the existing character of open rear yards and garden outlooks. This should be through provision of generous side and rear setbacks and private open space in excess of Clause 55 standards to increase the space for screen tree planting, and sensitive design of the upper levels with adequate articulation, setbacks and materials to minimise visual bulk impacts as seen from neighbouring rear secluded open spaces.
- Ensure new development is designed, as confirmed on a landscape plan, to:
 - Maximise opportunities to retain existing canopy trees;
 - Include planting in the front setback ~~of at~~with at least one canopy tree in accordance with the schedule to the zone; ~~selected in accordance with the Moreland Tree Planting Manual for Residential Zones 2014;~~
 - Include planting of canopy trees in the secluded private open spaces of each dwelling in accordance with the schedule to the zone; and
 - Maximise opportunities for tree planting in side and rear setbacks, and landscaping along driveways and vehicle accessways.
 - ~~;~~ and
 - ~~If located in the Neighbourhood Residential Zone, include planting of one tree in the secluded private open space of each dwelling, selected in accordance with the Moreland Tree Planting Manual for Residential Zones 2014.~~

Neighbourhood Residential Zone areas

- Ensure new development provides ground level secluded private open space in excess of Clause 55 standards to contribute to a lower density, open and landscaped character.

All areas

- Ensure the layout and design of new development makes a positive contribution to the public realm, including maximising opportunities for active frontages and casual surveillance.
- Ensure car parking facilities (crossovers, access ways, garages and carports) do not dominate the streetscape.
- Ensure vehicle crossing provision limits the removal of on street public parking spaces, removal of street trees, and encroachment into landscaped front setbacks, and maximises pedestrian safety and sight lines.
- Ensure waste storage areas are screened from view of the street.

22.01-4 Policy References

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Brunswick Structure Plan 2010 and Addendum to the Brunswick Structure Plan 2012
Glenroy Structure Plan 2008
Central Coburg 2020 Structure Plan 2006
Coburg Activity Centre – Built Form Rationale and Building Envelopes 2014
Colours of Coburg Place Framework and Strategies 2010
Moreland Activity Centre Framework 2014
Moreland Neighbourhood Centres Strategy 2017
Moreland Landscape Guidelines 2009
Moreland Tree Planting Manual for Residential Zones, 2014
Pentridge Coburg Design Guidelines and Masterplan 2009
Pentridge Village Design Guidelines and Masterplan 2014

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SCHEDULE 24 TO THE DESIGN AND DEVELOPMENT OVERLAY

Shown on the planning scheme map as DDO24.

NEIGHBOURHOOD CENTRES

1.0 Design objectives

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- To implement the Moreland Neighbourhood Centres Strategy, 2017.
- To ensure built form outcomes are appropriate to the context of Moreland's Neighbourhood Centres.
- To improve the quality of higher density and mixed use developments by providing appropriate built form guidance.
- To improve amenity outcomes for residents in higher density and mixed use developments and for residents in adjacent buildings.
- To ensure that new development makes a positive contribution to the public realm.

2.0 Buildings and works

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A permit is not required to:

- Install an automatic teller machine.
- Alter an existing building facade provided that:
 - The alteration does not include the installation of an external roller shutter; and
 - At least 80 per cent of the building facade at ground floor level is maintained as an entry or window with clear glazing for development in the Commercial 1 Zone.

Building Height Requirements

Any new building must not exceed the maximum height shown on the maps in Subclause 7.0 to this schedule. The maximum heights shown for the following neighbourhood centres cannot be varied with a permit:

Figure 7: Bell Street/Melville Road, Pascoe Vale South

Figure 8: Gaffney Street/Pascoe Vale Station

Figure 9: Gaffney Street/Sussex Street, Coburg North

Figure 10: West Street, Hadfield

Figure 11: Bonwick Street, Fawkner

Figure 12: Snell Grove, Oak Park

Figure 13: Merlynston Station, Merlynston

Figure 14: Moreland Road/Melville Road, Brunswick West.

The maximum building height requirement may be exceeded for architectural features and service equipment including plant rooms, lift overruns, structures associated with green roof areas and other such equipment if all of the following are met:

- No more than 50% of the roof area is occupied by the equipment (other than solar panels).
- The equipment is located in a position on the roof so as to minimise additional overshadowing on neighbouring properties and public spaces.
- The equipment does not extend higher than 1.2 metres above the maximum building height.

- The equipment and screening is integrated into the design of the building to the satisfaction of the responsible authority.

Front Setback Requirements

- All buildings with retail and commercial uses at ground floor should be constructed to the street boundary as shown in Figure 1. This may be varied, if the setback is:
 - Not required to create a consistent street wall.
 - Designed as part of the public realm.
 - Fully accessible to the public, or offices are proposed at ground floor.
- All buildings with residential uses at ground floor should be setback in accordance with Clause 55.03-1 Standard A3 or B6, or 3 metres, whichever is lesser, as shown in Figure 1.
- On corner sites the setback from the main street frontage should wrap around the corner then graduate to match the setback of the secondary street, or be set back 3 metres, whichever is the lesser.

Ground floor awnings, architectural features, sunshades and artworks may encroach into the front setback. No other part of a building including balconies may encroach into the front setback.

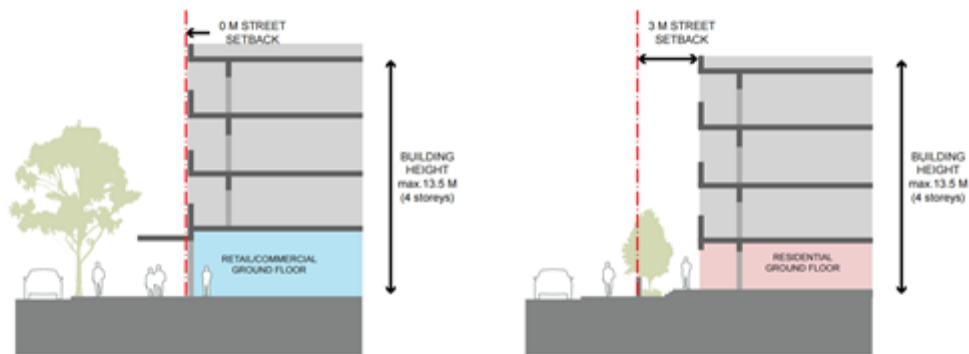


Figure 1: Front setbacks for retail/commercial ground floor and residential ground floor

Side Setback Requirements

With No Outlook

- Within the Commercial 1 Zone: 0 metres from the property boundary (build to side boundaries to create continuous street edge).
- Any part of a building abutting a property in any other zone should comply with the side setback requirements of Clause 55 (ResCode Standard A10 or B17).

With Outlook

- Primary outlook (living/balcony outlook): 4.5 metres from the property boundary should be planted with trees.
- Secondary outlook (bedrooms outlook): 2 metres from the property boundary should be planted with trees.
- Any part of a building abutting any other zone must comply with the side setback requirements of Clause 55 (ResCode Standard A10 or B17).

Separation of buildings within sites should have regard to the building separation distances in the *Moreland Apartment Design Code, September 2015*.

Architectural features, sunshades and artworks may encroach into the side and rear setbacks. No other part of a building, including balconies, may encroach into the setback.

Rear Setback Requirements

- Buildings abutting a property boundary should be setback:
 - 3 metres from the property boundary for any part of a building up to a height of 4 metres as shown in Figure 2.
 - A minimum of 6 metres from the property boundary for any part of a building exceeding 4 metres, as shown in Figure 2.
- A minimum of 8.6 metres for any part of a building exceeding 10.5 metres adjacent to a site in the Neighbourhood Residential Zone, as shown in Figure 3.

Laneways to the rear of a property in the Commercial 1 Zone (with the exception of properties adjacent to the Neighbourhood Residential Zone) should be counted as part of the setback, as shown in Figure 2.

Architectural features, sunshades and artworks may encroach into the rear setbacks. No other part of a building, including balconies, may encroach into the setback.

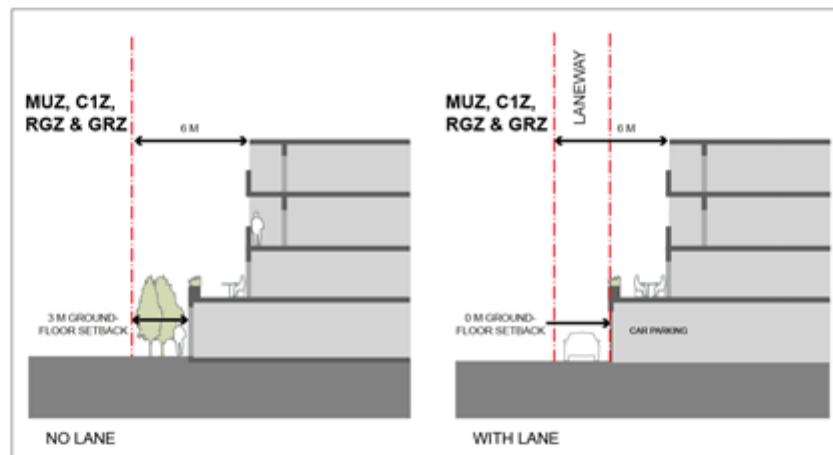


Figure 2: Rear Building Setbacks

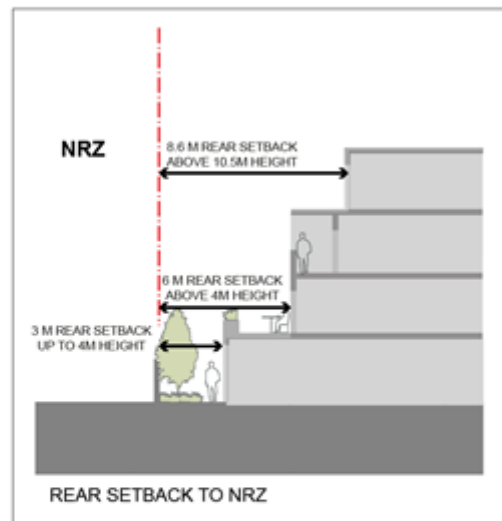


Figure 3: Rear building setbacks for sites adjacent to the Neighbourhood Residential Zone

Building Frontage Requirements

Active Frontages

- Development should incorporate the following at street level fronting all streets (except rear laneways) and public open spaces:
 - Commercial – A display window and/or entrance, measuring 65 - 80% of the width of the street frontage of each individual premise. Large signage and/or non-transparent glazing should be avoided. Non-transparent glazing up to a height of 1.7 metres may be used for office uses.
 - Residential – Individual entries to ground floor dwellings and habitable room windows facing the street. Privacy should be provided by elevating the ground floor approximately 0.5 to 1 metre above the street level and/or providing landscaping in a front setback.
- Parks and public spaces should be substantially fronted by dwellings and/or other occupancies with direct access and outlook. Separation between public and private land should be clear and may be delineated by paths and/or streets.
- On corner lots active frontages should address both streets. Blank side walls and associated garages/car parking are discouraged.

Awnings

- Development with retail and commercial uses at ground floor should incorporate awnings designed to provide adequate weather protection over the footpath for the full width of the building frontage.
- New awnings should match the existing height and depth of existing awnings

Building Articulation

- Building façades should be designed with an appropriate rhythm and proportion that respond to the building's uses and context, and contribute to a fine grain urban character.

- New buildings should adopt solid architectural expression that emphasises the street edge through the use of recessed balconies, framed elements and solid balustrades.
- Side setbacks should incorporate articulation to break down building mass through the use of materials and finishes.

Car Parking and Vehicle Entry

- The impact of vehicle access and car parking on the public realm should be minimised by:
 - Locating vehicle access to the rear of buildings wherever possible, or to the side, where rear access is not available.
 - Locating car parking where it cannot be seen from the public realm.
- Locate vehicle crossings to minimise the removal of street trees, on-street car parking spaces, or encroachment into landscaped front setbacks.
- Pedestrian safety and sight lines should be maximised.
- Where car stackers are proposed, ensure they are suitably located to minimise adverse amenity impacts to adjoining sites.

Site Services

- Service infrastructure should be concealed or integrated into building design.
- Waste storage areas should be screened from view of the street.

Landscaping

- Provide at least one tree in the front setback, selected in accordance with the *Moreland Tree Planting Manual, 2014*.
- Provide tree planting along the side and rear boundaries for properties located in the Residential Growth Zone and Mixed Use Zone.

3.0 Subdivision

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None specified

4.0 Advertising Signs

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None specified

5.0 Decision guidelines

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Before deciding on an application, the responsible authority must consider, as appropriate:

- Whether the development is consistent with the *Moreland Neighbourhood Centres Strategy 2017* and any other policy or planning provision applying to the area.
- Whether an appropriate Building Type has been proposed as per Appendix One of the *Moreland Neighbourhood Centres Strategy, 2017*.
- Whether the development provides an appropriate transition to properties in an adjoining zone.
- The extent to which the development achieves the design objectives in clause 1.0 and requirements of clause 2.0 of this schedule.

6.0

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Moreland Neighbourhood Centres Strategy, 2017

7.0 Neighbourhood Centre Framework Plans

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Figure 4: Grantham Street/Union Street, Brunswick West Neighbourhood Centre



- Existing open space
- Industrial use (employment priority)
- Movement & Access**
- Bus route / stop
- Tram route / stop
- Existing bike path
- Areas of Change**
- Focus Areas for Change (should not exceed 13.5 metres, 4 storeys)
- Incremental Change (must not exceed 11 metres, 3 storeys)
- Minimal Change (must not exceed 9 metres, 2 storeys)
- Commercial frontage
- Residential frontage
- * New public space to be included as part of approved development
- Proposed pedestrian link

Figure 5: Melville Road/Albion Street/Victoria Street, Brunswick West Neighbourhood Centre



Figure 6: Nicholson Street/Holmes Street/Moreland Road, Coburg Neighbourhood Centre

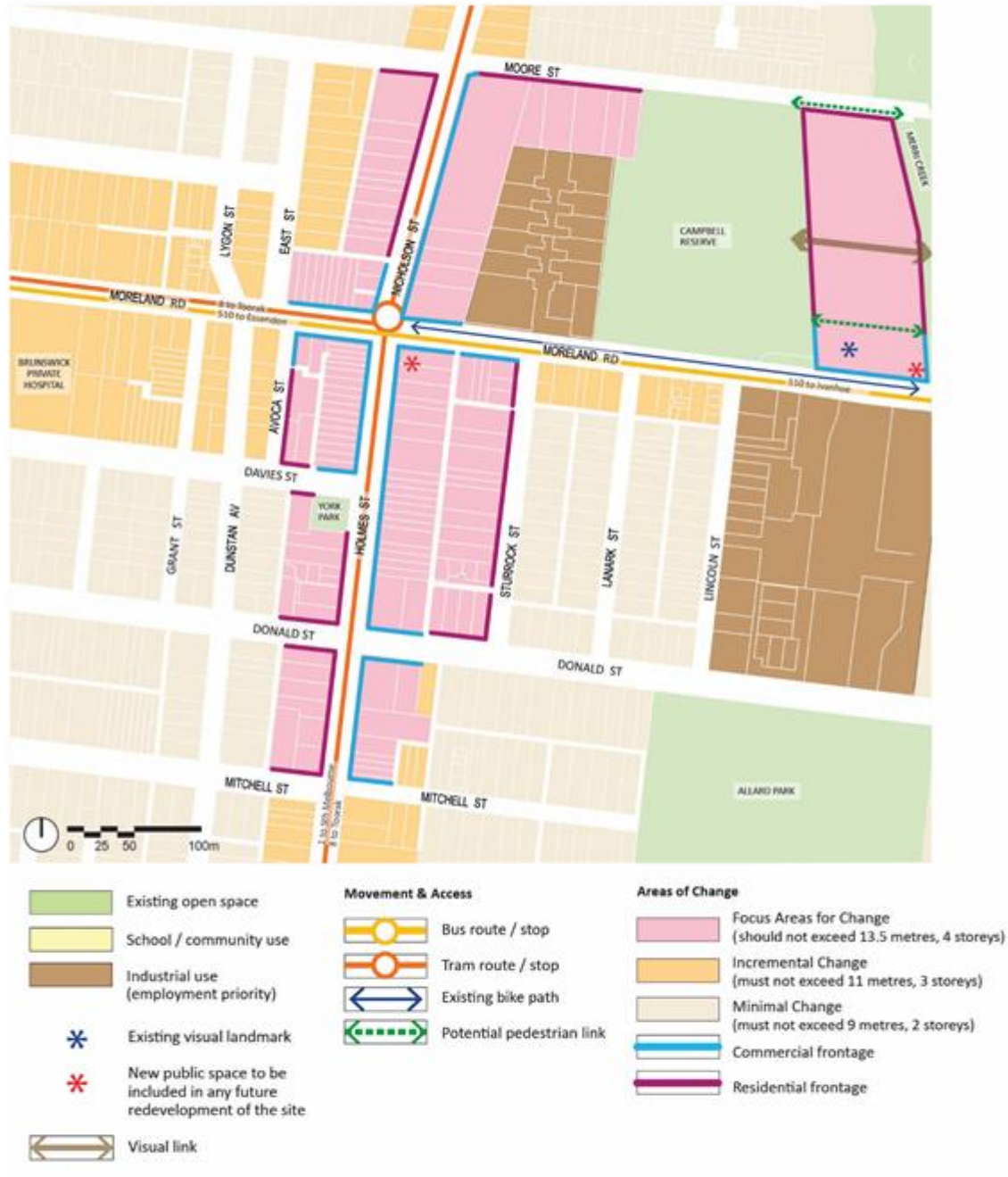


Figure 7: Bell Street/Melville Road, Pascoe Vale South Neighbourhood Centre

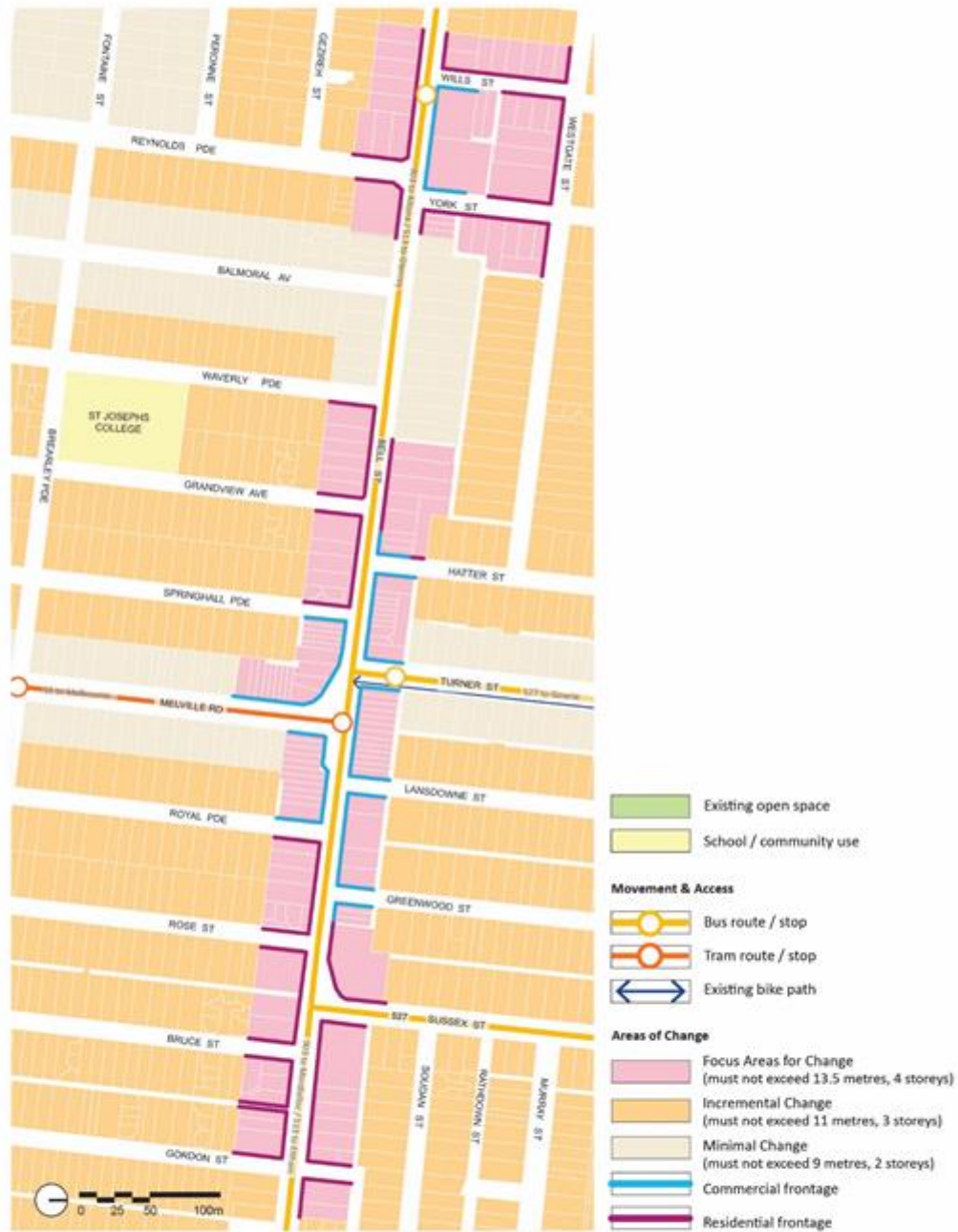


Figure 8: Gaffney Street/Pascoe Vale Station, Pascoe Vale Neighbourhood Centre



- Existing open space
- Industrial use (employment priority)

- Movement & Access**
- Train line / station
 - Bus route / stop

Areas of Change

- Focus Areas for Change (must not exceed 13.5 metres, 4 storeys)
- Incremental Change (must not exceed 11 metres, 3 storeys)
- Minimal Change (must not exceed 9 metres, 2 storeys)
- Commercial frontage
- Residential frontage

Figure 9: Gaffney Street/Sussex Street, Coburg North Neighbourhood Centre

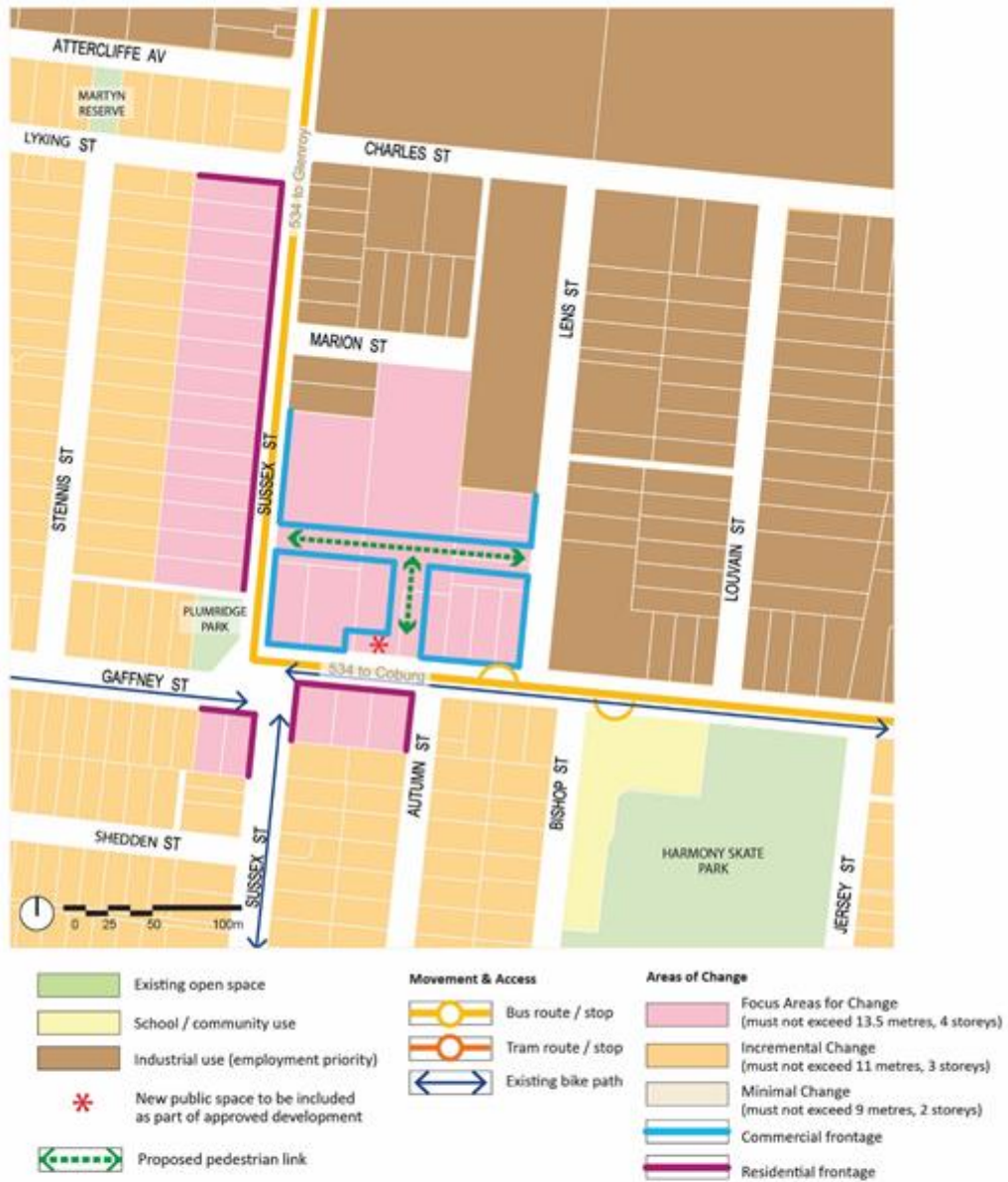


Figure 10: West Street, Hadfield Neighbourhood Centre



- | | |
|---|--|
|  Existing open space | Areas of Change |
| Movement & Access |  Focus Areas for Change
(must not exceed 13.5 metres, 4 storeys) |
|  Bus route / stop |  Incremental Change
(must not exceed 11 metres, 3 storeys) |
|  Tram route / stop |  Commercial frontage |
| |  Residential frontage |

Figure 11: Bonwick Street, Fawkner Neighbourhood Centre

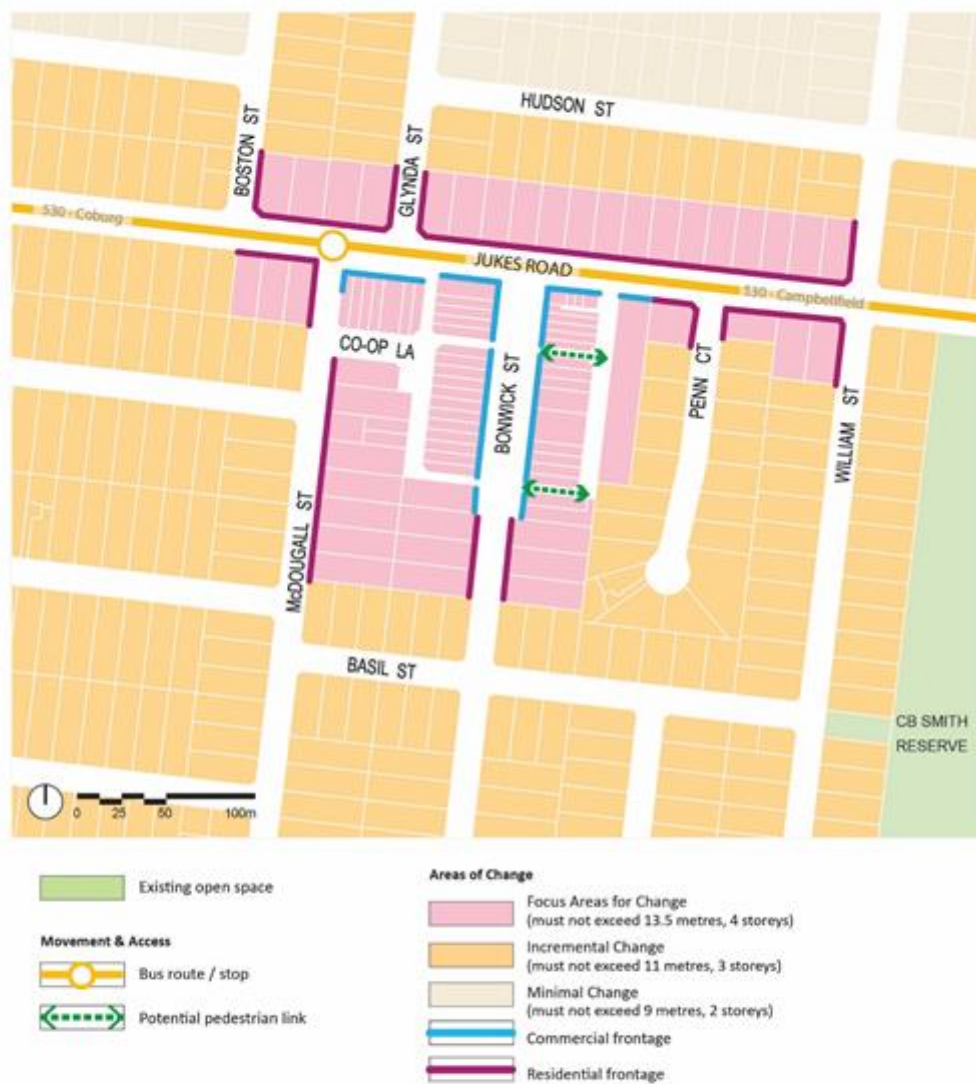


Figure 12: Snell Grove, Oak Park Neighbourhood Centre

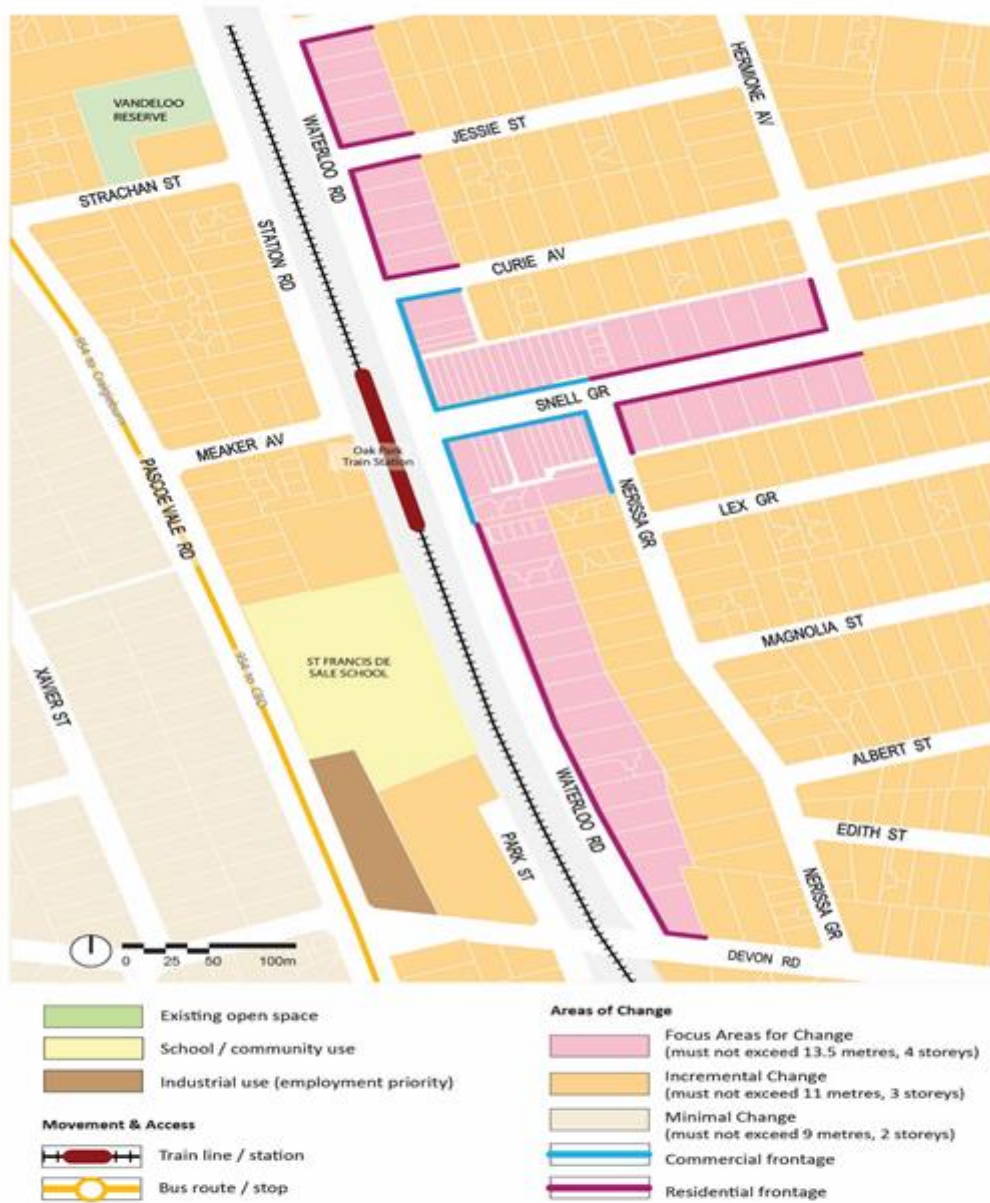
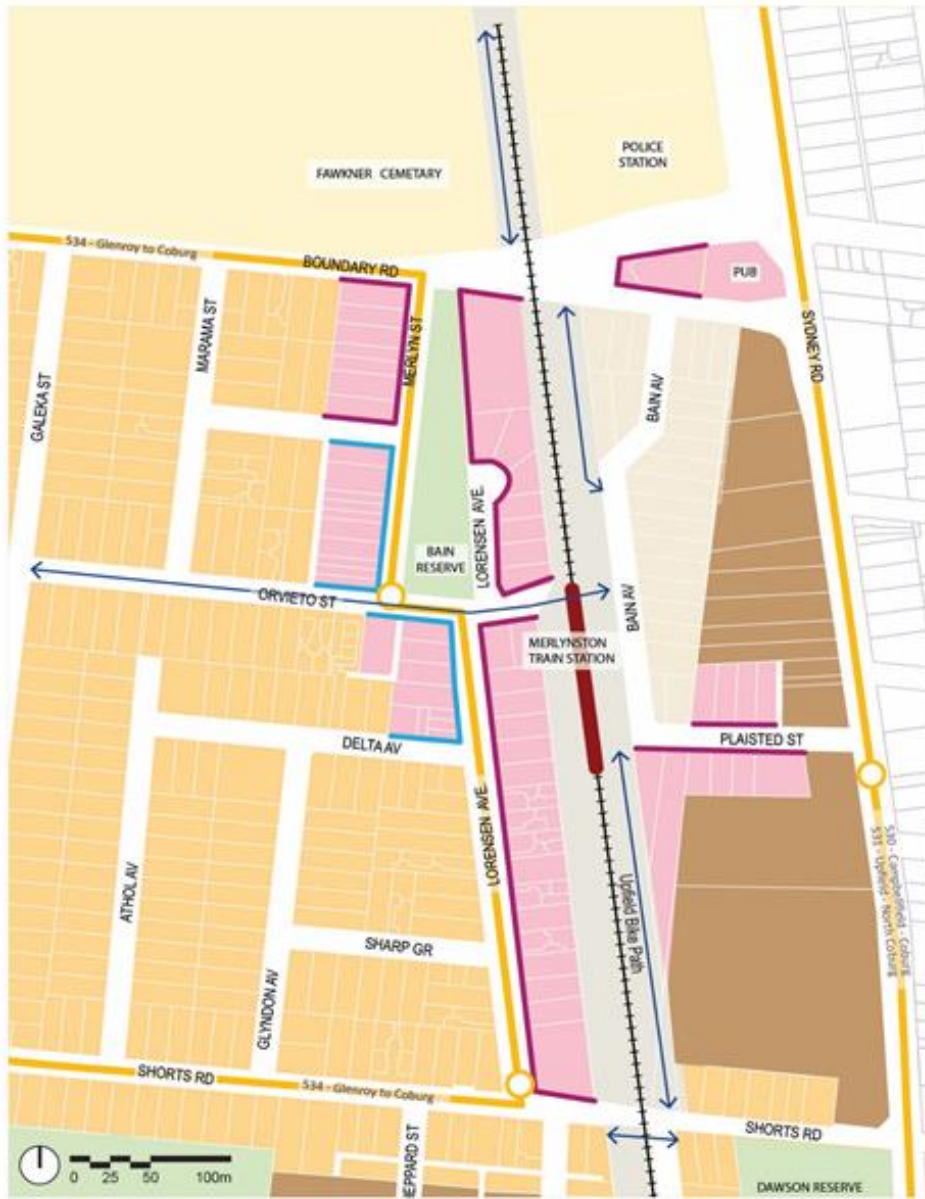


Figure 13: Merlynston Station, Merlynston Neighbourhood Centre



- | | | | |
|---|---|---|--|
|  | Existing open space |  | Areas of Change |
|  | School / community use |  | Focus Areas for Change
(must not exceed 13.5 metres, 4 storeys) |
|  | Industrial use
(employment priority) |  | Incremental Change
(must not exceed 11 metres, 3 storeys) |
|  | Movement & Access |  | Minimal Change
(must not exceed 9 metres, 2 storeys) |
|  | Train line / station |  | Commercial frontage |
|  | Bus route / stop |  | Residential frontage |
|  | Existing bike path | | |