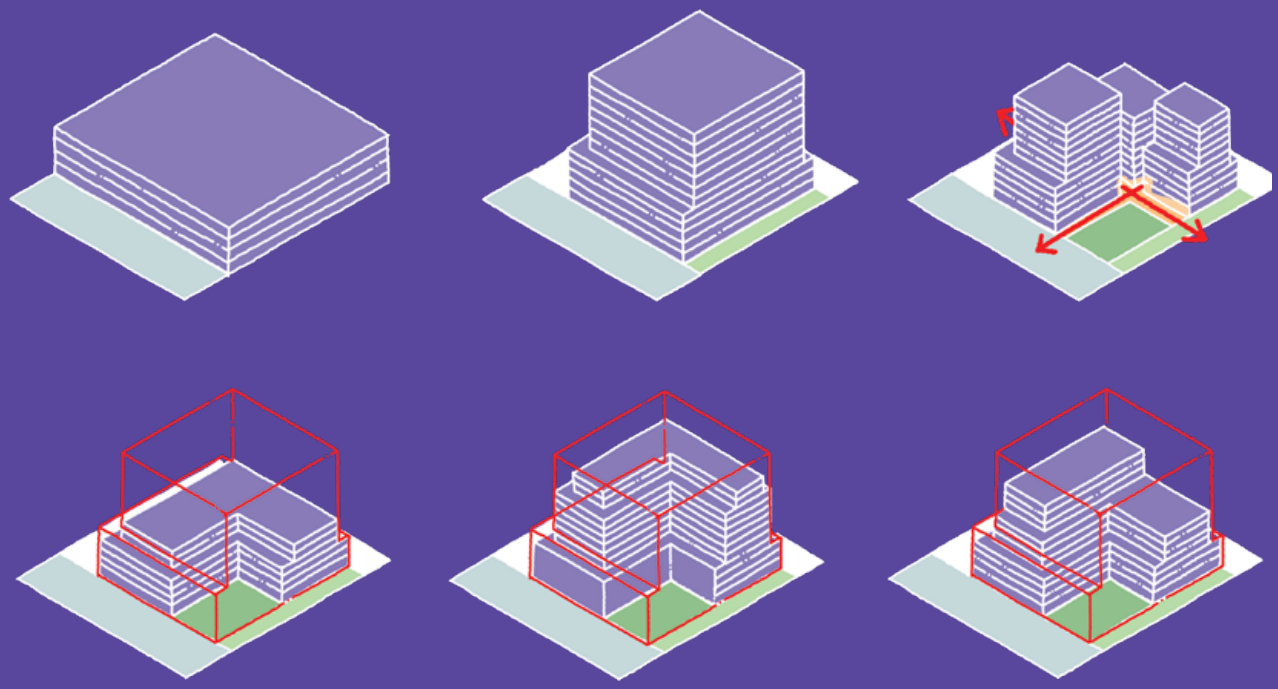


MACAULAY URBAN RENEWAL PRECINCT (AMENDMENT C417)

BUILT FORM BACKGROUND REPORT

CITY OF MELBOURNE

Acknowledgement of Traditional Owners

The City of Melbourne respectfully acknowledges the Traditional Owners of the land we govern, the Wurundjeri Woi Wurrung and Bunurong Boon Wurrung peoples of the Eastern Kulin and pays respect to their Elders past, present and emerging.

We acknowledge and honour the unbroken spiritual, cultural and political connection the Wurundjeri, Bunurong, Dja Dja Wurrung, Taungurung and Wadawurrung peoples of the Eastern Kulin have to this unique place for more than 2000 generations.

We are committed to our reconciliation journey, because at its heart, reconciliation is about strengthening relationships between Aboriginal and non-Aboriginal peoples, for the benefit of all Victorians.

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Issue A - Published for Exhibition 2 August 2024

Note: all images are by the City of Melbourne unless noted otherwise

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EXECUTIVE SUMMARY

Report aim

This report outlines the process that was undertaken to develop the planning controls to deliver the land use and built form outcomes identified in the Macaulay Structure Plan 2021 (the Structure Plan).

The new controls are proposed to be implemented into the Melbourne Planning Scheme via Amendment C417.

The process included:

- Research and review of existing controls and contextual conditions against development outcomes in Macaulay following the introduction of Design and Development Overlay Schedule 63 (DDO63) (section 1).
- Design and testing of updated controls in accordance with the Minister's Letter (see Appendix B). This is considered against capacity testing, policy direction and community needs (section 2).
- An updated approach to planning controls in Macaulay through combining built form with density controls.

Background summary

The Macaulay Structure Plan 2021 was developed following preparation of and consultation on a Discussion Paper (2019) the 2012 Arden-Macaulay Structure Plan (2012 Structure Plan), and the draft 2020 Macaulay Structure Plan (draft 2020 Structure Plan). In this report, the term 'structure plan' refers to the most current structure plan, with reference to all other versions differentiated by year.

In October 2017, the Minister for Planning approved Planning Scheme Amendment C190, implementing land use and development recommendations from the 2012 Structure Plan into the Melbourne Planning Scheme by introducing interim DDO63.

The interim DDO63 controls provide a fixed building envelope through mandatory street wall heights, preferred and mandatory maximum building heights and discretionary setbacks.

The Minister for Planning identified that the controls could be optimised through the introduction of a Floor Area Ratio (FAR) control to better manage density, greater clarity on how heights may be exceeded, and better urban design outcomes through considered building setbacks (see Appendix).

The Macaulay Structure Plan was endorsed (with changes) by the Future Melbourne Committee on 9 November 2021. It sets the vision for Macaulay, and supersedes the previous structure plans.

Macaulay Urban Renewal Precinct Amendment C417 (Amendment C417) is the primary implementation pathway for land use and built form objectives of the Structure Plan.

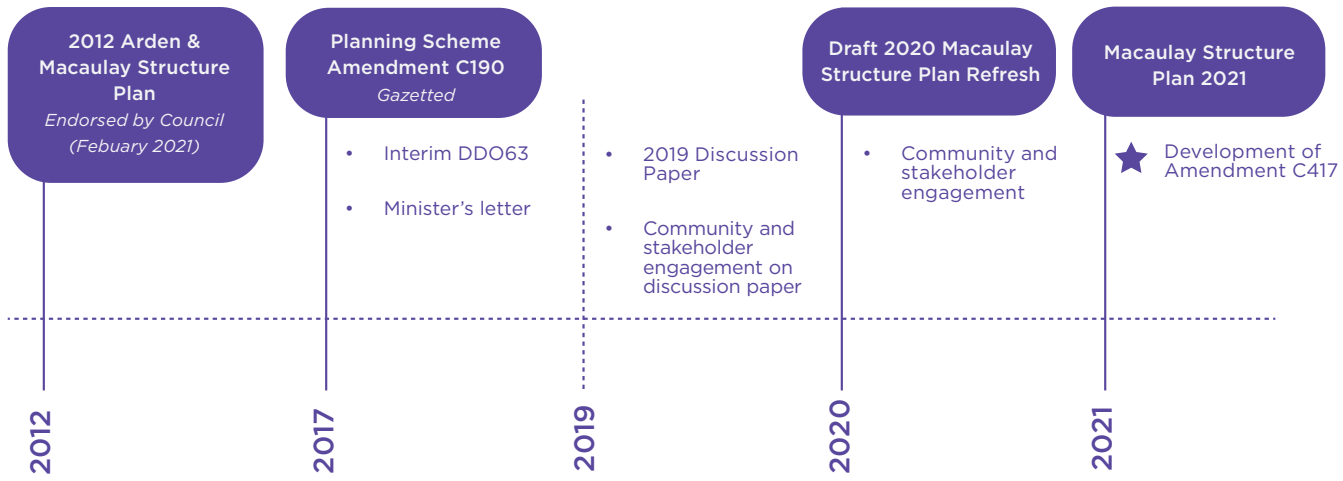


Image 1: Timeline of the development of Amendment C417

Testing outcomes

Research outlined in section 1 demonstrates that the interim DDO63 controls are compromising the achievement of the broader structure plan objectives, and that the design outcomes to address these objectives are not being observed.

Key findings include:

- Ensuring high amenity development is achieved with consideration of renewal context and population targets.
- Achieving City of Melbourne's climate, accessibility and design excellence vision for the Macaulay urban renewal area while maintaining its valued urban character.
- Addressing superior urban design and public realm provisions with consideration of flooding.

Proposed changes

The combination of mandatory density controls with discretionary built form controls has been identified as the appropriate response to the contextual conditions and design outcomes of each precinct within Macaulay.

Amendment C417 proposes four precincts with DDOs and design objectives to guide preferred built form outcomes. Each DDO specifies mandatory density controls and discretionary built form controls.

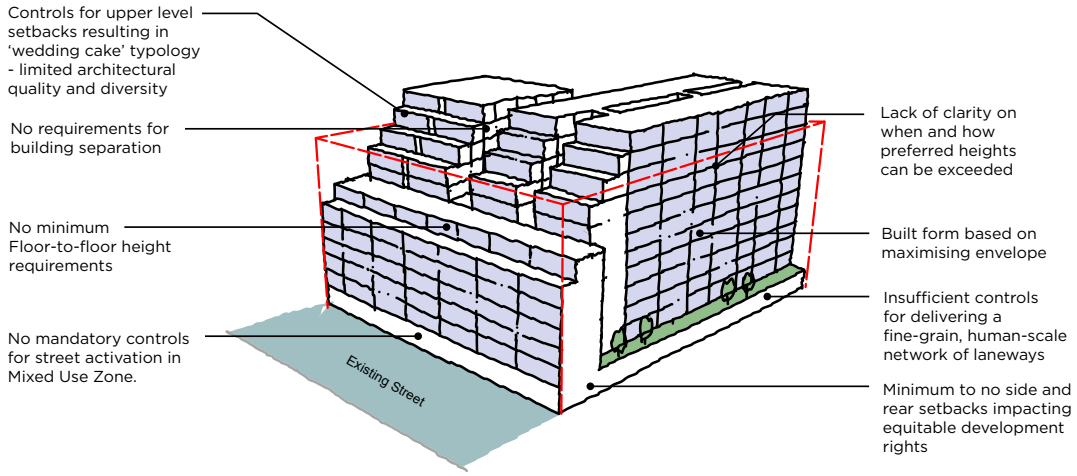


Image 2: Summary of emerging issues and development trends under current controls

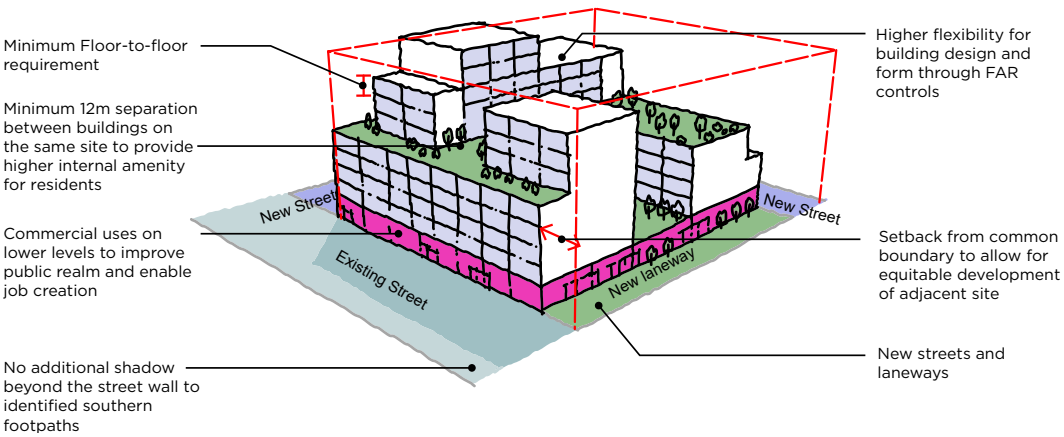


Image 3: Summary of proposed controls

Amendment C417

This report presents the process and evidence base underpinning Amendment C417 provisions to deliver on the objectives and vision for Macaulay. Broadly, Amendment C417 comprises the following:

- Replacement of DDO63 with four new schedules that include:
  - » Mandatory density requirements
  - » Discretionary built form requirements with mandatory controls in specified areas
  - » Detailed design requirements
  - » Solar access provisions in line with City's Sunlight to Parks Planning Scheme Amendment C415
- Introduction of a Special Use Zone that:
  - » Encourages employment or non-residential use
  - » Mandates car parking be held in common ownership
- Retention of the Commercial 2 Zone in Chelmsford Precinct
- Introduction of Schedule 16 to the Parking Overlay
- Updates to Schedule 2 of the Development Contributions Plan Overlay to introduce a Development Contributions Plan (DCP) for Macaulay
- Updates to clause 11.03 Planning for Places

Related amendments

Amendment C417 provisions were developed with recognition of the following planning scheme amendments seeking to deliver key Structure Plan objectives for the Macaulay area, including:

Amendment C376 (Sustainable Building Design)

Amendment C376 introduces a municipal wide planning policy and new requirements to ensure future development achieves best practice in Environmentally Sustainable Design, including increased energy efficiency and greening of buildings.

The Amendment C376 Panel hearing is scheduled for August 2024. Following this, if the amendment is adopted by Council, it will be submitted to the Minister for Planning for final approval.

Amendment C384 (Inundation Overlays)

Amendment C384 updates the planning scheme flood mapping and schedules to the overlays to ensure new developments are designed with flood resilience in mind.

At the time of public exhibition of C417 (1 August 2024) this amendment has been lodged with the Minister for Planning for approval (August 2022) and is currently under consideration.

Amendment C415 (Sunlight to Parks)

Amendment C415 introduces new planning scheme controls into the Melbourne Planning Scheme to protect winter sunlight access to public parks

At the time of public exhibition of C417 (1 August 2024), this amendment has been lodged with the Minister for Planning for approval (September 2021) and is currently under consideration.

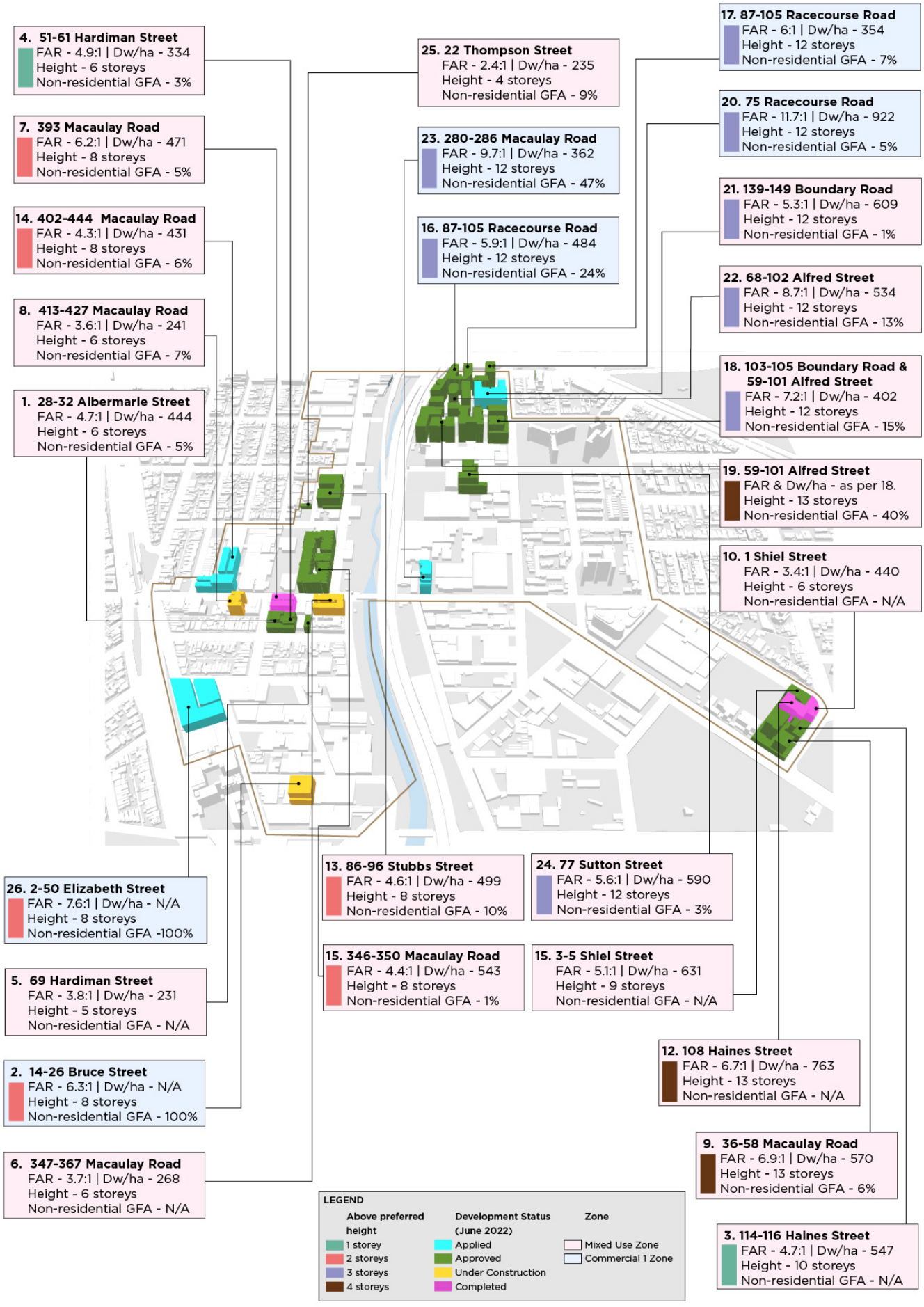


Image 4: Development activity since adoption of DDO63 to Future Melbourne Committee resolution on 14 June 2022

STRUCTURE PLAN REFRESH

A structure plan refresh supports the development of built form outcomes and provisions that deliver on the policy direction and desired future vision and character for the area.

The Macaulay Structure Plan 2021 was endorsed on 9 November 2021. It supersedes the 2012 Arden-Macaulay Structure Plan. The refresh was undertaken for four key reasons, as summarised in the following pages.

Ministerial direction

In October 2017, the Minister for Planning approved Planning Scheme Amendment C190, implementing land use and development recommendations from the 2012 Structure Plan into the Melbourne Planning Scheme by introducing interim Design Development Overlay 63 (DDO63).

In conjunction with the approval of Amendment C190 in 2017, Ministerial Amendment C295 introduced an interim Development Contributions Plan Overlay (DCPO2) over the area affected by Amendment C190. The interim DCPO requires permit applicants to develop a Development Contributions Plan (DCP) and pay the monetary contributions to council to contribute towards the cost of new infrastructure within Macaulay.

The Minister flagged that further interrogation of the built form controls contained within DDO63 was needed, and introduced an expiry date of 30 September 2019 within which revised controls were to be prepared. This has since been extended to 29 September 2025 through subsequent Amendment C430.

The Minister identified that the controls could be optimised through the introduction of a Floor Area Ratio (FAR) control to better manage density, the provision of greater clarity on how heights may be exceeded, and better design outcomes through considered side, rear and upper level setbacks. A summary of the Minister's letter is included as an Appendix to this report.

Population targets

The 2012 Structure Plan forecasts 20,500 residents and 22,500 jobs by 2040 for both Arden and Macaulay combined. The Victorian Government has subsequently revised targets for the area. The revised target is for 9500 workers and 10,000 residents.

Built form and land use outcomes

Macaulay has experienced significant development growth coinciding with the introduction of the interim DDO63 controls in 2017, particularly along primary routes such as Racecourse, Boundary and Macaulay roads. Development application data from the City of Melbourne and Victorian Government demonstrate increased activity in the precinct (see section 1).

30 development applications were proposed within the four years between the adoption of interim DDO63 controls (2017) and the council endorsement of the Macaulay Structure Plan.

Of the 22 applications assessed in the Mixed Use Zone (MUZ) only two applications provide more than ten percent non-residential use, with only one development in Boundary precinct comprising 40 percent commercial uses. The percent of non-residential uses increases to 21 percent in the Commercial 1 Zone, across four developments. This trend compromises the economic role of Macaulay and the vision for a mixed-use precinct.

Current development trends in Macaulay are delivering very high residential densities comparable with the densest parts of Melbourne.

While the increase in development activity is a positive move towards precinct densification, unpredictable market-driven growth creates uncertainty around infrastructure and service needs.

The preferred structure plan outcomes around density, building use and design quality are integral to driving quality urban renewal.

Exceeding preferred built form controls has a cumulative impact on the amenity of future developments, impacting the quality of precinct character and public realm. Planning application data (refer to image 4) demonstrates that under the interim controls overshadowing of public parks and streets has increased.

Further information and discussion on the existing controls and the impact on built form outcomes can be found in section 1.3.

Macaulay vision

The vision for Macaulay established in the 2012 Structure Plan was subject to two stages of public consultation - November to December 2019, and July to September 2020. This structure plan vision brings together the expectations set by policy and input from the community to inform the built form strategy and land use and infrastructure provisions.

The Macaulay vision underpins the development of the planning controls.

Macaulay vision

Macaulay will transition into a mixed use, mid-rise neighbourhood with a distinct inner urban character. New development will be high quality and deliver amenity for residents, workers and visitors.

Improvements to public transport services, walking and cycling will be prioritised to support sustainable modes of travel.

Greening of streets, enhancing the Moonee Ponds Creek and the delivery of new open spaces will provide connections and a network of local places.

Public and private investment will deliver community infrastructure to meet the needs of a growing and diverse neighbourhood.

Macaulay will be a climate ready precinct that supports accelerated action in reaching our goal of zero emissions by 2040.

DEVELOPING PLANNING CONTROLS FOR MACAULAY

Scope

The review of the built form controls was initiated as part of the broader refresh of the 2012 Structure Plan and in response to the Minister's request to review the interim built form controls (DD063) introduced through Planning Scheme Amendment C190.

Amendment C417 controls have undergone independent assessment on economic feasibility of development, and the delivery of architectural and urban design excellence in Macaulay. This is demonstrated within the following studies, which should be read in conjunction with this report:

- Macaulay Precinct Employment and Feasibility Study – SGS Economics & Planning and m3property
- Macaulay Built Form Control Testing – Breathe Architecture (Attachment 1)
- Macaulay Built Form Testing - LatStudios (Attachment 2)

The built form controls propose minor modifications to the zones covered by the current DDO63, and excludes land subject to the Neighbourhood Residential Zone (see map 1 below).



Map 1: Area subject to Planning Scheme Amendment C417

Method

The structure of this report reflects the method that was used to inform and prepare the Amendment C417 built form controls and is in three sections:

Section 1: Context study

This section provides a review of the drivers influencing the development of the built form outcomes, including:

- **Existing controls** guiding built form outcomes in Macaulay (section 1.1).
- **Urban structure and character** in and surrounding Macaulay (section 1.2).
- **Current development activity**, and emerging challenges from the impact of existing interim controls (section 1.3).

This review has informed the evidence based design of preferred built form controls (section 3).

Section 2: Controls testing

This section summarises the testing and further development of built form controls through an iterative design process, including independent design testing and community and stakeholder feedback.

Section 3: Proposed controls

This section describes the Amendment C417 design objectives and built form controls developed to implement the objectives of the Macaulay Structure Plan and respond to testing and refinement.



Image 5: Process for development of the built form controls

1. CONTEXT STUDY

This section summarises the existing controls, current development activity and emerging trends, and urban structure and character in Macaulay.

Design recommendations

Design recommendations were introduced in the draft Macaulay Structure Plan Refresh. The design recommendations help achieve the vision for Macaulay and provide a framework for developing new Design and Development Overlays.

To ensure development responds to the valued attributes of Macaulay and contributes positively to the existing and future vision and character of the four identified precincts - Boundary, Melrose, Chelmsford and Stubbs.

To provide for a medium density, mid-rise, human-scaled neighbourhood with a diverse range of building types and some higher built form in specified areas.

To maintain and enhance the valued built and social heritage characteristics of Macaulay and to ensure buildings retain their three dimensional form as viewed from the public realm to avoid 'facadism'.

To ensure development responds appropriately to the hierarchy of main streets (Racecourse, Boundary, and Macaulay roads), local streets and laneways in its address, activation and management of services.

To achieve variable building heights, including street wall heights, that contribute positively to the specific character of each site and the surrounding context.

To ensure larger sites are broken up into a series of building forms that relate and contribute positively to their context.

To ensure sufficient building separation between sites and within a site to deliver high-quality amenity within buildings having regard to outlook, daylight and overlooking.

To provide a highly walkable neighbourhood by increasing permeability with new streets and laneways that are open to the sky.

To ensure that new development delivers a safe and secure public realm through activation of ground floors and open spaces.

To ensure development appropriately considers the amenity impacts on neighbouring development and achieves a high standard of internal amenity within the development.

To ensure that new development respects the scale and height of adjoining residential and heritage buildings and does not overwhelm the existing building.

To ensure that new development at the interface of stable residential and heritage areas respects the scale of buildings at those interfaces.

To ensure that development considers solar access to adjoining properties and the location of solar panels.

To encourage the retention of existing buildings of character (including non-heritage) and the reuse of existing materials in new developments.

To ensure that new development does not cast any additional shadow over Buncle Street Reserve, Canning Street and Macaulay Road Reserve, North Melbourne Recreation Reserve, Gardiner Reserve and Robertson Street Reserve from 10:00am to 3:00pm on 21 June, from buildings built to the maximum street wall height, as per the Sunlight Access to Public Parks requirements.

To ensure developments are set back from side and rear boundaries to provide adequate daylight in streets and internal spaces, comfortable wind conditions in the public and private realm, views to the sky and privacy.

To support equitable development by ensuring primary outlook is secured to the street or within development sites.

To provide for fine grain adaptable tenancies within the lower levels of buildings.

To ensure development is adaptable to changes in future land use by requiring adequate floor to ceiling heights (above and below ground).

To encourage deep soil planting that increases permeability and supports tree planting in the private realm.

To ensure the design of new development conceals servicing from the street frontage to minimise the loss of active frontage.

To ensure that the design of services, loading and parking areas are well integrated into buildings and adopt best practice approaches to contribute to a high-quality public realm.

1.1 EXISTING CONTROLS

The current (interim) development controls for Macaulay are included in Schedule 63 to the Design and Development Overlay (DDO63) within the Melbourne Planning Scheme.

Design objectives

The design objectives in DDO63 reflect the built form vision of the Arden-Macaulay Structure Plan 2012:

- To create a compact, high density, predominantly mid-rise, 6 – 12 storey walkable neighbourhood that steps down at the interface with the low scale surrounding established residential neighbourhoods.
- To provide for higher development that delivers identified demonstrable benefits on large sites that do not interface with the low scale surrounding established residential neighbourhoods.
- To create urban streetscapes that are defined by a generally consistent plane of building facades that enclose streets but allow daylight and sunlight to penetrate to the streets and to lower building levels.
- To ensure that built form elements above the street wall are visually recessive and do not contribute to visual bulk.
- To encourage the ground floor of buildings to be designed so that they can be used for a variety of uses over time.

Areas

DDO63 defines eight areas within Macaulay (refer map 2). The areas are based on the desired built form outcomes with many of the outcomes repeated across multiple areas (refer to table 1).

Built form controls

Height controls

There are seven height controls that apply in Macaulay, with preferred maximum (discretionary) heights ranging from 3 – 9 storeys that can be increased to an absolute maximum (mandatory) height between 4 – 12 storeys where a benefit to the broader community can be demonstrated. The absolute maximum building height does not apply to Area 5.

Street wall heights and upper level setbacks

Mandatory street wall heights, predominantly based on the interfacing street width, are between 3 – 6 storeys with specified setbacks above the street wall.

Active frontages

Active frontage requirements apply to buildings in the Commercial Zone as well as ground-level frontages to Racecourse Road, Macaulay Road and the Canning and Melrose street corner, and Arden Gardens.

Solar access

No designated controls to guide overshadowing and access to daylight and sunlight outcomes.

Setbacks

No designated controls to ensure equitable development and sufficient setbacks between buildings to maintain privacy and access to sunlight and daylight in the private realm.

Weather protection

Discretionary requirement for weather protection in the form of a veranda for buildings fronting Racecourse Road, Macaulay Road and the Canning and Melrose street corner and Arden Gardens.

Connectivity and laneways

Mandatory requirement for a pedestrian link to be provided along the eastern side of CityLink to provide direct pedestrian connection to the Macaulay and Flemington Bridge train stations, between Macaulay and Racecourse roads.

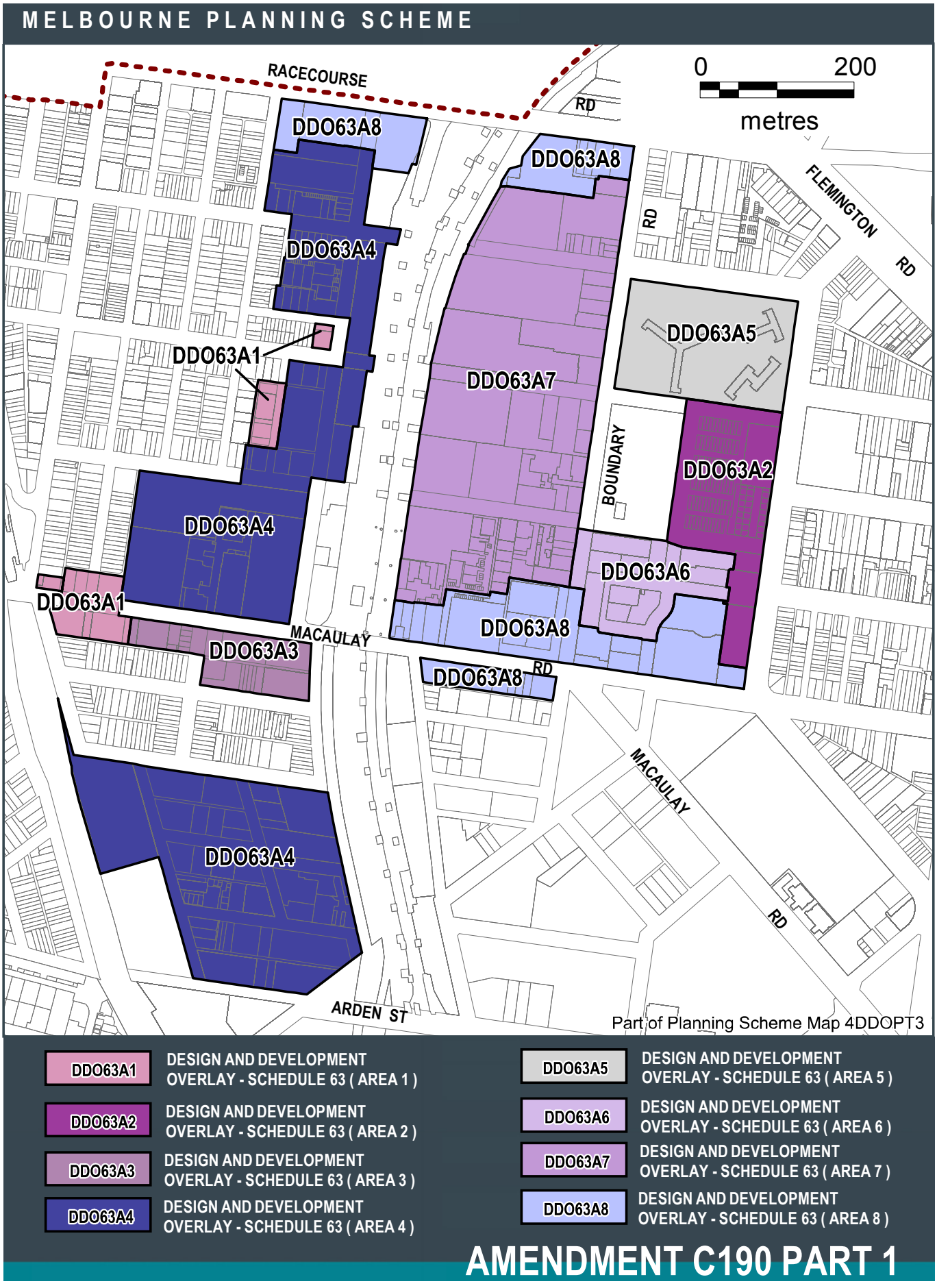
Discretionary requirement for provision of laneways and pedestrian connections. Where a new connection is proposed the street wall height and setback requirements must apply.

Heritage

Developments are to have regard to height, scale, rhythm and proportions of any adjoining building subject to a Heritage Overlay.

BUILT FORM OUTCOME	AREAS
Deliver a scale of development that complements the established low-scale residential area.	A1
Protect the amenity of existing residential areas by avoiding overlooking and overshadowing of private open space and minimising the visual impact of upper levels.	A1, A3, A4, A5, A8
Set back higher building form along Melrose Street to deliver scale of development that responds appropriately to the existing context.	A2
Deliver a scale of development that provides street definition and a pedestrian friendly scale.	A3, A4, A5, A6, A7, A8
Deliver a scale of development that provides appropriate access to sunlight and daylight.	A3, A4, A5, A6, A7, A8
Solar access is maintained to ground floors on western side of Thompson Street and southern side of Scarborough Place.	A4, A5
Deliver the reintegration of Office of Housing estates into the surrounding urban fabric.	A4, A5
Provide limited opportunities for taller buildings that deliver significant public realm outcomes.	A6, A7
Ensure laneways have appropriate levels of access to daylight and sunlight. Deliver developments that maximise surveillance of public and communal areas and nearby creek environs. Deliver a scale of development setbacks from the Moonee Ponds Creek environs which respond appropriately to creek/public space conditions and provision of public thoroughfares in the public and private domain adjacent to the creek, as appropriate. Where development respond to flood risk by providing ramp structures or other measures flood mitigation measure, high quality urban design outcomes must be provided at the building and public interfaces.	All

Table 1: Built form outcomes required across areas in Macaulay



Map 2: DDO63 Map

1.2 URBAN STRUCTURE AND CHARACTER

While the current controls define eight areas within Macaulay, an analysis of the urban structure and character identified four distinct places. These four precincts - Boundary, Melrose, Chelmsford and Stubbs - are largely defined by historic clusters of related uses, existing physical boundaries and features.

The Structure Plan uses the unique characteristics, interfaces and inherent values of the four places to establish a vision for each precinct. This informed the proposal for four new schedules to the Design and Development Overlay, each with its own built form and density controls, replacing the current interim DDO63 and eight areas. Place-based controls respond to the natural diversity throughout the wider Macaulay area and will enhance this diversity as the area develops.

The preferred character for each structure plan precinct is identified within 'part 3, precincts' of the Macaulay Structure Plan.



Image 6: A map of Macaulay showing the study area and the four places identified in the Structure Plan.

1.3 CURRENT DEVELOPMENT ACTIVITY

This section identifies the existing challenges and emerging issues related to development activity in Macaulay following the introduction of DDO63, including:

- Developments regularly exceeding maximum heights
- Unpredictable growth misaligned with density targets
- Delivering equitable development rights
- Community benefit delivery
- Precinct amenity impacts
- Street activation
- Building character and diversity
- Safe and walkable pedestrian networks

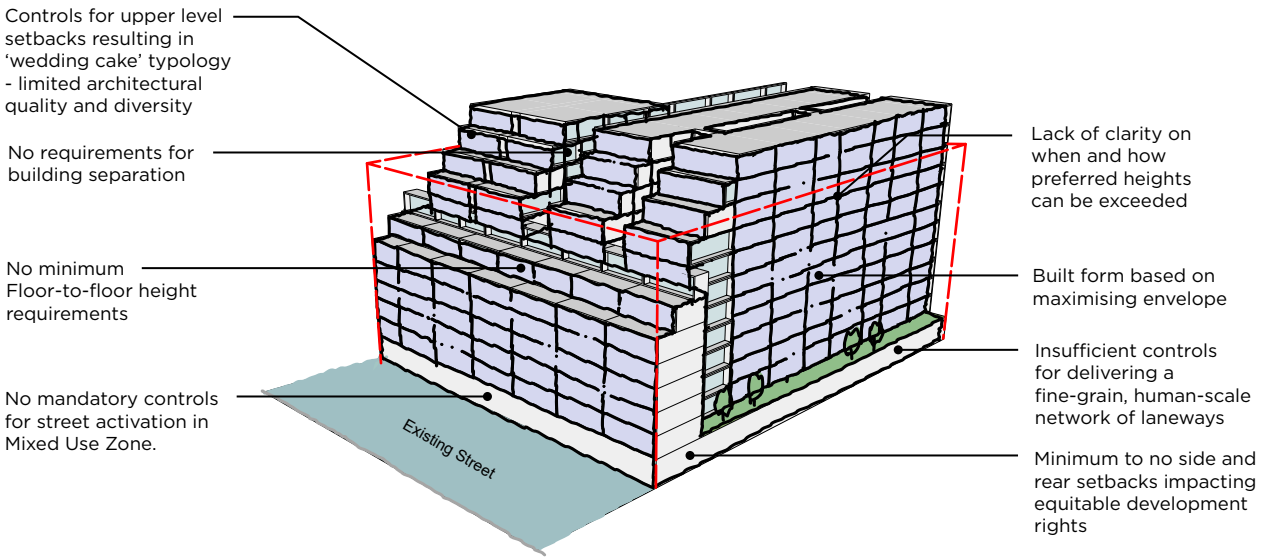


Image 7: Summary of emerging issues and development trends under current controls

Developments regularly exceeding maximum heights

There have been a large number of developments in Macaulay determined by VCAT following the adoption of interim DDO63 controls that have related wholly, or in part to, diverging views on appropriate building heights. This has led to the majority of approved developments exceeding the preferred maximum building height.

Through community consultation, uncertainty around building heights of new developments has been a key area of concern. Controls must be clear on how and when preferred building heights can be exceeded to ensure built form outcomes remain responsive to interfacing development and deliver good amenity.

In addition, the lack of clarity over what constitutes 'demonstrable benefit' and its application as a discretionary control has amplified this issue while minimising the achievement of public realm improvements.

The discretionary nature of the control also means that there is no opportunity to assess and mitigate cumulative impacts of all developments exceeding the discretionary height limits. These cumulative impacts can result in significant erosion of the desired future character of Macaulay as a mid-rise precinct, and dilute the existing character.

From 2015 to 2022, 17 permit applications (out of 30 total permit applications in Macaulay) were determined by VCAT through mediation or compulsory conference.

The high number of permit applications being decided by VCAT is not a preferable or efficient outcome for applicants, the responsible authority or the community. VCAT decisions can incur significant costs and time expenditure.

Consideration has been given to the application of mandatory controls in Macaulay and whether a combined approach to density and built form controls could help resolve the lack of clarity around a preferred outcome.

Unpredictable growth misaligned with density targets

Objective 6 of the Macaulay Structure Plan is to 'support mixed use development to facilitate a range of residential, business and employment opportunities'.

Current development trends in Macaulay are delivering very high residential densities comparable with the densest parts of Melbourne. The average dwelling density across permit applications since the adoption of C190 controls is approximately 472 dwellings per hectare (dw/ha). The highest density development in Macaulay reaches 922 dw/ha.

In comparison, the 2012 Structure Plan provides examples of high density, mid-rise developments with densities ranging from 87 dw/ha to 194 dw/ha. The Lorimer precinct within Fishermans Bend cites a maximum dwelling density of 339 dw/ha within the core area and, internationally, the highest density figure in the London Plan's Density Matrix is 405 dw/ha noting that this level of density would be found in central areas which have facilities that can accommodate high populations, located within 800 metres walking distance of a metropolitan or major town centre.

A review of exemplar projects in Australia by Hodyl + Co (Urban Design Strategy Fishermans Bend, September 2017) demonstrated that residential densities associated with mixed-use, mid-rise developments with sufficient open space, as per the vision for Macaulay, are typically in the order of 150-400 dw/ha.

Continued development at the current level of intensity will result in a resident population well in excess of what is planned for. This will not only limit the achievement of a genuine mix of uses that is essential, it will render the level of public infrastructure in Macaulay insufficient, leading to congestion and a lack of services and infrastructure to support and sustain continued growth.

The density being achieved in Macaulay is often delivered at significant cost to amenity outcomes, including a lack of diverse built form, insufficient setbacks to streets and interfaces to internal laneways, lack of privacy and outlook from dwellings due to poor building separation, and a lack of responsiveness of building bulk to context, including interface character, and adjacent uses. These outcomes will have a significant, cumulative impact on the character of Macaulay, including the degradation of precinct amenity and character.

Delivering equitable development rights

Objective 1 of the Macaulay Structure Plan includes 'ensure sufficient building separation between sites and within a site to deliver high-quality amenity within buildings having regard to outlook, daylight and overlooking'

The interim DDO63 controls do not require setbacks to side and rear boundaries and do not provide any guidance on preferred setbacks between buildings on the same site. Building separation within and across sites should be facilitated by side and rear setback requirements, to support sufficient access to daylight and sunlight, privacy, and secure outlooks. Under interim DDO63 controls, developments seeking to maximise their yield will minimise setbacks to neighbouring properties.

Current trends in recent development approvals show minimal to no side setbacks, including for sites in excess of discretionary heights. These trends lead to compromised amenity and privacy when neighbouring sites redevelop and raises the issue of development equity.

Community benefit delivery

DDO63 allows development to exceed the preferred building heights by 30 percent through the provision of 'demonstrable' benefit.

A review by Hodyl & Co (Defining and Delivery Community Benefit in Macaulay, December 2018) identified significant implementation issues with how these benefits have been defined, leading to a lack of clarity for landowners and the community.

The community benefit mechanism means that any amenity provisions delivered by developments are inherently compromised due to amenity impacts of additional height. Developments seeking additional height only need to ensure that public realm quality is not adversely compromised beyond what is reasonably expected, without providing any increase in amenity. The result of this is a cumulative detriment to precinct amenity.

Precinct amenity impacts

There are currently no overshadowing controls for Macaulay under interim DDO63 controls. Modelling of the maximum envelope under the current controls indicates a level of overshadowing to all open spaces (refer to image 8).

As more people begin to live, work and visit the Macaulay area, the use of public spaces will increase putting pressure on parks and other elements of the public realm. Development intensification must be balanced with continued access to sunlight to provide a high quality public realm that is comfortable and enjoyable all year round.

Amendment C415 (previously C278), proposes a new planning control (DDO8) to protect sunlight access to all parks across the municipality (excluding parks in the Hoddle Grid, Southbank and Docklands). The amendment has been submitted to the Minister for Planning for approval and is under currently under consideration.

The application of solar protection controls is needed in Macaulay to protect the existing and proposed public open spaces and align with City of Melbourne policy.

Street activation

Greater densities require more building services. Without any guidance on their location this can have a negative impact on the public realm experience at street level.

The predominance of residential development without mixed-use will likely lead to reduced ground floor activation, which can impact public realm safety and attractiveness. This compromises Macaulay's vision for a mixed-use neighbourhood with a distinct inner urban character.

Further, areas of Macaulay are subject to a flooding overlay which requires considered flood responsive design and referral to Melbourne Water. Requirements for raised floor levels, the need for a large amount of stairs and ramps, or the relocation of removal of active uses from the ground floor can hinder street level activation.

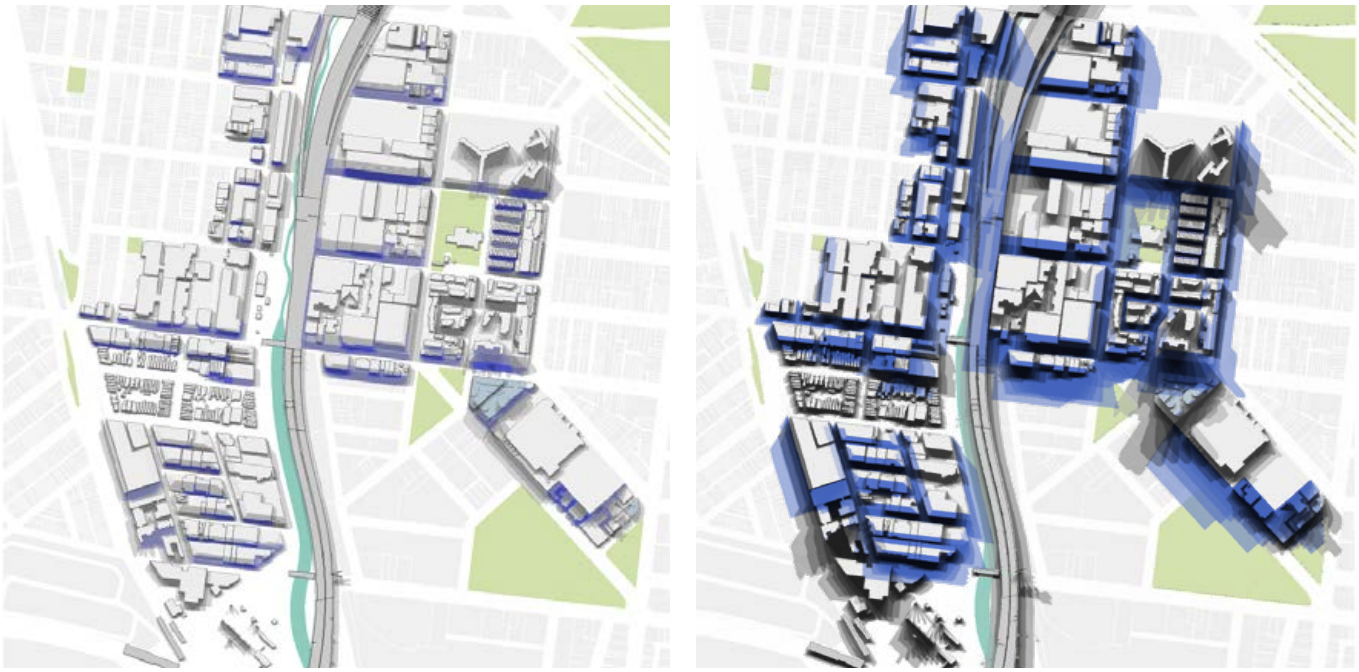


Image 8: Extent of overshadowing from existing development (left) and combined shadow from existing and approved development, and current planning envelope for DDO63 (right) at 22 September between 10am to 3pm.

Building character and diversity

Objective 1 of the Macaulay Structure Plan is 'ensuring that development is responsive to local context and character', and objective 4 is 'recognising and celebrating the valued history, cultural values and character of Macaulay'. The preferred character for each structure plan precinct is also identified within 'Part 3, Precincts' of the structure plan.

Within objective 1, a key design recommendation is 'to provide for a medium density, mid-rise, human-scaled neighbourhood with a diverse range of building types and some higher built form in specified areas', and 'to achieve variable building heights, including street wall heights, that contribute positively to the specific character of each site and the surrounding context'

The above objectives and clauses are not addressed in the built from controls of DDO63. This is having a cumulative impact on the character of Macaulay and the amenity of its building and streets, particularly on sites currently covered by Area A8 in DDO63 which are experiencing significant development pressure.

The built form controls under interim DDO63 define a preferred and maximum allowable 'building envelope' without any provisions for achieving varied built form. Examples of ways to achieve varied built form could include built form requirements for rear and side setbacks relating to contextual street walls, or expectations around breaking up large sites into distinct and separate buildings.

Interim DDO63 controls for upper level setbacks generally apply a requirement of one metre setback for every metre above the prescribed street wall. The intent of this control is to retain access to sunlight in the public realm and to reduce the impression of street wall bulk at the pedestrian level. When applied literally, the outcome is a 'wedding cake' form of setbacks across multiple floors. This outcome does not enable the diverse or high architectural quality outcomes consistent with the structure plans objectives.

Development is consistently targeting the maximum allowable building envelope. Without clear guidance within planning controls around expected building characteristics when exceeding the preferred building envelope, a uniformity of mass that does not successfully contribute to the valued existing diversity of built form in the area is generally being delivered. Requirements to consider established uses, existing character, or desired future character are necessary to diversify built form outcomes.

Safe and walkable pedestrian networks

Objective 7 of the Macaulay Structure Plan is 'strengthen existing local activity centres in Macaulay'. This is recognised to be crucial for 'supporting local living', and 'delivering 'more inclusive, vibrant and healthy communities'.

The Victorian Government's Urban Design Guidelines for Victoria identify that 'a block perimeter of around 600m provides for good pedestrian and vehicular access and an efficient subdivision pattern of the block', and that 'smaller blocks may be more appropriate in more intense urban areas'. The central city area accommodates walkable blocks from 400 – 600m, some facilitated by privately delivered though-block links. In comparison, urban blocks with publicly accessible streets located within the Boundary and Stubbs precincts of Macaulay currently average 800m.

Historic industrial uses have created a legacy of large lots throughout Macaulay, particularly in Boundary and Stubbs precincts with public networks that aren't currently designed for pedestrian safety, comfort and legibility.

Interim DDO63 includes a discretionary control for developments around 'connectivity and laneways', and states 'development along new and existing laneways and pedestrian connections must comply with the laneway controls in table 3.'

Table 3 of the schedule states:

- *Development along the laneway must not exceed a height of 3 storeys.*
- *Development above the street wall should be setback 4 metres. In addition, development on the northern side of an east-west laneway should be set back 1 metre for every metre of height above the preferred maximum height.*

To support this control, the 2012 Structure Plan identified a network of new and existing laneways (Figure 2.10 of the 2012 structure plan), and demonstrated the intent for upper level setbacks

This plan was not included in the interim DDO63 controls, and therefore the achievement of through-block links (publicly accessible laneways or arcades) is not incentivised or mandated under the current built form controls. Large blocks are not delivering the through-block links needed to support walkability and permeability envisioned for the transforming precinct. Without strategic streets and laneways delivered on large lots, Macaulay will not achieve the level of walkability needed to sustain a dense urban area.

2. CONTROLS TESTING

This section summarises the approach for developing new built form controls which address and implement the objectives and design recommendations of the Structure Plan, building on the findings of section 1.

The right controls for Macaulay

Interim DDO63 controls provide a fixed building envelope through mandatory street wall heights, preferred and mandatory maximum building heights and discretionary setbacks.

The review of development outcomes in Macaulay following the introduction of interim DDO63 controls demonstrates that building to the maximum yield possible under these controls is compromising the achievement of critical Structure Plan objectives related to precinct character, amenity, walkability and density targets (section 1). While the controls include design objectives, the intended design outcomes are not observed in current development activity.

The Minister for Planning recommended reviewing the benefit of incorporating maximum Floor Area Ratios (FARs), as a form of density control. Discretionary built form envelope controls with mandatory density controls exist in West Melbourne. Central City. Fishermans Bend and parts of Arden.

The proposed controls for Macaulay combine built form with density controls, as described in the following sections.

The role of built form controls

Built form controls determine a 'building envelope', which is the three dimensional volume on a site that development should occur within. The primary mechanisms shaping this envelope in Macaulay's interim DDO63 controls are building height, street wall height and setbacks.

Floor area ratios (FARs)

Density controls set the allowable intensity of development on a site. The Floor Area Ratio (FAR) is a density control that sets the allowable floor area for a site and indicates the intended density of the local area. The FAR is the ratio of a building's total floor area in relation to the size of the site it is being built on.

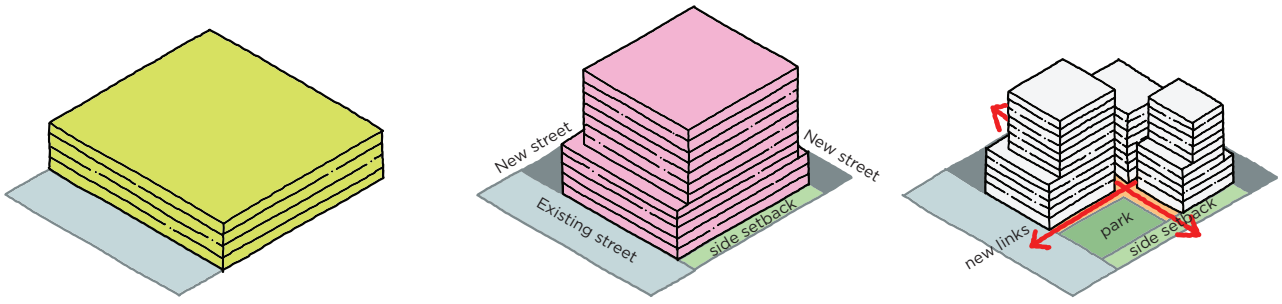
When combined with built form controls, FARs enable flexibility to redistribute mass on site within the allowable 'building envelope' without reducing the overall yield.

Through this approach, a greater range of building typologies and uses are encouraged, with developments that are designed in response to their context, achieving good internal amenity, responding sensitively to interfaces and delivering high quality urban design outcomes.

The combination of mandatory density controls with discretionary built form controls is considered the most appropriate as:

- Mandatory FARs help to successfully plan for a growing population and provide certainty over development intensity.
- Mandatory density controls can support a wider range of building typologies and mix of use, as well as good urban design outcomes.
- Discretionary FARs would not help to resolve the current lack of clarity regarding accepted intensity in Macaulay, resulting in protracted and costly VCAT resolutions.
- Discretionary built form controls provide the flexibility to respond to site specific opportunities and issues.

The diagram below demonstrates the appropriateness of mandatory FARs.



Density control only (FAR 4:1)

Development height - 4 storeys

Built form controls only

(streetwall, setbacks, maximum height)

Development height - 12 storeys

Density and built form controls combined

Development height - 6-12 storeys

Image 9: Example of different outcomes that can be achieved with a 4:1 FAR - permitted gross floor area (GFA) four times site area.

Testing the right ‘fit’

Built form and density controls must be calibrated to deliver an appropriate ‘fit’, referring to the relationship between FAR and building envelope controls.

A ‘tight’ fit describes where the possible floor area from FAR is the same or almost as much as the building envelope. This limits the potential for site-responsive design as the development density can only be delivered in one way.

On the other hand, a fit that is ‘too loose’ may mean that the development potential has not been realised.

An appropriate fit is one where there is sufficient gap between the density set through the FAR and the allowable building envelope set by the discretionary built form controls. This ‘gap’ creates space for the developer and design team to arrange built from in a variety of different ways, enabling fit-for-purpose and high quality design outcomes that are appropriate to the context, without unnecessarily reducing development yield.

2.1 DESIGNING NEW CONTROLS

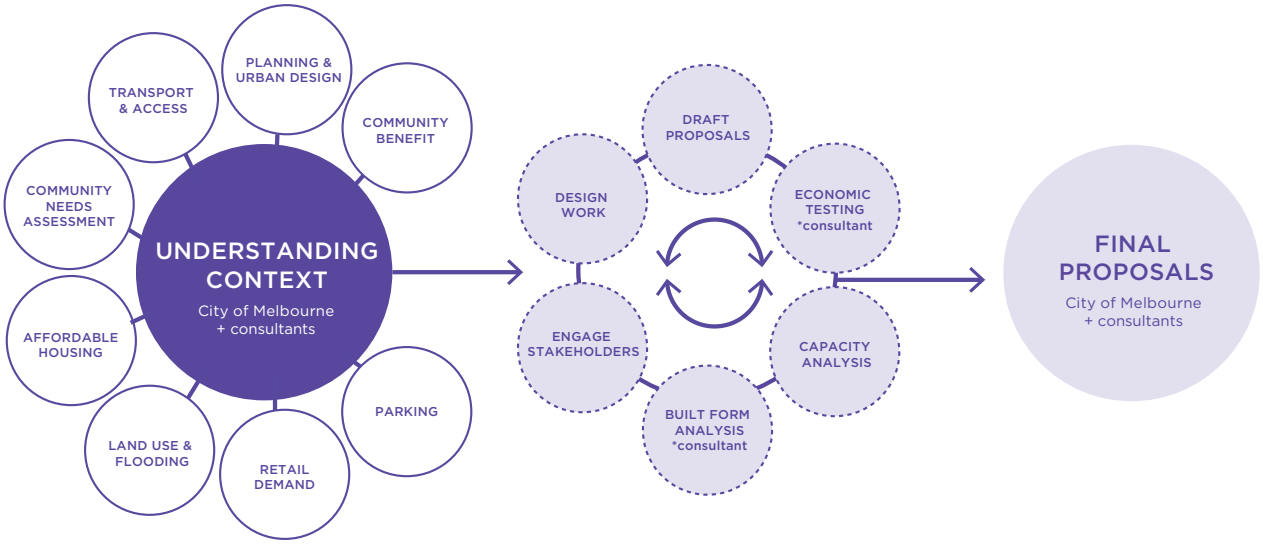


Image 10: The design-led process of developing the Macaulay built form controls.

A design-led process

The FAR and built form controls were derived through an iterative design-led process, considering the existing and preferred character for Boundary, Stubbs, Melrose and Chelmsford precincts.

This section provides an overview of design work undertaken to develop the initial controls proposed in the draft 2020 Structure Plan. The draft controls were then subject to testing and feedback prior to approval of the Structure Plan. Following this there has been further refinement as the controls have been translated into Amendment C417.

Block analysis

The maximum allowable building envelopes deliverable under DDO63 as per built form testing provides an average FAR of 5.7:1. Recent development is achieving densities ranging from 2.4:1 to 11.7:1 FAR (averaging 5.6:1 FAR).

The outcomes of the built form review described in section 1 found that development densities being delivered under the existing controls are resulting in reduced amenity and poor urban design outcomes that are not in line with the vision for Macaulay.

Three scenarios were identified for testing against the existing DDO63 scenario (refer image 11).

A single block was initially modelled to test built form and density controls. The block was chosen as it exhibits urban structure aspects typical to Macaulay that the controls will need to respond to, such as:

- A diverse mix of site sizes and the majority of sites with multiple street frontages.
- Disjointed and narrow laneway network that provides rear access to dwellings and industrial sites.
- A mix of arterial street frontages and local street frontages.

It was important that the design testing responded to the existing site context as well as the proposed future public realm. As such, the testing included future streets and open spaces, noting that the street and open space network were further refined as part of the structure planning process as were the density and built form controls.

The proposed streets and open spaces were modelled on the site, followed by an iterative process of testing FARs for each scenario using the following built form controls:

- Preferred maximum height from DDO63, and
  - 3:1 FAR
  - 4:1 FAR
  - 5:1 FAR
  - No FAR controls (existing)

The outcomes were analysed against the Design Recommendations to broadly determine which density was best able to deliver the desired public realm and built form outcomes established for Macaulay. The findings of the block-level analysis across the three scenarios are summarised in table 2.

Modelling demonstrated that it is possible for both the 3:1 FAR and 4:1 FAR to achieve all applicable Design Recommendations to varying degrees, while the 5:1 FAR failed to meet several Design Recommendations.

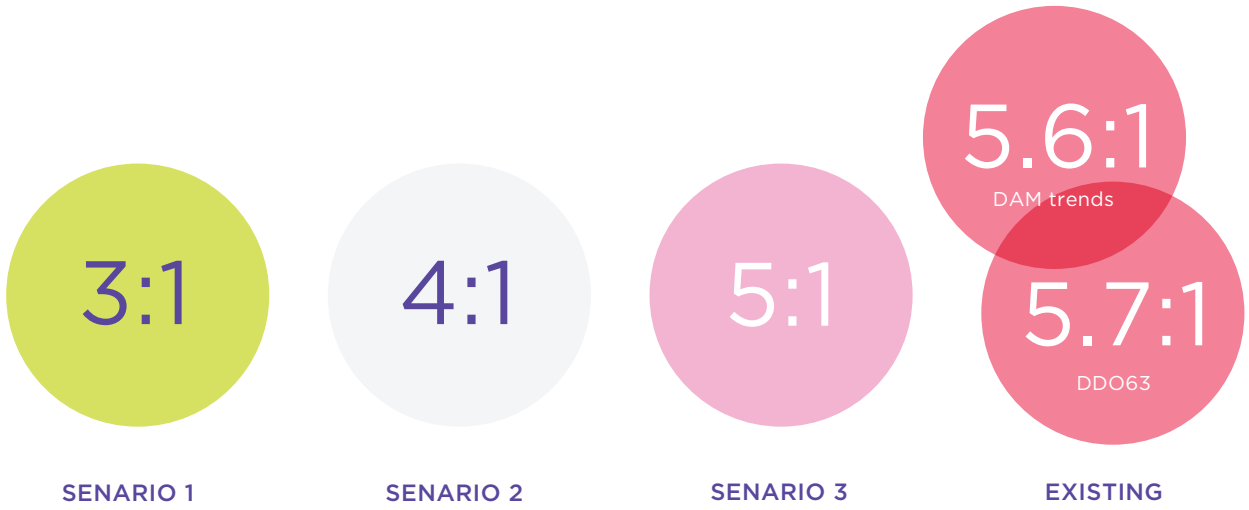


Image 11: An initial block analysis was undertaken across three scenarios

Precinct wide testing

FARs were then tested across a 3D model of the entire Macaulay area, using a 4:1 FAR as the initial density tested across all precincts. Potential development sites were identified and modelled alongside existing buildings and approved developments. Using an approach similar to the block analysis, the overarching Design Recommendations and precinct-specific visions were used to guide modelling, particularly in relation to sensitive interfaces, mass, bulk, building typology and height.

The 4:1 FAR was found to best support built form outcomes in line with the Design Recommendations and precinct visions across the majority of the structure plan area.

Due to the varied character of Macaulay there were certain instances where the 4:1 FAR was unable to meet all Design Recommendations, notably for areas with sensitive interfaces such as:

- Sites adjacent to established low-rise residential areas
- Sites with heritage buildings
- Sites abutting open spaces
- Sites immediately west of Moonee Ponds Creek

A lower FAR of 3:1 was tested on these sites.

The Draft Macaulay Structure Plan

Density controls were subject to consultation through the draft 2020 Structure Plan and ongoing testing and refinement before being endorsed in the Macaulay Structure Plan 2021. These refinements are summarised in section 3.

Table 2: Assessment of scenarios against selected Design Recommendations (draft 2020 Macaulay Structure Plan Refresh)

DESIGN RECOMMENDATION	SCENARIO 1 (3:1 FAR)	SCENARIO 2 (4:1 FAR)	SCENARIO 3 (5:1 FAR)
To ensure development responds to the valued attributes of Macaulay and contributes positively to the existing and future vision and character of the four identified precincts - Boundary, Melrose, Chelmsford and Stubbs.	Does not support the higher level of growth anticipated in Boundary precinct.	Demonstrates response to character through massing in alignment with taller built form vision for Boundary precinct.	Exceeds the built form character envisioned for Macaulay.
To provide for a medium density, mid-rise, human-scaled neighbourhood with a diverse range of building types and some higher built form in specified areas.	No taller built form, maximum of 9 storeys.	Taller built form up to 11 storeys in specified areas.	Taller built form throughout the block up to 17 storeys as a result of high FAR.
To ensure development responds appropriately to the hierarchy of main streets (Racecourse, Boundary, and Macaulay roads), local streets and laneways in its address, activation and management of services.	Primary street address to Boundary and Racecourse roads, setbacks for new streets provided with appropriate upper level setbacks .	Primary street address to Boundary and Racecourse roads, setbacks for new streets provided generally with appropriate upper level setbacks.	Primary street address to Boundary and Racecourse roads, setbacks for new streets provided with limited upper level setbacks.
To achieve variable building heights, including street wall heights that contribute positively to the specific character of each site and the surrounding context.	Building heights vary, ranging from 3 to 9 storeys, not appropriate adjacent to CityLink.	Building heights vary, ranging from 6 to 11 storeys.	Building heights vary, ranging from 5 to 19 storeys however do not respond appropriately to context as a result of high FAR.
To ensure larger sites are broken up into a series of building forms that relate and contribute positively to their context.	Larger sites broken up into a series of buildings.	Larger sites broken up into a series of buildings.	Larger sites broken up into a series of buildings.
To ensure sufficient building separation between sites and within a site to deliver high-quality amenity within buildings having regard to outlook, daylight and overlooking.	Sufficient building separation provided in line with best practice.	Some instances of potentially compromised amenity depending on use and outlook.	Instances of potentially compromised amenity depending on use and outlook.
To provide a highly walkable neighbourhood by increasing permeability with new streets and laneways that are open to the sky	New streets and laneways provided throughout block.	New streets and laneways provided throughout block.	New streets and laneways provided throughout block.

To ensure that new development delivers a safe and secure public realm through activation of ground floors and open spaces.	Commercial uses able to be located on ground floor to Macaulay and Racecourse roads.	Commercial uses able to be located on ground floor to Macaulay and Racecourse roads.	Commercial uses able to be located on ground floor to Macaulay and Racecourse roads.
To ensure development appropriately considers the amenity impacts on neighbouring development and achieves a high standard of internal amenity within the development.	Sufficient building separation provided with appropriate setbacks from property boundary.	Sufficient building separation provided with appropriate setbacks from property boundary.	Taller built form unable to deliver appropriate setbacks to property boundary (6 metres for 9 storeys and above, 9 metres preferred).
To ensure developments are set back from side and rear boundaries to provide adequate daylight in streets and internal spaces, comfortable wind conditions in the public and private realm, views to the sky and privacy.	Upper level setbacks preserve solar access to south, reduce wind impacts and increase daylight to the public realm and internal spaces.	Upper level setbacks generally preserve solar access to south and increase daylight to the public realm. Few instances of taller street walls reduce internal and public realm amenity.	Tall built form and reduced upper level setbacks restrict solar access to the public realm and internal spaces likely creating uncomfortable wind conditions at street level.
To support equitable development by ensuring primary outlook is secured to the street or within development sites.	Primary outlooks secured to existing and future streets or within the development site.	Primary outlooks secured to existing and future streets or within the development site.	Taller built form unable to secure appropriate outlooks in some instances.

Meets

Somewhat meets

Does not meet

Feasibility testing – SGS Economics and Planning (2021)

Testing also considered the feasibility of development with the proposed land use and built form requirements applied, including FARs, a non-residential floorspace component and affordable housing contributions. It also sought to consider impacts of COVID-19.

The feasibility analysis compared costs and revenues of hypothetical developments on six sites within Macaulay. The sites were selected across the various precincts and to represent a range of site conditions and interfaces. Testing used the FARs and building heights set out in the draft Structure Plan with affordable housing requirement set at six per cent, and a requirement for minimum 20 per cent non-residential uses, with the exception of the Commercial 2 Zone in Chelmsford Precinct.

Against post-COVID market conditions, the results show that the development scenarios are feasible across most sites in the precinct, noting that the market for commercial floorspace in Macaulay is likely to improve by the time of major renewal activity in the precinct.

Capacity analysis

The final proposed controls deliver a residential capacity of 7,600 additional dwellings in Macaulay. This provides ample capacity to achieve the targets set by the Victorian government.

The residential capacity from the proposed controls is 18,232. The employment capacity from the proposed controls is around 10,067 jobs, significantly higher than what is likely to be delivered under current controls (based on current trends of largely residential development). This will help to achieve the targeted 9500 jobs in Macaulay.

The capacities described above demonstrate the maximum future residential and worker population that could be accommodated while still achieving the vision and desired built form character for Macaulay and its identified precincts.

Future infrastructure planning has been calculated using the capacity of the FARs proposed in the structure plan.

3. THE NEW BUILT FORM CONTROLS

This section outlines the new built form controls developed to address the issues and opportunities discussed in sections 1 and 2 of the report. The controls are the result of the iterative built form testing as described in section 2

The final controls are informed by the recommendations of the site-by-site architectural testing undertaken by Breathe Architecture and Lat37, feasibility testing undertaken by SGS, and recommendations from the Victorian Design Review Panel and community engagement.

Summary of new controls

The final controls included in the Design and Development Overlays comprise the following elements:

- Design objectives specific to each precinct
- Mandatory Floor Area Ratios to control density and support good levels of internal and public amenity
- Preferred maximum (discretionary) building heights, varying across the area that correspond to density controls and desired scale of development
- Predominantly discretionary street wall heights that respond to interface conditions and surrounding context, including existing residential, heritage places and the public realm
- Building setbacks to ensure sufficient internal amenity and development equity
- Site setbacks to deliver open space and improve connectivity
- Detailed design and public interface requirements to support high quality urban design throughout the precinct

The planning scheme amendment separates out guidance for the four precincts within individual schedules to the Design and Development Overlay:

- Schedule 75 to the Design and Development Overlay – Boundary Precinct (DDO75)
- Schedule 76 to the Design and Development Overlay – Melrose Precinct (DDO76)
- Schedule 77 to the Design and Development Overlay – Chelmsford Precinct (DDO77)
- Schedule 78 to the Design and Development Overlay – Stubbs Precinct (DDO78)

This ensures a place-based approach to the controls that is simple for the community and landowners to locate site specific information.

This section also considers character buildings, parking and the street network as they relate to the precincts' built form.

3.1 DESIGN OBJECTIVES

Amendment C417 includes design objectives within each DDO schedule that have been tailored to provide clear design direction for future built form in each of the precincts. The design objectives are consistent with the key built form aspects contained within the DDOs, including building heights, sensitive interfaces, design quality and design excellence and movement networks and reflect each precinct's existing and desired future character.

The design objective 'to ensure development delivers a high amenity public realm with a human scaled interface' is included in all four DDO schedules, reflecting the importance of high quality public realm throughout Macaulay in achieving successful urban transformation.

Boundary (DDO75)

- To create a mixed use, mid-rise precinct with development generally ranging in height from 6 storeys (24 metres) up to 12 storeys (48 metres).
- To ensure development delivers a diversity of built form typologies, achieves high-quality design and invites design excellence.
- To ensure new development responds with appropriate building heights and setbacks to protect winter sunlight access to parks and open spaces and is set back from the eastern boundary of CityLink to provide for deep soil planting, Moonee Ponds Creek overflow, a biodiversity corridor and a shared path.
- To ensure development establishes a high quality permeable network for pedestrians and cyclists.
- To ensure development delivers a high amenity public realm with a human scale interface.

Melrose (DDO76)

- To create a mixed use, mid-rise precinct with development generally ranging in height from 4 storeys (16 metres) up to 8 storeys (32 metres).
- To ensure development responds to its context and protects the amenity of the adjacent low rise residential areas.
- To ensure new development responds with appropriate building heights and setbacks to protect winter sunlight access to parks and open spaces.
- To deliver high quality design throughout the precinct and achieve design excellence on strategic sites.
- To ensure development delivers a high amenity public realm with a human scaled interface.

Chelmsford (DDO77)

- To create a predominantly commercial, mid-rise precinct with development generally ranging in height from 4 storeys (16 metres) to 6 storeys (24 metres).
- To ensure development protects the amenity of existing low scale residential properties within the precinct and adjacent residential areas.
- To ensure development achieves high quality design and invites design excellence in responding to the context of the precinct's industrial heritage, including heritage places and character buildings.
- To ensure development delivers a high amenity public realm with a human scaled interface.
- To ensure new development responds with appropriate building heights and setbacks to protect winter sunlight access to parks and open spaces and is set back from the interface with the Moonee Ponds Creek to protect sunlight access to the creek corridor.

Stubbs (DDO78)

- To create a mixed use, mid-rise precinct with development generally ranging in height from 4 storeys (16 metres) up to 8 storeys (32 metres).
- To ensure new development responds with appropriate building heights and setbacks to protect winter sunlight access to parks and open spaces and responds to adjacent low scale residential areas.
- To ensure all development delivers high quality design and on larger sites delivers multiple buildings with a diversity of built form typology and invites design excellence.
- To ensure development supports a high quality permeable environment for pedestrians and cyclists.
- To ensure development delivers a high amenity public realm with a human scaled interface.

3.2 FLOOR AREA RATIOS

The Macaulay Structure Plan

Design Recommendation

- To provide for medium density, mid-rise, human scaled neighbourhoods with a diverse range of building types and some higher built form in specified areas.

Map 3 demonstrates the final FARs included in Amendment C417. The final FARs have been calibrated with the proposed built form measures to support high levels of flexibility within the preferred built form envelope. They differ from the controls proposed in the draft 2020 Structure Plan based on the findings of architectural testing to better align with the design recommendations and desired built form outcomes, specifically:

- Reducing FARs from 3:1 to 2.5:1 on smaller sites adjacent low-rise residential development in Stubbs precinct to improve amenity outcomes and respond to adjacent sensitive interfaces and low-rise character.
- Reducing FARs from 4:1 to 3:1 on sites abutting existing residential development in Chelmsford precinct to improve amenity outcomes and respond to adjacent sensitive interfaces.
- Reducing FARs from 4:1 to 3.5:1 for the majority of sites in Stubbs precinct to recognise the sensitive interfaces and the precinct's role as a mid-rise precinct transitioning in height between the established low-rise Kensington community in the east and Moonee Ponds Creek corridor to the west.

In addition, the schedules to the DDO include a consistent definition to assist with calculating FARs:

> *Floor Area Ratio means the gross floor area above finished floor level of all buildings on a site, divided by the area of the site. For the purposes of this calculation:*
>
> » *gross floor area includes all enclosed areas, services, lifts, car stackers and covered balconies*
>
> » *the area of the site includes all contiguous titles in the same ownership that form part of the proposed development before redevelopment and/or subdivision, including land required by Council for public realm.*

This is consistent with the definition provided in Schedule 33 to Clause 43.02 of the Melbourne Planning Scheme (West Melbourne - Flagstaff Precinct) with the following minor variations:

- Provides greater clarity on how FARs should be calculated where land has been identified as new or widened roads, laneways or open space.
- FAR is calculated from finished floor level due to the likelyhood of raised floor levels in response to flood risk.



Map 3: FARs to be introduced through Amendment C417

3.3 BUILDING HEIGHTS

The Macaulay Structure Plan

Design Recommendations

- To provide for a medium density, mid-rise, human-scaled neighbourhood with a diverse range of building types and some higher built form in specified areas.
- To achieve variable building heights, including street wall heights, that contribute positively to the specific character of each site and the surrounding context.
- To ensure that new development respects the scale and height of adjoining residential and heritage buildings and does not overwhelm the existing building.
- To ensure that new development at the interface of stable residential and heritage areas respects the scale of buildings at those interfaces.

Map 4 demonstrates the final preferred maximum building heights proposed in Amendment C417. The building heights vary from the controls proposed in the draft 2020 Structure Plan based on the findings of architectural testing to better align with design recommendations and desired built form outcomes, specifically:

- Increasing the preferred maximum building height of sites directly east of CityLink in Boundary precinct to 15 storeys to achieve greater variation in building heights and to support setbacks to CityLink.
- Reducing the preferred maximum building height of sites adjacent to existing residential development in Chelmsford precinct from 6 to 4 storeys to better respond to existing sensitive interfaces and reduce amenity impacts on residential uses.

The schedules to the DDO that form part of the proposed Amendment also remove the community benefit uplift and include building and street wall heights in storeys and metres.



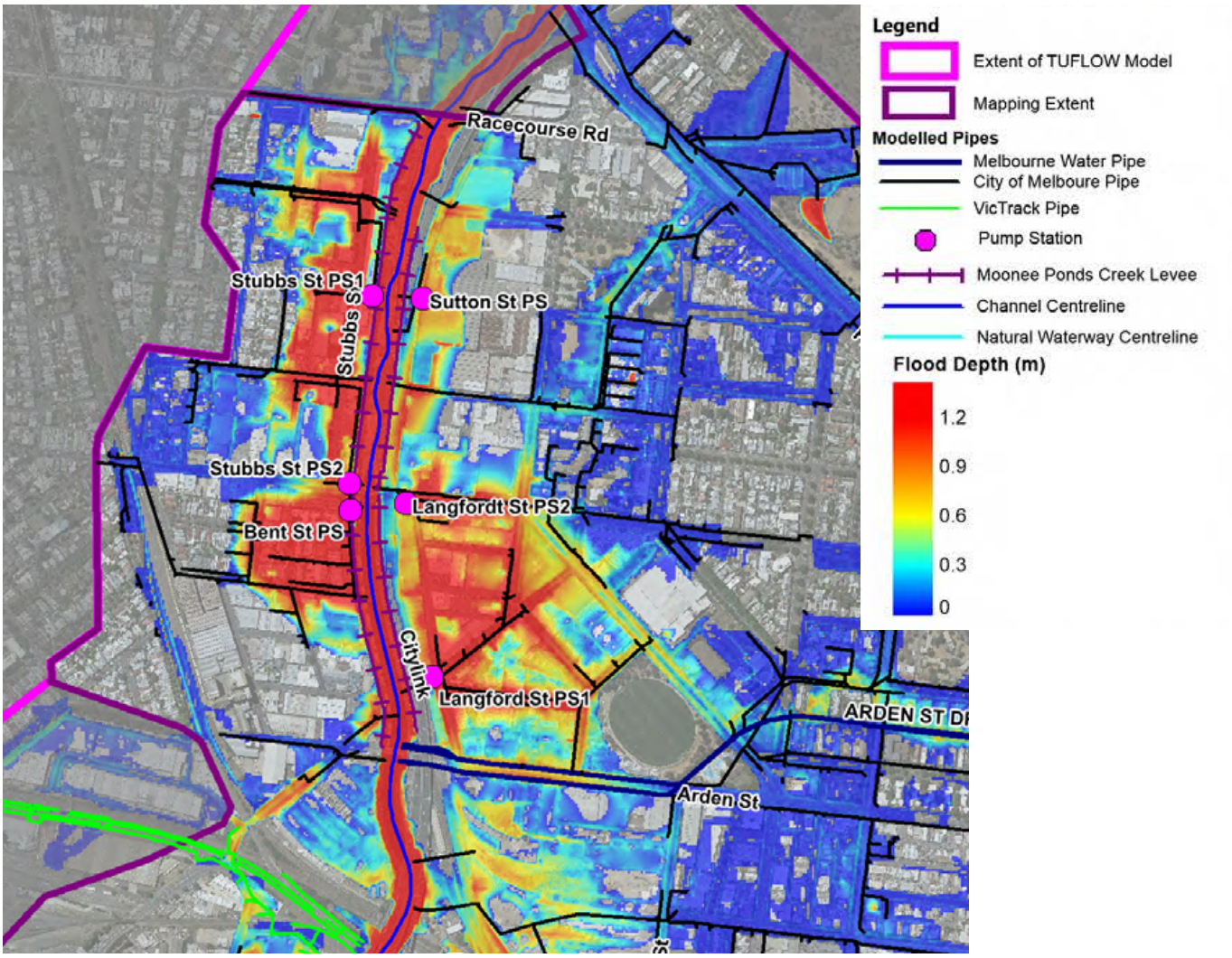
Map 4: Preferred maximum building heights to be introduced through Amendment C417

Flooding

Modelling of a 1% annual exceedance probability event shows large areas of Macaulay at risk of inundation and flood depths reaching and exceeding 1.2 metres in certain areas.

The DDO schedules for Macaulay define street wall heights as being measured from the natural surface level and building heights are defined in the Melbourne Planning Scheme (Clause 73.01) as the vertical distance from natural ground level to the roof or parapet at any point. Therefore, building and street wall heights include raised floor levels to accommodate flooding. This approach is considered the most appropriate as it:

- enables street wall heights and building heights to be set to accommodate the majority of flood management impacts.
- allows building heights and street wall heights to be set with a higher degree of certainty for landowners and the community without unfairly reducing development potential on sites with flood levels.
- retains a clear preferred maximum height with some discretion for exceeding it in areas where additional height is required to accommodate raised floor levels with clear design justification.



Map 5: 1% AEP flood map. Excerpt of Figure 5.1 from Arden Macaulay Precinct & Moonee Ponds Creek Flood Modeling (Engeny, 2020)

1 Annual exceedance probability is the probability that a given rainfall total accumulated over a given duration will be exceeded in any one year (bom.gov.au/water/awid/id-703.shtml)

Heights in metres and storeys

Maximum preferred building heights have been provided in metres and storeys. Storeys describe the overall visual impression of the height of development that is considered most suitable in each precinct. Heights in metres clearly define the maximum preferred height where storeys may vary due to the range in floor to ceiling heights depending on land use and activity as well as the need to accommodate raised floor levels to manage flooding. Image 12 demonstrates the potential variation in height for a 6 storey development in Stubbs Precinct.

A combination of metres and storeys supported by clear design outcomes provides a level of certainty to developers, landowners and the community. The maximum preferred building height is always determined by the metric that is achieved first. The discretionary nature of the control allows flexibility to accommodate taller heights where achievement of the built form outcomes can still be demonstrated. Building heights have been determined using the minimum floor-to-floor heights set in the schedules to the DDO:

- 4.5 metres at ground level to accommodate raised floor levels for flood mitigation.
- 3.2 metres for levels associated with residential, accommodation.
- 4 metres for levels associated with commercial, retail and other uses.

These heights are based on the minimum floor to ceiling heights, plus an additional 500mm to accommodate the space between floors (e.g. drop ceiling, slabs and raised floors). Building heights have been rounded down to the nearest metre for clarity and ease of interpreting the schedules.

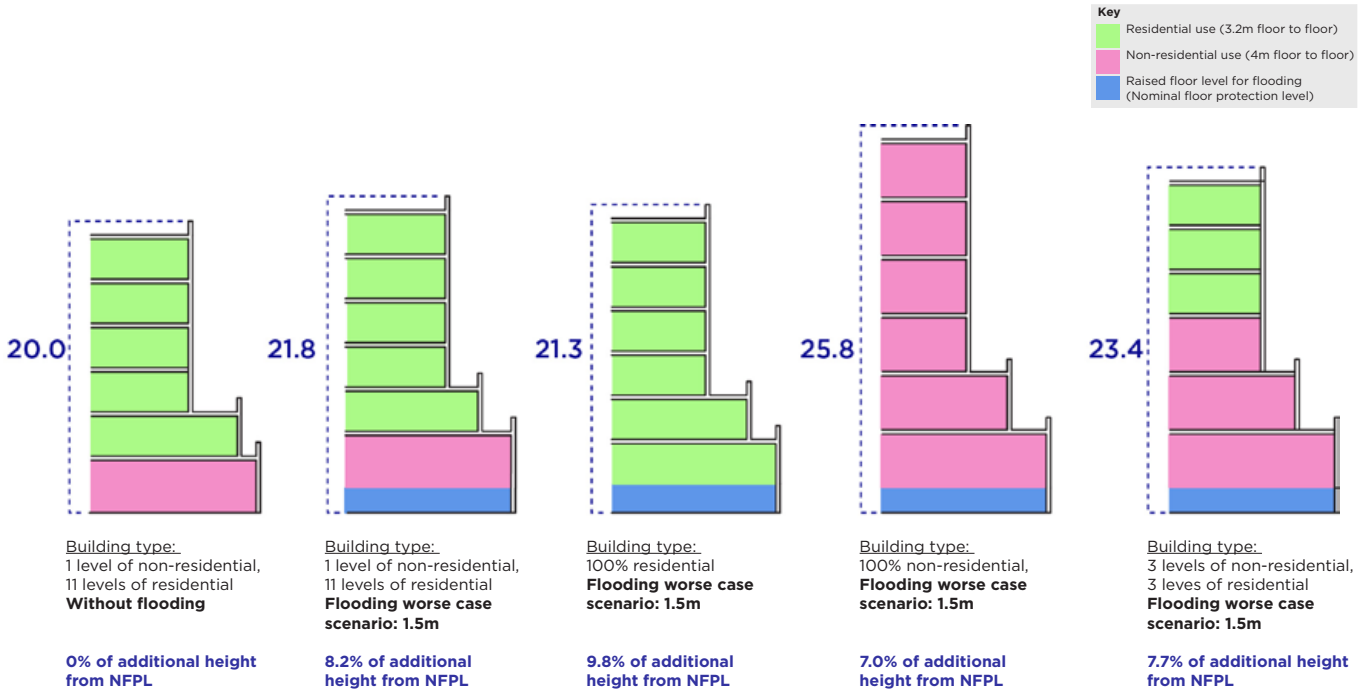


Image 12: Example of variation in height in metres for a site in Stubbs Precinct with a preferred maximum height of 6 storeys

Community benefit uplift

DDO63 allows buildings to exceed the preferred maximum height to a mandatory maximum height where the development delivers 'identified demonstrable benefits' on large sites. The lack of clear parameters around concepts like 'demonstrable benefit' creates uncertainty. It also excludes 'smaller' sites from having to contribute a demonstrable benefit as part of their application.

A review by Hodyl & Co (Defining and Delivery Community Benefit in Macaulay, December 2018) notes a key issue with using value sharing mechanisms such as uplift is that they can undermine the balance of controls specified for sites given that they allow set (and tested) parameters to be exceeded. The controls proposed in Amendment C417 seek to achieve specific outcomes.

The community benefit uplift is therefore not considered appropriate to guide future development of Macaulay and is not included in the proposed controls.

3.4 SITE SETBACKS

The Macaulay Structure Plan

Design Recommendations

- To provide a highly walkable neighbourhood by increasing permeability with new streets and laneways that are open to the sky.
- To ensure developments are set back from side and rear boundaries to provide adequate daylight in streets and internal spaces, comfortable wind conditions in the public and private realm, views to the sky and privacy.
- To encourage deep soil planting that increases permeability and supports tree planting in the private realm.

Action 61 of the Macaulay Structure Plan proposes to update built form controls to deliver setbacks to the Moonee Ponds Creek corridor east of the railway line. The linear setbacks are multifunctional green spaces that improve people's access to nature while providing key walking and cycling connections.

CityLink is an elevated toll road running north-south through Macaulay above the Moonee Ponds Creek and Upfield rail line. Properties directly adjoin the CityLink boundary and are setback only a couple of metres from the road infrastructure, which is elevated to around 18 metres.

The final controls proposed for DDO75 (Boundary) and DDO77 (Chelmsford) implement the proposed linear setbacks on private land identified on Map 11 of the Structure Plan (p.64) and properties bordering Moonee Ponds Creek as described in the following table and map.

AREA	MANDATORY SITE SETBACK	BUILT FORM OUTCOME
Properties that interface with CityLink, as identified in Map 2 of DDO75 (Boundary)	20 metres from the eastern boundary of CityLink	Site setback that: • Delivers a contiguous setback suitable for deep soil planting, biodiversity corridor, accommodating overflow from Moonee Ponds creek, and design that considers the potential for a shared path along the CityLink interface.
Properties that interface with Moonee Ponds Creek as identified in Map 3 of DDO77 (Chelmsford)	15 metres from the western boundary of Moonee Ponds Creek	Site setback that: • Delivers a setback along the Moonee Ponds Creek with a design that considers the potential for a shared path and prevents overshadowing of the creek corridor. • Is open to the sky and contains deep soil.

Table 3: Site setback controls in DDO75 Boundary and DDO77 Chelmsford

The linear setbacks will deliver additional north-south connections for pedestrians and cyclists that link people to the local open space network, provide an alternative route off the Boundary Road major transport corridor and link to existing trails and public transport nodes such as the Capital City Trail and Macaulay Station. This aligns with opportunities identified in the Moonee Ponds Creek Strategic Opportunities Plan.

In addition, the linear setback will reduce the amenity impacts of CityLink by separating built form from the overpass, increasing access to sunlight within buildings and to the public realm and enabling planting to act as a visual and acoustic buffer between the Citylink and future residential and commercial uses.

For properties affected by the linear setback, the gross floor area (GFA) allowed through density controls is based on applying the prescribed FAR to the site area prior to development and subdivision, therefore including the setback area in FAR calculations. This results in no loss of development capacity or yield on the site while enabling a positive site response through built form controls such as street wall heights and design detail.



Map 6: Site setbacks in Chelmsford and Boundary precincts

3.5 STREET WALL HEIGHTS

The Macaulay Structure Plan

Design Recommendations

- To achieve variable building heights, including street wall heights, that contribute positively to the specific character of each site and the surrounding context.
- To ensure that new development at the interface of stable residential and heritage areas respects the scale of buildings at those interfaces.
- To ensure that new development does not cast any additional shadow over Buncle Street Reserve, Canning Street and Macaulay Road Reserve, North Melbourne Recreation Reserve, Gardiner Reserve and Robertson Street Reserve from 10:00am to 3:00pm on 21 June, from buildings built to the maximum street wall height, as per the Sunlight Access to Public Parks requirements.

Street wall heights directly affect public realm amenity and the pedestrian experience within the street. Street wall heights should support or enhance the desired or existing public realm character and have a proportional relationship to the width of the interfacing street or open space.

The Victorian Government's Urban Design Guidelines for Victoria includes objective 2.2.3a which relates to the scale of surrounding buildings to the pedestrian priority street.

As a guide, a positive relationship between building and public realm is achieved through a building height to street width ratio of between around 1:2 (the building height is half of the street width) and 1:1 (the building height is the same as the street width).

Where street walls are proposed, the ratio should apply to the street wall heights rather than overall building heights. This ratio enables sunlight to reach into streets and defines the street edge, creating a positive balance between enclosure and openness (image 13). In some contexts, taller street walls are appropriate to respond to the preferred local character or specific design outcomes but in general, continuous street walls above a 1:1 ratio begin to overwhelm the streetscape, limit views to the sky and block sunlight and generate uncomfortable wind conditions contributing to an unpleasant 'canyon' effect.

Amendment C417 controls include street wall heights in metres and storeys in the four precinct DDOs for all frontages abutting existing and future streets or laneways. In general, street wall heights have been set according to street width to maintain a height-to-width ratio of approximately 1:1. This principle has been varied to respond to specific interface conditions such as:

- low-scale residential areas
- heritage places and character buildings
- open spaces including the Moonee Ponds Creek corridor
- rail corridors and CityLink infrastructure

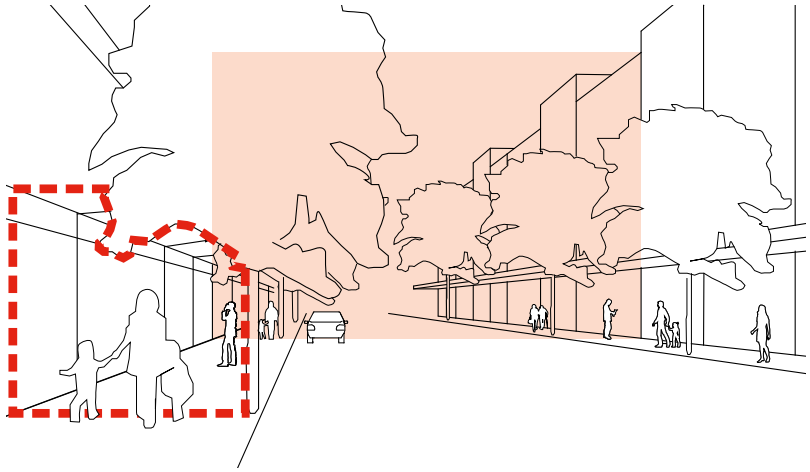


Image 13: The Victorian Government's Design Guidelines for Victoria, 'Objective 2.2.3a Use street width, building height and landscape design to create a sense of enclosure for street users'

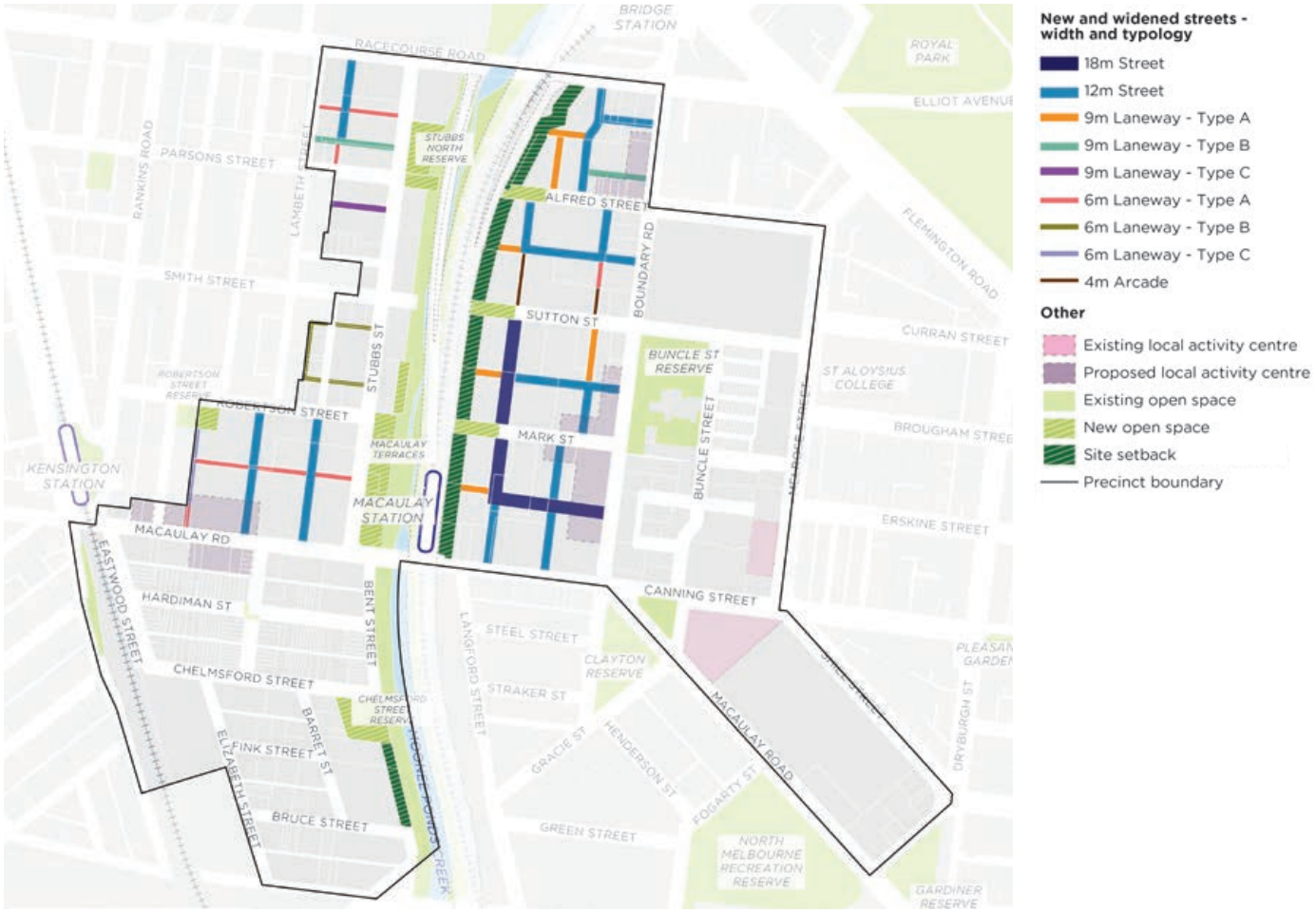
Mandatory street wall heights

Mandatory maximum street wall heights have been set where greater sensitivity is required such as for properties that interface with low-scale heritage places, existing residential development and established residential areas in Chelmsford, Stubbs and Melrose precincts.

On Shiel Street a mandatory street wall of 3 storeys is maintained. Discretionary street wall heights have been set elsewhere.

Setting street wall heights for new streets

The Structure Plan provides a more connected and permeable street network that prioritises pedestrians and cyclists and responds to the local flooding conditions. Given the existing large impermeable blocks, additional local streets have been identified for delivery to enhance connectivity across the precinct.



Map 7: Map of new and widened streets and laneways in Macaulay

Street wall heights along the future street network generally follow the 1:1 rule with the exception of identified east-west streets where a lower street wall height is required to comply with solar protection controls. The table below demonstrates the rationale for street wall heights along new streets and laneways.

NEW STREET	STREET WALL HEIGHT	RATIO (H:W)	RATIONALE
18m Street Northern boundary of east-west alignment	5 storeys (19m)	1:0.9	A 5 storey street wall generally achieves a 1:1 street width to street wall height ratio, with a maximum height of 19m (1:0.9 ratio). This ratio is ideal for human scale and comfort, sense of enclosure and access to daylight and sunlight.
	4 storeys (16m)	1:1.1	The street wall height for the southern boundary of properties to the north of the east-west aligned 18m Street has been reduced to 4 storeys (16m) to achieve the sunlight protection controls. This achieves 1:1.1 street height to width ratio.
12m Street	3 storeys (12m)	1:1	A 3 storey street wall generally achieves a 1:1 street width to street wall height ratio, with a maximum height of 12m (1:1 ratio). This ratio is ideal for human scale and comfort, sense of enclosure and access to daylight and sunlight.
9m Laneway	2 storeys (8m)	1:1.1	A 2 storey street wall generally achieves a 1:1 street width to street wall height ratio, with a maximum height of 8m (1:1.1 ratio). This ratio is ideal for human scale and comfort, sense of enclosure and access to daylight and sunlight.
6m Laneway	2 storeys (8m)	1:0.8	The proposed maximum preferred street wall height would create a streetscape where the street wall is slightly taller than the street is wide, with a maximum ratio of 1:0.8. This is considered acceptable as it: • creates a sense of street definition • supports development in line with the proposed FARs • does not create significant wind or solar access issues • delivers a minimum 6m separation between buildings
20m Linear setback	8 storeys (32m)	1:0.6	An 8 storey street wall is proposed along the eastern boundary of the 20m linear setback in Boundary precinct. While this delivers a ratio of 1:0.6, the north-south orientation of the linear setback maintains acceptable access to daylight and sunlight to the public realm and internal to the buildings.
15m Linear setback	6 storeys (24m)	1:06	A 6 storey street wall is proposed along the western boundary of the 15m linear setback in Chelmsford precinct. While this delivers a ratio of 1:06, the north-south orientation of the linear setback maintains acceptable access to daylight and sunlight to the public realm and internal to the buildings.

Table 4: Rationale for preferred maximum street wall heights for new and widened streets.

Transitional street wall heights

A discretionary street wall height of 3-6 storeys has been set for a portion of streets in the Chelmsford and Stubbs precinct and the majority of Melrose Precinct.

The intent of the transitional street wall is to allow a flexible approach to achieving the FAR, providing a design that responds to context and achieves the vision for Macaulay and the design objectives for each precinct. A street wall range helps to achieve a variable street wall height and a range of building typologies, which is a key built from objective across all precincts.

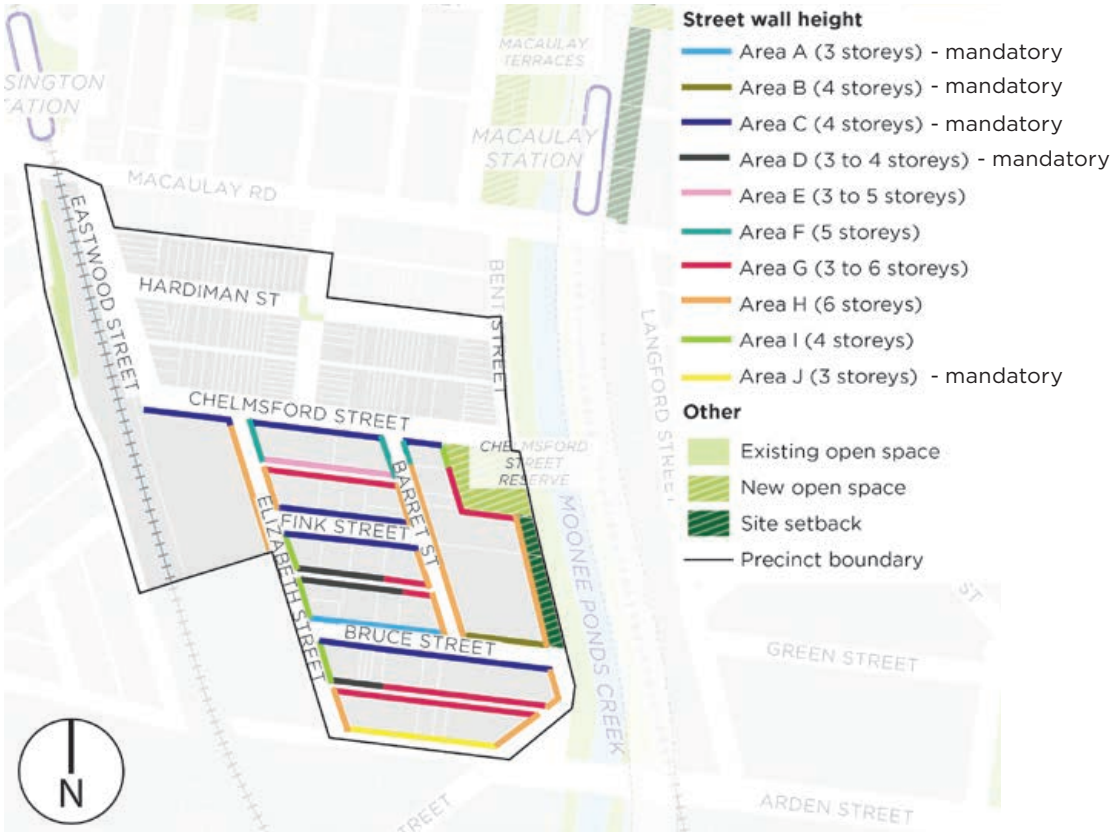
Chelmsford precinct

The 3-6 storey street wall height in Chelmsford is located primarily along the existing rear lanes including sites adjoining the new open space on Chelmsford Street.

Lower street wall heights within the range of 3-6 storeys are directed to narrow rear lanes to ensure a comfortable pedestrian environment, providing appropriate enclosure, sunlight, sky views, and protection from wind. Testing demonstrated that 6 storeys adjacent to the narrow lanes would overwhelm pedestrians.

Higher street walls within the range are directed to junctions of lane ways with higher order roads to define key local streets (Barrett, Elizabeth, Lloyd) and promote legibility of the precinct. A taller street wall is acceptable at the interface with the proposed open space in order to define the edge and allow for passive surveillance, providing overshadowing controls can be met.

Mandatory street wall heights are proposed within this precinct as reflected in Amendment C417.



Map 8: Street wall heights in the Chelmsford precinct as proposed through Amendment C417 and included in DDO77

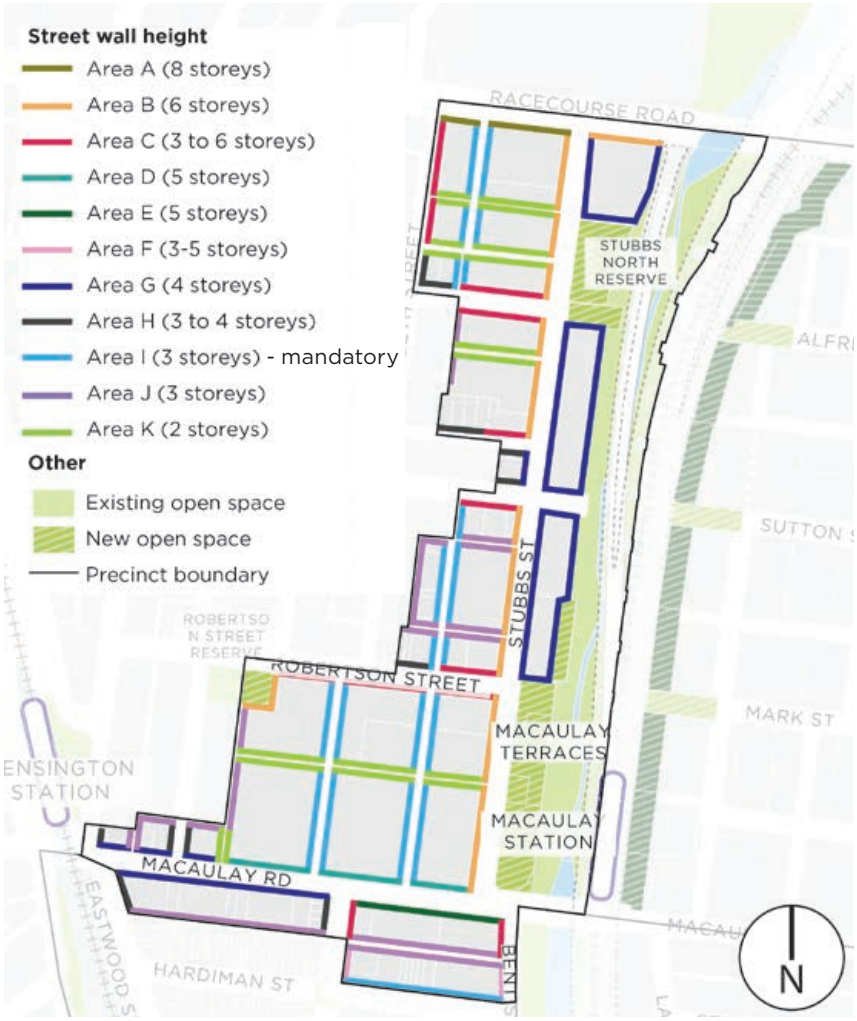
Stubbs precinct

The 3-6 storey street wall height range is primarily located along the east-west streets in Stubbs Precinct.

Lower street walls within the range should respond to sensitive interfaces including low-rise residential and heritage buildings. Higher street walls should respond to less sensitive interfaces, such as wider streets and higher order roads.

Street wall height should transition up in height along Parsons, Smith, and Robertson streets to reinforce Stubbs Street as a higher order road and locate higher street walls away from established low scale residential areas.

Mandatory street wall heights are proposed within this precinct as reflected in Amendment C417.

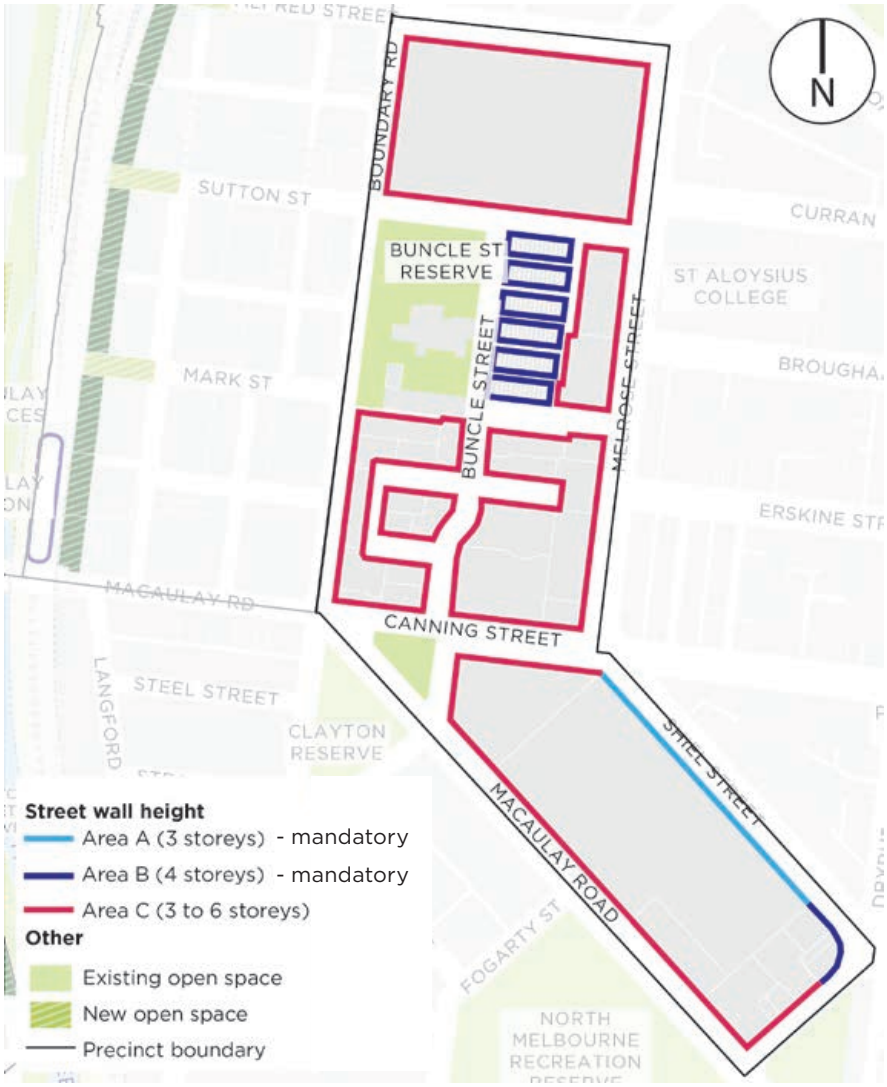


Map 9: Street wall heights in the Stubbs precinct as proposed through Amendment C417 and included in DDO78

Melrose precinct

The 3-6 storey street wall height in Melrose is located everywhere except for Shiel Street. Higher street walls within the range are proposed to define major roads, key junctions, and provide a robust edge to open space while ensuring there is no overshadowing. Lower street wall heights within the range are encouraged at the interfaces with established residential areas, including Alfred, Melrose and Shiel streets and heritage frontages.

Mandatory street wall heights are proposed within this precinct as reflected in Amendment C417.



Map 10: Street wall heights in the Melrose precinct as proposed through Amendment C417 and included in DDO67

Boundary precinct

The proposed street wall heights in Boundary have been set to generally reflect the 1:1 rule, with slight variation to limit overshadowing to the southern footpath. There are no mandatory street walls proposed.



Map 11: Street wall heights in the Boundary precinct as proposed through Amendment C417 and included in DDO75

Corner sites

The DDOs included in Amendment C417 provide guidance for the management of corner conditions with two different street wall heights. In these circumstances, the controls note that the higher street wall should wrap around the corner for a maximum of 15 metres. Allowing the higher street wall height to wrap around reinforces the street edge and creates a legible street network by defining corners. The maximum length of 15 metres ensures development feasibility by allowing at least one full apartment to be built to the taller height without compromising the intent of the lower street wall and its impact on the public realm.

In two circumstances, the lower street wall is required to wrap around the corner, being:

- Where a mandatory street wall is designated.
- Where a street wall height has been set to avoid overshadowing of a public or open space.

Tooth and gap

The Structure Plan proposes a tooth and gap approach in the Boundary precinct, which is included in Amendment C417 as a discretionary control in DDO75 (Boundary Precinct). The control applies to lots with a frontage greater than 40 metres along Mark, Sutton and Alfred streets.

A tooth and gap approach encourages greater diversity in built form outcomes, improves public realm and internal amenity and is an alternative to the 'podium and tower' typology often delivered on large sites. Testing by Breathe Architecture (Attachment 1) and Lat37 (Attachment 2) confirmed that the tooth and gap approach assists in achieving the design recommendations, particularly the desired character for a diversity of heights. However in their recommendations Lat37 noted the need for additional guidance on the dimensions of the tooth and gap approach.

This advice has been incorporated into the controls described below:

> *A Tooth and gap approach as per the description below is only applicable along Alfred, Sutton and Mark streets with a frontage greater than 40 metres as follows:*
>
> » *On any north or south street frontage the preferred maximum building height specified in Table 1 'the tooth' can be applied for a maximum width to the street of 25 metres.*
>
> » *The 'tooth' must not exceed 40 metres in depth from the street.*
>
> » *Any 'tooth' element must be adjacent to a built form element that is at or lower than the preferred street wall height - the 'gap'.*
>
> » *The 'gap' must continue for a minimum depth of 20 metres from the street.*

Solar protection impact on street walls

The structure plan includes an action to implement the Sunlight to Public Parks Policy (Amendment C415) by setting street wall heights to reduce overshadowing to public parks. Further, the controls seek to reduce overshadowing to the southern footpath of identified east-west aligned streets. The following section discusses the development of solar protection controls and in particular testing of street wall heights to provide a comfortable environment in key gathering and movement spaces for people.

3.6 OVERSHADOWING

The Macaulay Structure Plan

Design Recommendations

- To ensure that new development does not cast any additional shadow over Buncle Street Reserve, Canning Street and Macaulay Road Reserve, North Melbourne Recreation Reserve, Gardiner Reserve and Robertson Street Reserve from 10:00am to 3:00pm on 21 June, from buildings built to the maximum street wall height, as per the Sunlight Access to Public Parks requirements.

As more people begin to live, work and visit the Macaulay area, the use of public spaces will increase putting pressure on parks and other elements of the public realm. As the precincts become denser, it is important that development intensification is balanced with continued access to sunlight to provide a high quality public realm that is comfortable and enjoyable all year round.

Amendment C415 (previously C278), proposes a new planning control (DDO8) to protect sunlight access to all parks across the municipality (excluding parks in the Hoddle Grid, Southbank and Docklands). Amendment C415 has been submitted to the Minister for Planning for approval and is under currently under consideration.

Amendment C415 assigns each existing open space to one of three types of overshadowing controls. Parks within Macaulay affected by Amendment C415 controls are either Type 1 or Type 2:

- Type 1: No additional shadow onto the park between 10am and 3pm on 21 June beyond the existing shadow.
- Type 2: No additional shadow onto the park between 10am and 3pm on 21 June beyond the existing shadow or allowable shadow (whichever is the greater).

‘Allowable shadow’ means the shadow that would be cast on the park, between 10am and 3pm, June 21, by a building on land abutting a park, built to the lower of any street wall height or building height requirement specified in the planning scheme. As street wall heights are set for all streets and laneways, they define the extent of allowable shadow. Any part of the building beyond the nominated street wall height must be set back so as not to cast additional shadow.

The current Sunlight to Public Spaces policy at Clause 15.01-1L-03 of the Melbourne Planning Scheme also states that development should not unreasonably reduce amenity to public spaces including major pedestrian routes, by casting additional shadows between 11 am and 2pm on 22 September.

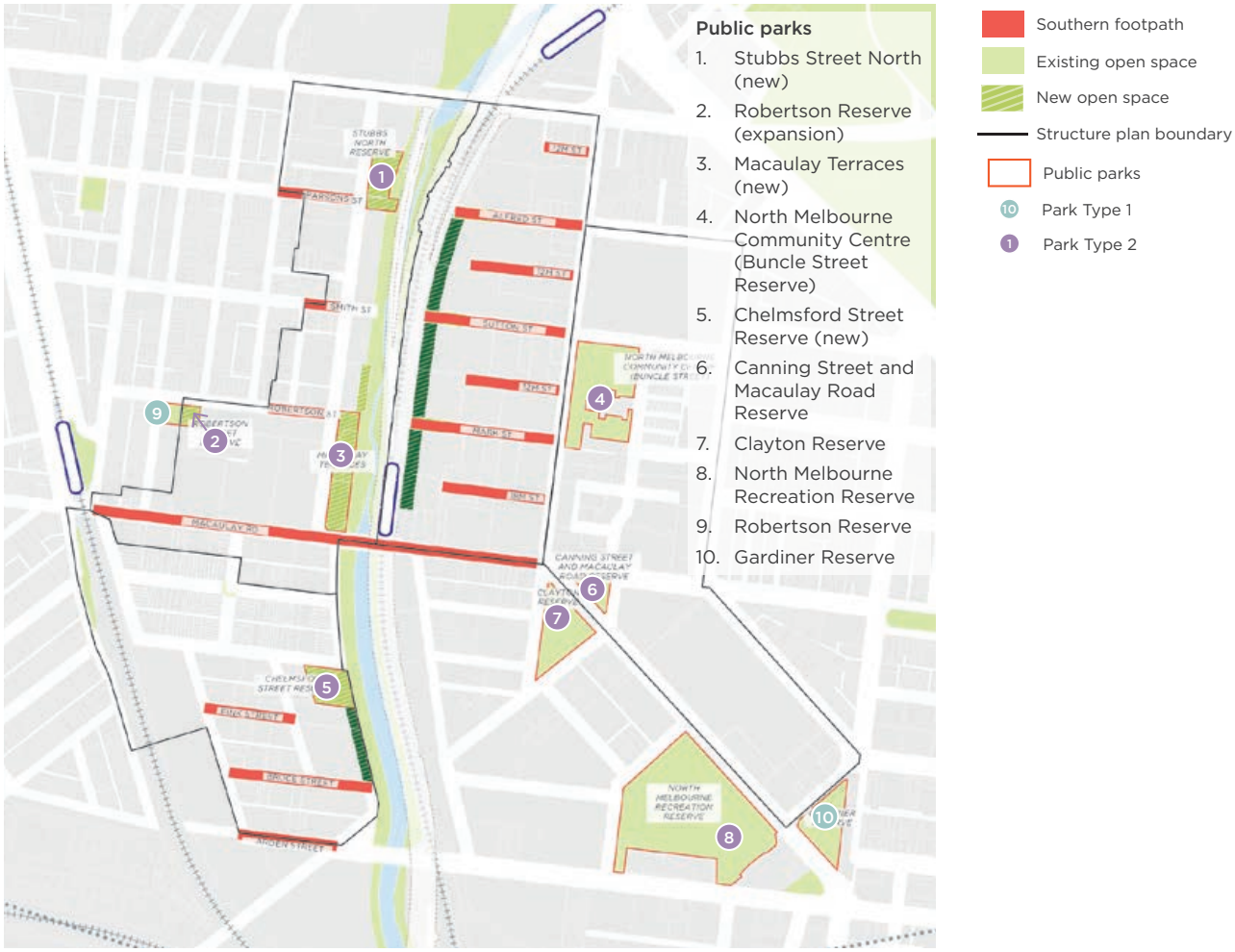
While allowable shadow is only calculated for land abutting a park, the extent of overshadowing allowed applies to all sites, not just to those sites immediately abutting.

'Land abutting a park' means land with a common boundary to a park or land separated from the park by a public street or laneway.

The Structure Plan seeks to protect sunlight to future and existing public parks as well as key streets by applying the approach used in the Sunlight to Public Parks Amendment C415. Map 12 identifies the streets and public parks nominated for solar protection in the Structure Plan, along with new east-west aligned 12m and 18m streets in Boundary Precinct.

The sunlight protection controls seek to reduce or prohibit additional shadow to parks and street sidewalks to enable sunlight to reach the public realm throughout the year. Additional shadow means any shadow cast outside of the existing shadow from buildings and works. The 1:1 street width to wall height ratio was tested to ensure street wall heights included in the controls:

- Do not cast a shadow beyond the existing shadow on Type 1 Public Parks between 10am and 3pm on 21 June.
- Combined with existing development, establish an 'allowable shadow' envelope to Type 2 Public Parks between 10am and 3pm on 21 June that does not compromise the enjoyment and use of the park for its intended purpose.



Map 12: Overshadowing requirements in the Macaulay Structure Plan

TYPE	PRECINCT	LOCATION	CONTROL
Public Park (Type 1)	Stubbs	Robertson Street Reserve	Buildings and works must not cast additional shadow onto the park between 10am and 3pm on 21 June beyond the existing shadow.
	Melrose	Gardiner Reserve	
Public Park (Type 2)	Stubbs	Stubbs North Reserve (proposed)	Buildings and works must not cast additional shadow onto the park between 10am and 3pm on June 21 beyond the existing shadow, or allowable shadow, or the combination of the existing shadow and allowable shadow (whichever is the greatest).
		Macaulay Terraces (proposed)	
		Robertson Street Reserve (proposed)	
	Boundary	North Melbourne Community Centre (Buncle Street Reserve)	
		Canning Street and Macaulay Road Reserve	
		Clayton Reserve	
	Melrose	North Melbourne Community Centre (Buncle Street Reserve)	
		Canning Street and Macaulay Road Reserve	
		Clayton Reserve	
		North Melbourne Recreation Reserve	
	Chelmsford	Chelmsford Street Reserve (proposed)	
Streets	Stubbs	Parsons Street	Buildings and works above the street wall must not cast additional shadow to the southern footpath of the street on 22 September between 11am and 2pm.
		Smith Street	
		Robertson Street	
		Macaulay Road	
	Boundary	Alfred Street	
		Sutton Street	
		Mark Street	
		Macaulay Road	
		New east-west aligned 18m Streets	
		New east-west aligned 12m Streets	
	Chelmsford	Fink Street	
		Bruce Street	
		Arden Street	

Table 5: Solar protection controls applied throughout Macaulay

Solar protection of streets

Chelmsford precinct

The Chelmsford DDO77 includes solar protection controls for the east to west running Bruce, Arden and Fink streets. In general, no overshadowing of the southern footpath will occur in Chelmsford precinct where the street wall height is set at a 1:1 street width to height ratio, however slight variations to the height in metres and storeys are required to align with the minimum preferred floor-to-floor heights. In addition, mandatory maximum street wall heights are not rounded down as this would unfairly impact the development potential of the site. The following street wall heights are set:

- 4 storeys (16.5m) street wall height along Fink Street (16m wide street) accommodating 100 per cent non-residential uses
- 3 storeys (16m) street wall height along Bruce Street (15m wide street) with a 2m wide southern footpath for Commercial 2 zoned sites accommodating 100 percent non-residential uses
- 4 storeys (16m) street wall height for proposed Special Use zoned sites along Bruce Street
- 3 storeys (15m) street wall height along Arden Street (15m wide street) with a 2.5m wide southern footpath.

Stubbs precinct

The Stubbs precinct DDO78 includes solar protection controls for the east to west running Parsons, Smith and Robertson streets and Macaulay Road. Parsons, Smith and Robertson streets are subject to a street wall height range. Testing was undertaken to determine the impact of street wall height ranges on overshadowing to the southern footpath.

- No overshadowing occurs at the maximum height range of 4 storeys (16m) along Smith Street (20m wide street) with a 2.8m wide footpath.
- Parsons and Robertson streets are both 20m wide and adjoining properties to the north can be built up to 5 storeys (19m) at the street without overshadowing the 3.5m wide footpath.

The 3-4 storey street wall height range applying to sections of Smith, Parsons and Robertson streets is at or below the height at which overshadowing to the southern footpath would occur. For sites along Parsons and Robertson streets with a 3-6 storey street wall height range, the mandatory solar protection controls will limit the street wall within the range to a height that does not overshadow the southern footpath.

Macaulay Road is a 20m wide street with a 3.5m wide southern footpath. No overshadowing of the southern footpath will occur where a 1:1 street width to height ratio of 5 storeys (20m) is applied.

Boundary precinct

The Boundary precinct DDO75 includes solar protection controls for the east to west running Alfred, Sutton and Mark streets and Macaulay Road as well as new east-west aligned 18 and 12 metre streets. Street wall heights are set in metres to reflect the maximum height at which no overshadowing occurred, rounded down to the nearest metre. In general, heights are aligned with the 1:1 street width to wall height ratio. Street wall heights in storeys are set based on the number of floors that could be achieved using the minimum preferred floor-to-floor heights.

- 5 storeys (19m) for Alfred, Sutton and Mark streets (20m wide roads) and Macaulay Road (19.5m wide road).
- 4 storeys (16m) for new 18 metre streets.
- 3 storeys (12m) for new 12 metre streets.

Solar protection of Type 1 public parks

Gardiner Reserve and the existing Robertson Street Reserve are identified as Type 1 Public Parks under the proposed Sunlight to Public Parks Amendment C415. Testing of sites adjacent Robertson Street Reserve confirmed that no shadow would be cast onto the park area with a street wall height set at 6 storeys (24m).

The street wall height to the north of Gardiner Reserve is set at a range of 3-6 storeys (12-24m). The shadow cast by existing and approved development onto the park varies due to changes in building height on the adjacent lots. The shadow cast by street wall heights between 3 storeys (12m) and 6 storeys (24m) against the shadow cast by existing buildings and works. The mandatory solar protection control informs the maximum street wall height at any point along the boundary based on the height at which no additional shadow is cast.

Solar protection of Type 2 public parks

For Type 2 public parks, including proposed future parks, an assessment was undertaken of the combined shadow cast by the existing development and development allowed under the proposed controls. No changes were proposed for street wall heights to Chelmsford Street Reserve, Robertson Street Reserve expansion, Buncle Street Reserve or North Melbourne Recreation Reserve.

Through testing, street wall heights to Stubbs Street North, Macaulay Terraces, Canning Street and Macaulay Road Reserve and Clayton Reserve were revised from the original 1:1 ratio height to reduce overshadowing and support a high-quality public realm with access to sunlight throughout the year.

Macaulay terraces

The controls proposed an initial street wall height of 6 storeys along Stubbs Street to deliver a 1:1 street wall height to width ratio. In testing overshadowing outcomes, it was determined that the 6 storeys delivered an unacceptable level of overshadowing to the future Macaulay Terraces. Testing determined that a 4 storey street wall height significantly reduced overshadowing from future development to an acceptable level while still enabling development to achieve the nominated FAR.

Stubbs Street North

The controls proposed an initial street wall height of 6 storeys along Stubbs Street to deliver a 1:1 street wall height to width ratio. In testing overshadowing outcomes, it was determined that the 6 storeys delivered an unacceptable level of overshadowing to the future Stubbs Street North public park. Testing determined that a 4 storey street wall height significantly reduced overshadowing from future development to an acceptable level while still enabling development to achieve the nominated FAR.

Canning Street, Macaulay Road Reserve and Clayton Reserve

A street wall height of 3-6 storeys, combined with the shadow from existing development will lead to unacceptable levels of overshadowing to Canning Street and Macaulay Road Reserve, with the majority of the park overshadowed between 10am and 3pm. Testing of alternative street wall heights found that a reduction to 3-4 storeys at the street wall significantly reduced the impact of overshadowing from new development. Overshadowing at 10am is largely due to existing development. A 3-4 storey street wall is proposed to sites north of Canning Street and Macaulay Road Reserve. In reducing the street wall heights, overshadowing to Clayton Reserve by future development is also mitigated.

3.7 BUILDING SEPARATION AND SETBACKS

The Macaulay Structure Plan

Design Recommendations

- To ensure sufficient building separation between sites and within a site to deliver high-quality amenity within buildings having regard to outlook, daylight and overlooking.
- To ensure development appropriately considers the amenity impacts on neighbouring development and achieves a high standard of internal amenity within the development.
- To support equitable development by ensuring primary outlook is secured to the street or within development sites.

The Victorian Government's Urban Design Guidelines for Victoria recognise the importance of setbacks in Objective 5.13 'to ensure buildings in activity centres provide equitable access to daylight and sunlight': Principles include:

- Locate and arrange the building to allow daylight and winter sun access to key public spaces and key pedestrian street spaces.
- Allow sufficient distance between buildings to allow access to daylight for neighbouring windows.
- Protect daylight and sunlight access to the private and communal open space of adjacent dwellings

The Apartment Design Guidelines for Victoria (2021) identify the importance of building separation in delivering good internal amenity. This is to achieve:

- adequate daylight into new dwellings
- to limit views into habitable room windows and private open space of new and existing dwellings
- to provide a reasonable outlook from new dwellings
- to generally ensure that building setbacks provide appropriate internal amenity to meet the needs of residents.

In addition, setback controls enforce the visual delineation between street wall and upper levels of a building. This minimises building bulk and allows street wall heights to respond to the existing and desired future character of a precinct and provide a human scale at the street.

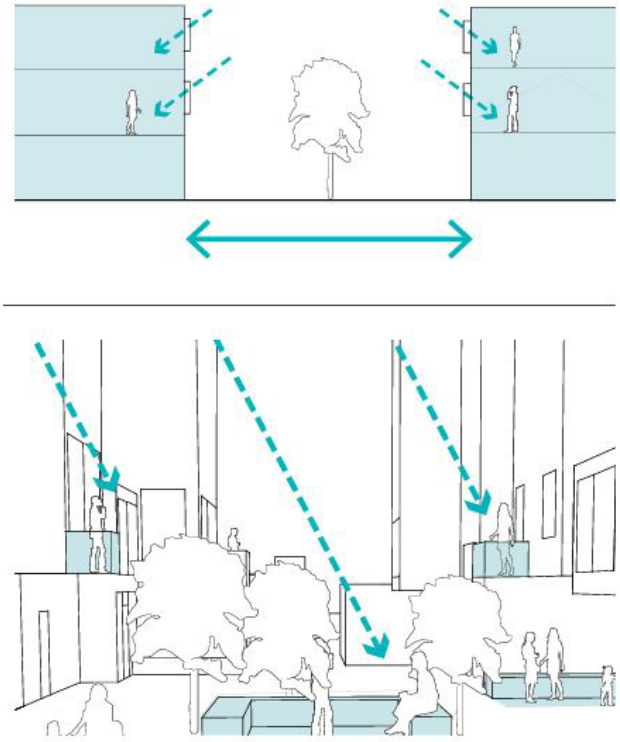


Image 14: Objective 5.1.3b (top) and c (bottom) of the Victorian Government's Urban Design Guidelines for Victoria

The following table describes the new building setbacks defined in the schedules to the DDO and the supporting evidence for the nominated setback dimensions.

The Moreland Apartment Design Code (2015) is used as a precedent study in reviewing optimal building separation for Macaulay.

LOCATION	PREFERRED MINIMUM BUILDING	REASON
Above the street wall	5 metres	A 5m setback above the street wall has been identified across the entire Macaulay area. In combination with street wall heights, this provides setbacks above the street wall as described below: • 6m laneway – 16m overall separation above street wall • 9m laneway – 19m overall separation above street wall • 12m street – 22m overall separation above street wall • 18m street – 28m overall separation above street wall With minimum laneway widths of 6 metres, this provides a minimum building separation above the street wall of 16 metres, which is generally in line with the Moreland Apartment Design Code's minimum building separation for primary outlooks (12m separation for building portions between 9-25m, and 18m separation for building portions over 25m). The discretionary control provides adequate access to daylight in buildings and reduces overlooking while allowing alternative design solutions and lesser separation distances when supported by sufficient design justification. It also allows the public realm in the streets and laneways to have a wider angle to the sky for the nominated building height, and greater access to sunlight.
Building setbacks from side and rear boundaries for habitable rooms	7.5 metres from the common boundary	A building setback below the street wall at side and rear boundaries supports development equity by requiring sufficient setbacks to allow daylight, sunlight and reduce overlooking to adjacent sites. The ordinance sets a preferred minimum setback from common boundaries of 7.5m throughout Macaulay. A minimum preferred setback of 7.5m ensures an overall building separation of 15m. This provides additional privacy, access to sunlight and supports the preferred character of the Macaulay precincts. The discretionary control is supported by built form outcomes that recognise that building separation may not be required where no outlooks are proposed, provided it does not compromise the reasonable development potential on adjacent sites. A discretionary control also supports site-specific responses such as supporting continuous street walls, responding to lot configuration to improve internal amenity and responding to contexts where existing dwellings on adjacent sites have not incorporated access to daylight in accordance with these building separation controls.
Between buildings on the same site	12 metres	A preferred minimum setback of 12m between buildings on the same site supports the internal amenity of sites where multiple buildings are proposed. This is in alignment with the Moreland Apartment Design Code 2015's minimum building separation distance for primary outlooks within sites for buildings up to 12m high, and for bedroom-to-bedroom outlooks within sites for buildings over 25m in height. The discretionary control allows for reduced separation distances where a proposal demonstrates alignment with the built form outcomes and sufficient design justification is provided.
Above the street wall to CityLink site setback.	3 metres	A reduced 3 metres preferred minimum setback above the street wall has been set for frontages to the CityLink linear site setback. The setback above the street wall is only required for building articulation and access to the sky, not building separation and is therefore considered appropriate at 3m.

Table 6: Building setbacks defined in the schedules to the DDO

3.8 ACTIVE FRONTAGES

The Macaulay Structure Plan

Design Recommendations

- To ensure development responds appropriately to the hierarchy of main streets (Racecourse, Boundary, and Macaulay roads), local streets and laneways in its address, activation and management of services.
- To ensure that new development delivers a safe and secure public realm through activation of ground floors and open spaces.
- To ensure the design of new development conceals servicing from the street frontage to minimise the loss of active frontage.

Public interfaces are the boundary between a building and the public realm in streets, laneways and open spaces. Public interfaces are an important element of the built environment that can impact the perceived and actual safety, activity and amenity of the public realm. Common urban design and planning practice seeks to activate building frontages to support a positive public interface. This refers to creating active visual engagement between those on the street and those on the ground and upper floors of buildings. Generally active frontages are established on the ground floor through provision of building entries, openings and windows that are transparent and open to the street. Other forms of active frontage include upper floor windows and balconies as well as the uses within the building that promote foot traffic, activity and interaction between the public and private realm. Active frontages provide informal surveillance opportunities that can improve the vitality and safety of an area.

There is increasing recognition that providing expanses of clear glazing does not inherently create an 'active frontage' or promote a positive urban design outcome, rather the use of high quality, tactile materials, retaining and establishing viewlines and site-responsive design can best contribute to ground floor activity. Furthermore, active frontages should be considered alongside other public interface conditions such as the function of the adjoining public realm, the desired character, and minimising traffic and vehicle access conflict with pedestrian areas.

The current controls for active frontages support increased passive surveillance and visual engagement between the private and public realm. However, they do not:

- apply to the Mixed Use Zone, which currently covers the majority of the structure plan area
- apply to the proposed Special Use Zone
- provide guidance on location and provision of vehicle crossovers and servicing access, resulting in potential conflict with streets and laneways performing a key pedestrian purpose, impacting the safety and amenity of the public realm
- differentiate between streets critical to the pedestrian network and streets performing a service and access function, resulting in active frontages being proposed in 'back of house' areas. This presents a risk of 'back of house' and 'rear access' functions being located on street frontages that should be prioritising pedestrian activity and public uses
- apply to existing and planned activity centres where provision of active frontages and consolidation of service access is critical to support their role as neighbourhood focal points
- consider opportunities for increased interaction and passive surveillance from upper levels

The Macaulay Structure Plan encourages active frontages throughout the precincts, along laneways, Boundary, Macaulay, and Racecourse roads, Melrose, Stubbs and Canning streets and Moonee Ponds Creek in Chelmsford precinct. To support active frontages, the structure plan seeks to consolidate vehicle crossovers and provide greater guidance on their location and appropriate servicing access for buildings.

The schedules to the DDO apply a hierarchy of public interface conditions to align the level of activity and location of vehicle crossovers at the ground floor with street function, desired character and future land use.

The schedules to the DDO incorporate a clear design objective to deliver 'a high amenity public realm with a human scaled interface' supported by street network and site layout design outcomes that reduce traffic conflict by separating pedestrian, vehicle crossover and servicing access functions.

The schedules to the DDO incorporate the public interface map and amended DDO1 controls to apply design requirements and seek design outcomes specific to each public interface condition:

- Vehicle entries and loading bays should be located on servicing and access interfaces and not on primary active or pedestrian priority interfaces.
- Primary active and pedestrian priority interfaces must provide at least 80 per cent of the combined length of ground level interfaces to streets and laneways as an entry or window.
- Permitted upper level projections into streets and laneways based on the interface condition.
- The need for continuous weather protection along primary active and pedestrian priority interfaces.

Additional requirements relating to building program and design detail support activation of the public realm across all public interface conditions within Macaulay.



Map 13: Public interface conditions proposed through Amendment C417

3.9 URBAN DESIGN

The Macaulay Structure Plan

Design Recommendations

- To maintain and enhance the valued built and social heritage characteristics of Macaulay and to ensure buildings retain their three dimensional form as viewed from the public realm to avoid 'facadism'.
- To encourage the retention of existing buildings of character (including non-heritage) and the reuse of existing materials in new developments.
- To provide for fine grain adaptable tenancies within the lower levels of buildings.
- To ensure development is adaptable to changes in future land use by requiring adequate floor to ceiling heights (above and below ground).
- To ensure that the design of services, loading and parking areas are well integrated into buildings and adopt best practice approaches to contribute to a high-quality public realm.

The vision for Macaulay includes a future where 'new development will be of high quality and deliver amenity for residents, workers and visitors'. Achieving this vision requires consideration of the design of the buildings, streets and public spaces that make up the urban fabric of Macaulay, from the neighbourhood scale down to the scale of building interfaces and design detail.

Amendment C417 adopts two distinct measures to improve design quality within Macaulay, being:

- An expectation for high quality design throughout the precincts guided by provisions within the precinct schedules to the DDO that set minimum standards for design quality.
- Promoting design excellence on strategic sites within the precincts through programs such as design review and design competitions to assess that an exceptional level of architectural and landscape architecture quality will be achieved.

High quality design

The design of a place's buildings, streets, and public spaces has a significant impact on its attractiveness to residents, businesses and visitors.

Currently, expectations around design quality are set through the Urban Design outside of the Capital City Zone Policy (Clause 22.17 of the Melbourne Planning Scheme) and the specific design outcomes expressed within interim DDO63 controls for each area.

The 2021 Macaulay Structure Plan includes Action 2, to 'improve the quality of urban design in Macaulay through the planned review of Clause 22.17 Urban Design Outside the Capital City Zone in the Melbourne Planning Scheme'. As it stands, the current policy does not provide sufficient enforceability or specific guidance to set a clear expectation for the quality of design that will achieve the vision for Macaulay. In addition, certain aspects of the policy do not align with the development context nor the desired future character for Macaulay.

Planning Scheme Amendment C308 Urban Design in Central Melbourne was endorsed by the Minister for Planning in 2021. It implements an updated urban design policy for the central city and Southbank as DDO1 Urban Design in Central Melbourne with the aim of improving the quality of urban design outcomes in private development.

The schedule sets out design requirements and outcomes across all scales of urban design, from neighbourhood to building design detail. Macaulay is not and should not be considered part of the central city; however, there are two specific reasons why parts of DDO1 are generally considered as an appropriate basis to be incorporated into the Macaulay DDOs to guide design quality:

- Much of DDO1 reflects best practice urban design applicable across a variety of urban contexts.
- Many of the DDO1 provisions offer clear guidance and an appropriate approach for Macaulay's transition to a '*mid-rise precinct with a distinct inner urban character.*'

Design excellence

Action 16 of the Structure Plan requires the achievement of design excellence to key strategic sites through either a design competition or design review panel through amendment to the Melbourne Planning Scheme.

'Design excellence' is a multi-faceted term used to describe projects that demonstrate exceptional standards of architecture, landscape architecture, and urban design. Design excellence is a concept that represents a broader aspiration to enhance the quality of the built environment, but is also introduced within the City of Melbourne Design Excellence Program as a specific planning tool or policy threshold in order to enable the realisation of best practice.

While the City can lead with its own public projects, up to 80 per cent of investment in the municipality occurs through private development. To influence a broader spectrum of development, a coordinated effort is required across government, community and the design and development industry.

In November 2019, Future Melbourne Committee endorsed the Design Excellence Program for consultation. The program comprises short, medium and long term initiatives to foster a culture of excellence in the built environment. The program is intended to be implemented through internal process improvements along with new development planning processes. Since the endorsement of the Design Excellence Program, pathways have been identified for its implementation, including integrating design excellence as a requirement in planning provisions in urban renewal areas such as Macaulay. In March 2023, The Melbourne Design Review Panel was endorsed as an ongoing program by the Future Melbourne Committee following a 12 month trial period, as part of the Design Excellence Program. This provides a pathway for design review of significant projects and strategic sites in Macaulay for assessment of design excellence.

Design excellence is implemented in Amendment C417 as a discretionary control, referred to in application requirements and decision guidelines of each of the proposed DDOs. Specifically, the DDOs seek to encourage high quality design and design excellence in the objectives of each precinct. This is supported by the requirement to include a design excellence report on key significant and strategic sites demonstrating the use of a design review panel process or a design competition that has been endorsed by Melbourne City Council, and demonstrate how any feedback provided has been adopted in the design response. The specific application requirements in Amendment C417 are:

Design Excellence report

An application for a permit on key significant and strategic sites should be accompanied by a report to demonstrate design excellence.

Significant and strategic sites are sites that are:

- *Consolidated sites and large sites over 1000 sqm.*
- *Proposed to facilitate masterplanned developments.*
- *Prominent locations including those sites that will deliver, or are adjacent to, public spaces, community uses, or major public infrastructure.*
- *On, or adjacent to, an identified heritage place or character building.*
- *On key interfaces including Moonee Ponds Creek, Boundary Road, Macaulay Road and Racecourse Road or at their intersection.*

The report should:

- *Demonstrate the use of a design review panel process or a design competition which has been endorsed by Melbourne City Council.*
- *Demonstrate how any feedback provided by a design review panel or design competition panel has been successfully responded to and adopted in the design response.*

Character buildings

Action 12 of the Structure Plan is to 'Identify character buildings and encourage their retention through amendment to local policy in the Melbourne Planning Scheme'. Character buildings have been identified in Macaulay that are not subject to a Heritage Overlay, but contribute to the urban character and visual identity of the area. The retention of character buildings ensures that buildings that reflect the existing character of Macaulay continue to contribute to a sense of place and identity within the precinct. Retention of character buildings also achieves sustainability objectives of the Structure Plan. Re-use of larger character buildings reduces embodied energy and can benefit the broader community through supporting the local economy.

The Macaulay special building assessment criteria was established by the City of Melbourne. The criteria were informed by the West Melbourne Urban Character Analysis report (Claire Scott Planning, 2017) as both areas have similar social histories that have made a significant contribution to the industrial development of Melbourne.

Identified in the relevant DDOs, Amendment C417 proposes to encourage, but not require, retention of identified character buildings, with all buildings identified as character buildings proposed to trigger a design excellence process.

Special character buildings were identified using the following criteria:

1. the building is architecturally distinct
2. the building is an older brick warehouse that demonstrates a link to the industrial history of the area
3. the building is located adjacent to a laneway, the side elevation is intact and the three dimensional form of the building can be seen from the public domain
4. the front elevation of the building contains interesting detailing and provides visual interest at street level
5. the building has large window openings, with potential for a positive interface with the public domain
6. the building has a large floorplate (above 500m²).



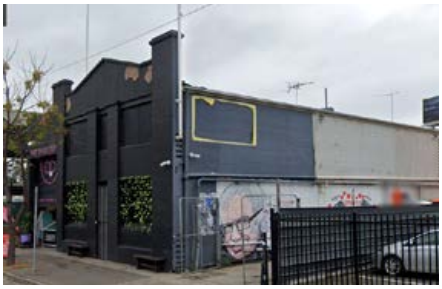
Map 14: Special character buildings identified in Macaulay

Stubbs precinct (DDO78)



1. 456 Macaulay Road, Kensington
Single storey brick factory
Site Cover: 100%
Criteria: 2, 3, 5

Boundary precinct (DDO75)



2. 288-294 Macaulay Road, North Melborune
Two storey brick warehouse
Site Cover: 99%
Criteria: 2, 4, 5, 6

Chelmsford precinct (DDO77)



3. 348 Arden Street, Kensington
Two storey brick warehouse
Site Cover: 100%
Criteria: 2, 4, 5



4. 330-344 Arden Street, Kensington
Two storey brick warehouse
Site Cover: 83%
Criteria: 2, 3, 6



5. 9-15 Bruce Street, Kensington
Two storey brick building
Site Cover: 100%
Criteria: 2, 4, 6



6. 1-7 Elizabeth Street, Kensington
Two storey brick building
Site Cover: 19%
Criteria: 1, 2, 4, 5



7. 5 Fink Street, Kensington
Single storey brick factory
Site Cover: 100%
Criteria: 1, 2, 4, 5, 6



8. 350 Arden Street, Kensington
Two storey brick factory
Site Cover: 100%
Criteria: 2, 5, 6

Image 16: Details of identified character buildings in Macaulay

3.10 PARKING

The Macaulay Structure Plan

Objective 12: Improve car parking requirements to support a less car-dependent transport system

- Action 52: Apply a maximum off-street parking rate for new development. Benchmark the rate with international best practice and the rates applied in Fishermans Bend, Arden and West Melbourne.
- Action 53: Investigate mechanism/s and locations to consolidate parking supply and avoid an oversupply of off-street parking.
- Action 54: Require the inclusion of publicly accessible car share vehicles in private developments.
- Action 55: Ensure new development provides secure and easy-to-use bicycle parking and end-of-trip facilities at a rate higher than the state-wide standard.

The Macaulay Structure Plan notes that off-street parking requirements in the planning scheme will be replaced by maximum car parking rates, and that consolidated parking solutions will be investigated. Amendment C417 supports this, proposing maximum parking rates and providing for consolidated car parking. It also specifies rates for car share, accessible spaces, electric vehicle ready spaces, bicycle parking and end-of trip facilities.

3.11 STREET NETWORK

The Macaulay Structure Plan

Objective 10: Prioritise active transport by designing streets that are safe and accessible for people walking and riding bikes

- Action 32: Minimise the number of vehicle crossovers from all streets and encourage the servicing of buildings via service laneways.
- Action 34: Discourage through-vehicle movement on the local street network.

Objective 15: Deliver high-quality new streets on larger land holdings to enhance the permeability of the transport network and support a high-quality public realm.

- Action 68: Deliver a network of new links, laneways and streets on larger land holdings through an amendment to the Melbourne Planning Scheme and in consultation with developers.

The street network is a foundational element of a city's structure. It comprises the location, orientation and hierarchy of streets and laneways. It influences the character and legibility of a place and informs where and how people move and connect. The vision for Macaulay includes the prioritisation of sustainable modes of travel including walking and cycling and greening of streets that, along with new and improved open spaces, form a network of local places.

The Structure Plan incorporates objectives and actions related to achieving targets set out in Council's strategies including:

- The Urban Forest Strategy, which includes the targets to increase public realm canopy coverage to 40 percent by 2040, and to protect and enhance urban ecology and biodiversity.
- The Transport Strategy 2030, which includes targets to increase public transport, walking and cycling mode share to 70 per cent of all trips, and increase the proportion of women cycling to 40 percent by 2030.
- The Arden and Macaulay Precinct - Integrated Water Management Strategy, 2020, which identifies opportunities for 'blue streets' (primarily for flood storage) and recommends that new streets be 'blue-green streets' (primarily for flood conveyance).

Amendment C417 presents a future street network for Macaulay comprising new and widened streets, laneways and arcades (refer to map 7). The network of the new and widened streets, laneways and arcades shown are streets that are necessary to fulfil the objectives, actions and principles of the 2021 Structure Plan. Developers may propose any additional public streets and laneways, and publicly-accessible arcades and through-block links that aid development and urban design outcomes.

The future street network is generally consistent with that shown in the Structure Plan, however, minor refinements have been made based on the review and testing undertaken. Amendment C417 proposes the following controls to guide the design and delivery of a street network with improved functionality, amenity and connectivity:

- Schedule 8 to the SUZ seeks to ensure subdivisions implement the proposed new and widened streets, and buildings and works implement the appropriate cross-section design of the new and widened streets.
- The proposed DDO75 (Boundary) and DDO78 (Stubbs) mandate the delivery of the new streets, laneways and arcades in accordance with the included map and set out requirements for their design and delivery. The DDOs require that new streets and laneways are vested into public ownership, to deliver a street network that is preserved into perpetuity as genuine public realm and that enables council to achieve its blue-green infrastructure targets.
- An incorporated document provides a plan, table and cross-sections describing the alignment, width and typology required of new and widened streets, laneways and arcades in the Stubbs and Boundary precincts.

APPENDIX: MINISTER'S LETTER

On 26 September 2017, the Minister for Planning approved Part 1 of Planning Scheme Amendment C190 with changes. This included placing a two-year expiry date until 30 September 2019 (extended to 30 September 2024) over the amendment area and amended built form requirements.

The following extract from the Minister's letter approving the amendment identified a number of improvements which could be made to the built form provisions:

- provision of affordable housing, in line with the policy within the Arden-Macaulay Structure Plan 2012 and the Victorian Government's Homes for Victorians
- housing and employment growth necessary to support the government's significant investment in public transport infrastructure and opportunities achieved through site consolidation and master planning
- better management of density through development of a Floor Area Ratio control, and potential to maximise development outcomes in exchange for public benefit through a Floor Area Uplift and public benefits schedule
- greater clarity on how preferred heights may be exceeded and maximum heights achieved
- better integration with the Victoria Planning Authority's Arden Structure Planning work
- better expression of side, rear and upper level setbacks and the effect of development on the public realm
- greater guidance for the City Link, railway line and Moonee Ponds Creek interface
- viability of development necessary to fund development contribution infrastructure requirements
- potential Melbourne Water flooding requirements
- greater clarity on the most appropriate location for a school site
- improved structure to meet requirements of the Ministerial Direction on the Form and Content of Planning Schemes.