

S75W Modification Application Concept Plan MP10_0198

6-30 Artarmon Road, Willoughby Modifications to approved master plan

Submitted to NSW Department of Planning & Environment
On Behalf of Lotus Property Fund No.8 and Euro Properties (LEPC9)



July 2016 ■ 15709

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This report has been prepared by:



Michael Oliver

14/07/2016

This report has been reviewed by:



Clare Swan

14/07/2016

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CHROFI and McGregor Coxall

Executive Summary

Background

The Channel 9 Campus at 6-30 Artarmon Road, Willoughby (the Site) was the subject of a Part 3A Concept Plan Approval (MP10_0198) (Concept Plan Approval) that was approved by the Planning Assessment Commission on 23 December 2014. The Concept Plan Approval provides for the residential redevelopment of the Site for up to 400 residential dwellings with small-scale non-residential uses to support the new population.

The original application and assessment involved a protracted process of options and revisions to the final development proposal in response to community and Council concerns, including through mediation before the Land and Environment Court, resulting in a design outcome in the approved master plan that is reflective of a series of compromises that did not provide optimal design or open space outcomes for the Site.

Euro Properties and Lotus Property Fund No.8 (LEPC9) agreed to purchase the Site from Nine in late-2015. With a strong understanding of the issues raised during the original assessment process, but also of the shortcomings of the approved master plan resulting from the compromising nature of this process, LEPC9 engaged five of Australia's leading architectural and urban design firms to participate in a design excellence competition to identify the best possible urban design outcome for the Site.

The outcome of the design competition conducted by LEPC9 was the unanimous selection of a new master plan proposed by CHROFI the winner of the competition. The competition jury agreed that the CHROFI scheme offered a substantial improvement to the approved scheme in terms of the design, planning, development and community outcomes delivered, and should be pursued.

Proposed Modifications

In summary, this Modification Application seeks to modify the Concept Plan Approval as follows:

- Replace the approved residential master plan with the revised CHROFI master plan for 510 dwellings across eight residential flat buildings ranging in height from 4 to 9 storeys, two buildings being up to 11 and 12 storeys and small-scale local commercial uses such as cafes;
- Amend the configuration and layout of public open space within the Site, resulting in a 28% increase in area, improved connectivity and additional potential for deep soil planting;
- Include a new public benefit offer that provides \$3 million towards the upgrade of the Willoughby Road/ Artarmon Road/ Small Street intersection and \$1 million contribution toward bushland regeneration and access upgrades to Walter Street Reserve; and
- Provide a simpler internal road network, providing for on-street visitor parking within a new loop road and a new roundabout access point to Artarmon Rd;
- Allow for small-scale non-residential uses such as local retail, office, community or child-care uses to cater to demand generated predominately by the new residential population of the Site.

The revised master plan is illustrated in the following figure and described in further detail in this report and the CHROFI Master Plan Design Statement.



Revised CHROFI Master Plan (numbers indicate height in storeys)

Statutory Context

The Concept Plan for the Site was approved under Part 3A of the *Environmental Planning and Assessment Act 1979* (EP&A Act) with delegation from the (then) Minister for Planning. Part 3A of the EP&A Act was repealed in October 2011, however, transitional provisions were enacted that provide for continuity in the assessment of Part 3A projects, including for modifications under s75W, pursuant to relevant provisions of Schedule 6A of the EP&A Act.

The modification of an owner-occupier obtained Concept Plan by an incoming developer is a normal process which has some precedent in NSW. Master plans for major urban development projects such as Central Park (former Carlton United Breweries site), the Channel 7 Site (Epping), Putney Hill (Royal Rehabilitation Centre site) and Clemton Park (former Sunbeam factory) all evolved significantly following the purchase of these sites by residential developers. In each case, the amended master plan resulted in a significantly superior design, development, planning and community outcomes compared to the original plan based on the knowledge and insight of the incoming residential developer in delivering residential dwellings.

Recognising that complex urban development projects do change as time progresses, urban conditions change and new parties become involved, Section 75W of the EP&A Act permits a versatile approach in the modification of approvals under Part 3A that facilitates the proposed modification to the master plan for the Site.

The project, as it is proposed to be modified, continues to be for the residential redevelopment of the Site with some small-scale non-residential uses. Notwithstanding the increase in the number of dwellings and maximum height of buildings proposed, the project does not give rise to any new environmental assessment issues, results in a number of improvements to the key measures considered during the original planning assessment, and as such this modification is well within the scope of s75W of the EP&A Act. Furthermore, the modification application will be subject to a process of environmental assessment, community input and independent determination that is similar to the original Concept Plan application.

This modification application relates to the Concept Plan Approval only, and further Development Applications will provide information and assessment for detailed design and construction of individual buildings, site infrastructure and public open space. The Proponent will be required to submit the Development Applications to Willoughby City Council (Council) for assessment and determination under Part 4 of the EP&A Act prior to any physical works being commenced on Site.

Strategic Context

Since the declaration of the project as a potential Part 3A Concept Plan in 2010, the strategic planning and urban development framework in Sydney has changed significantly. This includes:

- Release of *A Plan for Growing Sydney*, providing additional emphasis on the need to increase housing supply, promote urban renewal close to major centres and improve open space connectivity;
- Publication of revised population and housing projections for Willoughby by the NSW Department of Planning and Environment, which indicate that annual dwelling production within the LGA needs to be 59% higher than previously planned for in the Draft Inner North Subregional Strategy;
- Progression of the NSW Long Term Transport Masterplan with commencement of construction on the Metro Northwest and CBD Light Rail, and

commencement of planning for the Metro CBD, which will reduce bus traffic on the Gore Hill Freeway and within the Sydney CBD, increasing capacity for buses from other suburban areas such as Willoughby;

- Significant capital allocations in the NSW State Budgets toward the development of additional public school capacity within the Lower North Shore; and
- Increased development activity, market uptake and community acceptance of residential apartment living within the Lower North Shore and broader Sydney region.

As a result of these strategic shifts, there is an increased capacity for the Site to contribute to the achievement of housing targets, provide for higher quality urban density and better integration into the existing community and offer additional community benefits.

Environmental Assessment

The proposed modifications to the approved Concept Plan have been developed with the objective of ensuring that the amendments result in a reduction in impacts from the approved master plan. To this effect, the amendments would deliver a net reduction in overshadowing of surrounding properties, a reduced visual impact, a better transition to the surrounding neighbourhood, more and higher quality open space and a reduction in the approved impacts on the local traffic network. Key assessment issues are summarised below:

Built Form

The CHROFI master plan provides a skilful and sensitive response to the unique opportunities and context of the Site. The revised master plan creates a highly articulated and low-scale street edge that creates an appropriate transition to surrounding low density areas, whilst sensitively positioning taller elements deep within the centre of the Site where they have less environmental impact than the shorter, bulkier approved building envelopes. Maximum building envelopes throughout the site are heavily sculpted to ensure that suitable transitions and setbacks provide privacy, sunlight and amenity to surrounding residences and to the future occupants of the development.

The Visual Impact Assessment undertaken for this modification application demonstrates that whilst the CHROFI master plan includes a small number of taller building elements, the provision of clear view corridors and sensitive placement of these taller elements will ensure that the visual impacts of the proposed development from surrounding areas in Willoughby, Artarmon, Northbridge and Naremburn are less than the approved Concept Plan. The composition of proposed taller buildings within the Site make a positive contribution towards the expression of the urban design, creating a 'hill topping' effect that reflects the contours of the landform and the graduated pattern of development in the immediate vicinity of the Site.

The amended master plan provides for a net reduction in overshadowing impacts in comparison to the approved Concept Plan, despite the increase in building height, through the skilful positioning of buildings and the use of more slender tower forms. These design measures ensure that all neighbouring residences on Walter Street achieve compliance with the applicable solar access provisions of the Willoughby Development Control Plan 2012, except where neighbouring dwellings do not comply due to existing topographical conditions. In the Castle Vale residential complex to the east, all affected residential flat buildings comply with the design criteria of the Apartment Design Guide and there is a net improvement in solar access compliance.

Landscape and Public Open Space

The proposed modification will increase the area of publicly accessible open space by 28% compared to the current approval, and significantly enhance the useability, safety and connectivity of this space to create a genuinely useable public open space network. Each of the public open spaces within the amended scheme will be connected and easily accessible to the public, in comparison to the approved scheme which lacks continuity and clear demarcation of public and private spaces. The amended open space network will provide a range of high-quality active and passive recreational opportunities, including a new childrens' playground. The proposed open space network will provide a new connection for the existing community into the corridor of public open space along Flat Rock Creek, and an additional contribution of \$1 million toward the upgrade of Walter Street Reserve will revitalise a poor-quality and underutilised public reserve.

Traffic

The proposed modification includes a number of significant improvements to the approved Concept Plan traffic arrangements, including:

- Voluntary \$3 million contribution to the planned upgrade mooted in Council plans for the intersection of Willoughby Road, Artarmon Road and Small Street;
- Rationalising the internal road network, creating a new loop road that is legible and consistent with the local street pattern, is public in character and provides parking for visitors to the Site;
- Simplifying site ingress/egress points, including halving the number of driveways to Artarmon Road, to create safer conditions for local traffic.

At the Willoughby Road intersection, the proposed modification would result in the following changes from the current approval:

- 2 second reduction in delays during weekday AM peak;
- 2 second reduction in delays during weekday PM peak; and
- 0.5 second increase in delays during Saturday peak.

Notwithstanding the increase in proposed dwellings, the upgrade of the critical Willoughby Road intersection supported by this modification would result in an *improvement to both the existing and approved performance* of this intersection during weekday peak periods, with only a minor (2 second) projected increase in Saturday delays that is largely attributable to the existing Concept Plan Approval.

Importantly, the upgrade to the Willoughby Road intersection is not required under the existing Concept Approval. The substantial cost of this upgrade is a significant public benefit provided by the proposed modifications to the Concept Plan Approval that will deliver benefits to the broader community.

Other Matters

This planning report includes a detailed assessment of all relevant planning matters for consideration as part of the Concept Plan modification, and includes appropriate amendments to conditions to ensure that environmental issues associated with future development in accordance with the Concept Plan is appropriately managed.

Conclusion

In comparison to the approved Concept Plan, the amended CHROFI master plan represents an improvement in all key planning and design measures. The amended master plan would deliver a substantially larger and better connected open space, improved traffic conditions, reduced visual impact and overshadowing and a higher quality urban design outcome in comparison to the current Concept Plan Approval. The modification seeks to increase the number of dwellings and the

height of a small number of buildings in comparison to the existing approval. These increases are a necessary component of the revised master plan, which includes significant additional public benefits compared to the approved plan, and the technical assessment of the CHROFI master plan demonstrates that these benefits outweigh the perceived impacts of this additional density for the local community and the State. On merit, the proposed CHROFI master plan offers a significant improvement in comparison to the current approval and should therefore be supported.

1.0 Introduction

This Modification Application is submitted to the NSW Department of Planning and Environment in relation to the Part 3A Concept Plan (MP10_0198) Approval (Concept Plan Approval) for 6-30 Artarmon Road, Willoughby in accordance with section 75W and Clause 3C of Schedule 6 of the *Environmental Planning and Assessment Act 1979* (EP&A Act).

The Site was purchased by LEPC9 Pty Ltd (the Proponent), a joint venture of Euro Properties and Lotus Property Fund, from Nine Network Australia (Nine) in August 2015. Since this time, the Proponent has undertaken an architectural and urban design competition to identify the highest quality residential development outcome for the Site, and is consequently seeking to modify the Concept Plan Approval.

In brief, this application seeks to amend the Concept Plan Approval by replacing the currently approved master plan with a new master plan prepared by the winner of the Proponent's architectural and urban design competition, CHROFI. Key changes resulting from the new master plan, which are further described at **Section 5.0**, comprise:

- Revised master plan identifying new building envelopes, public and communal open space,
- Revised internal road layout, revised Site access arrangements,
- New public benefit offer, including a funding proposal for the upgrade of the Willoughby Road/ Artarmon Road/ Small Street intersection and bushland regeneration and access upgrades to the Walter Street Reserve.

This report has been prepared by JBA on behalf of the Proponent. The report describes the proposed modifications; outlines the purpose of the modifications; and provides a detailed assessment of the potential environmental impacts. This report should be read in conjunction with the Urban Design Report prepared by CHROFI (under separate cover) and the other appended documentation.

1.1 Project Team

The Proponent has assembled an expert consultant and design team to deliver the master plan for the project, as outlined below.

Specialisation	Consultant
Development Management	Platform Project Services
Executive Architect	Andrew Andersons AO
Urban Design and Architecture	CHROFI
Urban Planning	JBA
Communications and Stakeholder Engagement	JBA
Landscape Architecture	McGregor Coxall
Traffic and Transport Engineering	GTA Consultants
Heritage	Godden Mackay Logan
EMF	Kordia Solutions
Arborist	Redgum Horticultural
Wind Assessment	Windtech

2.0 The Site

2.1 Site Location and Context

The Site is located at 6-30 Artarmon Road, Willoughby, within the Willoughby Local Government Area (LGA).

The Site is occupied by the existing television production facilities and offices for Channel 9. Scott Street, which is included within the Site, is a local road owned by Council that only provides access to the land occupied by Nine and has a Site area of 1,005m². An agreement between Nine and Council for the purchase of this road by Nine has been novated to LEPC9. As such the overall Site which is the subject of the existing Concept Plan Approval has a total area of 30,644m².

An aerial photo of the Site and its surrounds is shown at **Figure 1**.



Figure 1 – Aerial photo of the Site

2.2 Land Ownership and Legal Description

The Site is comprised of a number of lots which are legally described as:

- Lot 1 DP 820327;
- Lot 1 DP 327266;
- Lot 10 DP1162507 (formerly part Lot 1 DP 748215);
- Lot 12 DP 1162507 (formerly part Lot 1 DP 748215);
- Lot 13 DP 6849; and
- Scott Street.

3.0 Background to Modification Application

3.1 Concept Plan Approval

The redevelopment of the Site was declared to be a project to which Part 3A of EP&A Act applies on 19 November 2010. Nine submitted an Environmental Assessment Report in November 2012, which was publicly exhibited and assessed during 2013.

Nine's original Concept Plan application was exhibited between February and April 2013 and provided for:

- 600 apartments and townhouses;
- Building heights up to 18 storeys;
- 59,117m² of gross floor area (2.04:1 FSR); and
- 3,250m² of public open space.

Over the course of the assessment process, Nine put forward a number of alternate options for the redevelopment of the Site, and the design and development parameters were revised a number of times in response to the Department's assessment and issues raised by Council and community stakeholders. A revised proposal was submitted in October 2013 which provided for:

- 450 apartments and townhouses;
- Building heights up to 14 storeys;
- 47,840m² of gross floor area (1.6:1 FSR); and
- 4,410m² of public open space.

The Department of Planning and Environment undertook its final assessment of this scheme, and produced its Assessment Report in January 2014. The Department's assessment recommended that the project be approved, subject to a reduction in the maximum building height of the tallest building to 12 storeys but retaining 450 dwellings. The Department's assessment had the benefit of independent traffic advice provided by Arup.

In determining the Concept Plan application, the NSW Planning Assessment Commission (PAC) had regard to an alternate set of development parameters put forward by Council that essentially comprised a pared-back version of Nine's proposal, with building envelopes deleted or lowered to a maximum of eight storeys.

On 5 March 2014, the PAC granted conditional approval for Nine's Concept Plan Application subject to:

- A cap of 350 dwellings;
- Maximum building height of eight storeys; and
- 39,550m² of gross floor area (1.29 FSR).

Nine appealed the PAC's determination to the NSW Land and Environment Court under s75Q(2) of the EP&A Act. Prior to a hearing, mediation between the PAC, Council and Nine resulted in an agreement between the parties to allow an increase in the approved number of dwellings and a range of additional

amendments to the approved plans. The outcomes of the mediated agreement were formalised by the Land and Environment Court on 22 December 2014 in its decision to uphold appeal proceedings No. 10362 of 2014. This approval enables:

The use of the site for a residential development with small-scale non-residential uses, incorporating:

- *building envelopes for five residential flat buildings above basement level parking and two rows of terrace houses incorporating;*
 - *up to 400 dwellings and*
 - *up to 500m² floor space of non-residential uses to support the development;*
- *retention and adaptive reuse of No 6 Artarmon Road for retail/commercial purposes;*
- *new internal roadways and other infrastructure works to support the development;*
- *publicly accessible open space and through Site link;*
- *temporary exhibition homes and/or exhibition villages; and*
- *superlot subdivision.*

Under the terms of the Concept Plan Approval, the gross floor area is limited to 37,136m² (1.2:1).

A copy of the final Instrument of Approval and Approved Plans is provided at **Appendix A**, with **Figure 2** below illustrating the approved building envelopes. **Figure 3** presents a graphical representation of the series of amendments made to the approved Concept Plan throughout the original planning assessment process.

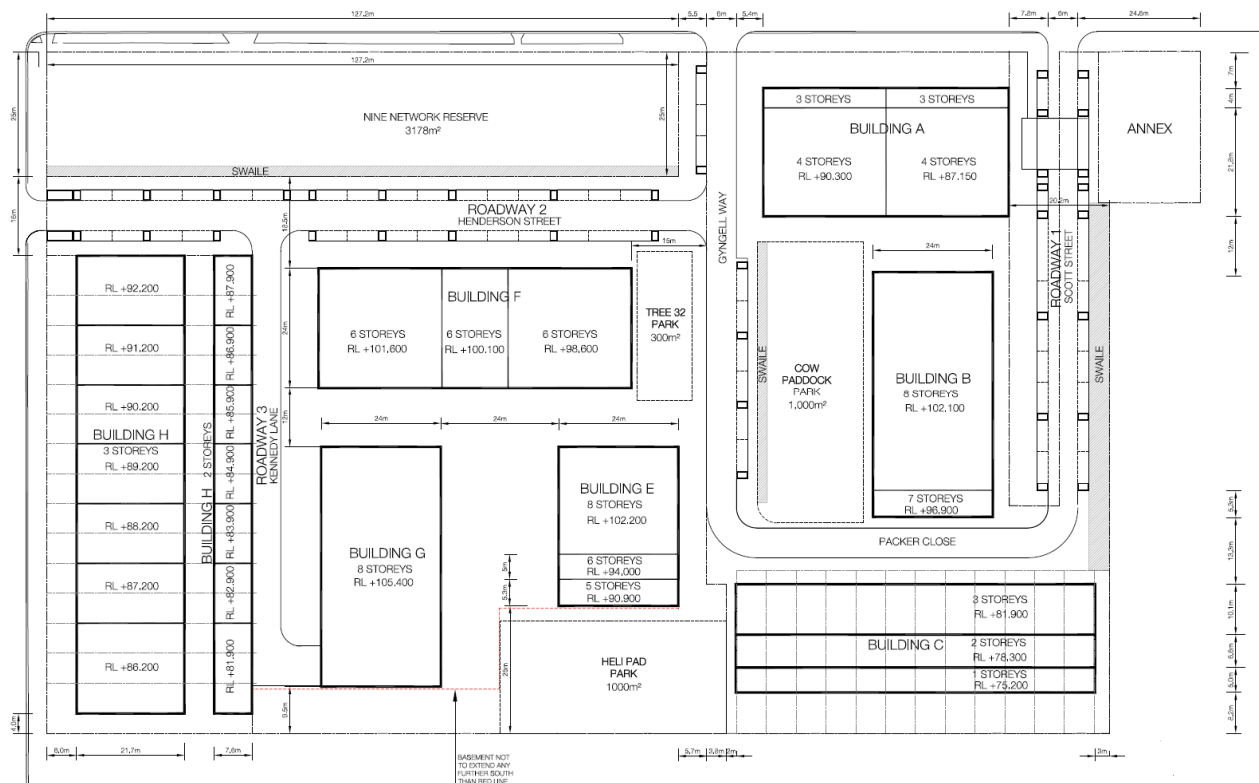


Figure 2 – Approved location and extent of building envelopes on the Site
Source: Concept Plan Approval MP10_0198

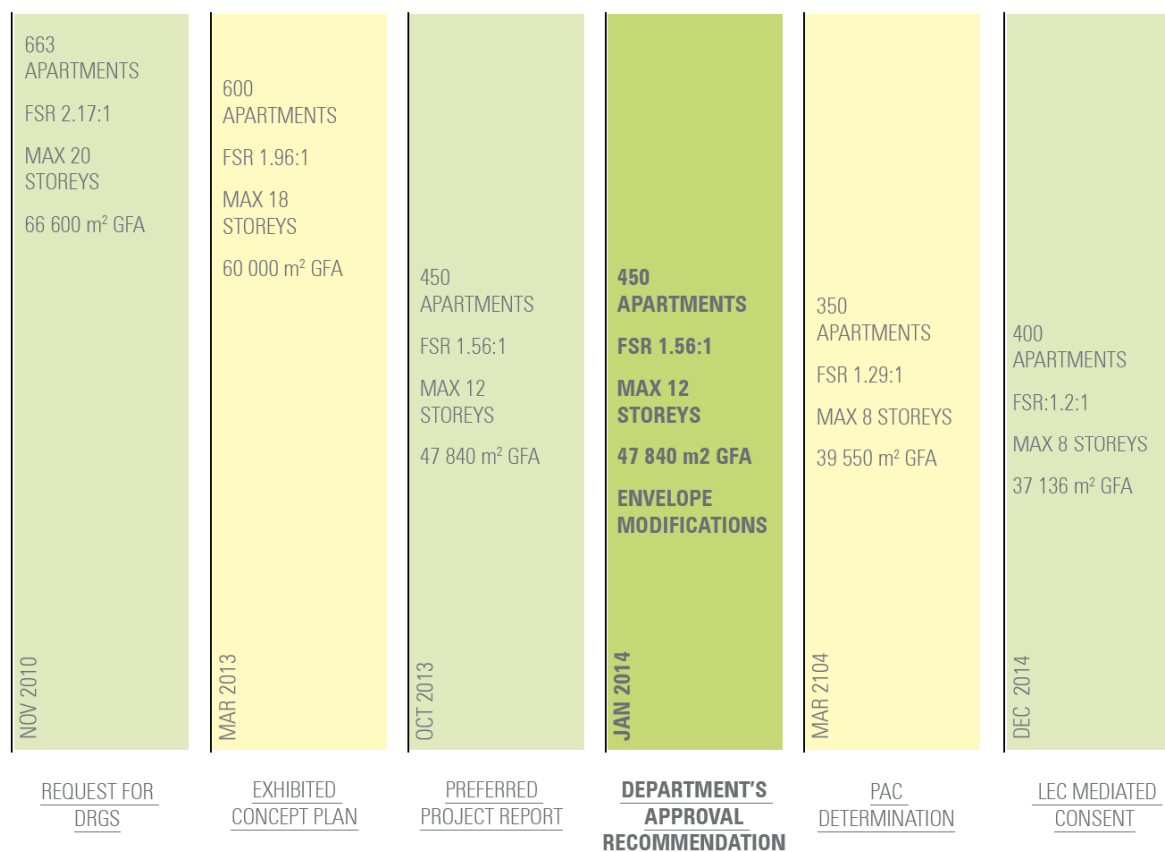


Figure 3 – Diagrammatic progression of the original Concept Plan assessment
Source: JBA and CHROFI

3.2 Sale of Site

Nine entered into an agreement to sell the Site to LEPC9 Pty Ltd in August 2015. Under the contract of sale, Nine will occupy the Site until 2020 (or earlier at Nine's election) on a sale and lease-back arrangement with LEPC9 until Nine transitions to other premises.

LEPC9 is a partnership between Australian property fund Lotus Property Fund No.8 and Hong Kong-based fund managers Euro Properties, who have delivered residential projects in Australia, North America, Hong Kong, Singapore and China.

3.3 Design Review and Competition

Upon purchasing the Site from Nine, LEPC9 engaged pre-eminent Sydney architect Andrew Andersons AO to review the approved master plan and make recommendations regarding the further development and delivery of the site from an urban design and architectural perspective. Mr Anderson's finding was that the approved master plan outcome reflected the long process of hard fought compromises and reactions during the original assessment process, resulting in sub-optimal outcomes for both the existing local community and the future residents of the Site. It was deemed that an improved outcome could be achieved on such a rare and important landholding in relatively close proximity to the Sydney CBD and local amenity.

Whilst Council does not have a formal policy or requirement for design excellence or architectural design competitions, Mr Andersons and LEPC9 determined that it would be appropriate to establish an architectural design competition to identify the best possible urban design solution for the Site. Proponent-instigated design

competitions have been conducted for a number of urban redevelopment projects *after* the initial master plan approval, including for Frasers Broadway (former Carlton United Breweries site) and Putney Hill (Royal Rehabilitation Centre Sydney), leading to superior urban design outcomes when compared to the original approvals.

A design competition was convened in late-2015 with five award-winning architectural firms – CHROFI, FJMT, SJB, BVN and Cox Richardson – engaged by LEPC9 to participate in the competition. The design competition was generally conducted in accordance with the NSW Department of Planning and Environment's *Director General's Design Excellence Guidelines*, and sought to achieve the best development outcome for the Site on a range of urban design, amenity and development criteria. All competitors were fully briefed on the Site's context and the issues and challenges identified during the exhibition and assessment of the original Concept Plan, and were provided with copies of documents including:

- Council's submissions on the original Concept Plan;
- Department of Planning and Environment's planning assessment report for the original Concept Plan;
- PAC Determination Report for the original and LEC mediated Concept Plan;
- Copies of all public and stakeholder submissions in response to the original Concept Plan; and
- All specialist studies prepared for the assessment of the original Concept Plan and modified versions.

The design competition produced a range of high quality potential outcomes for the Site, with the CHROFI scheme being selected by an appointed jury of design, planning and property experts (chaired by Andrew Andersons AO) as the scheme that delivered the best urban design and development outcome for the Site. A copy of Mr Anderson's qualifications, a summary of the alternative schemes presented by each of the other competitors and a summary of the jury assessment is provided at **Appendix C**.

Following CHROFI's selection as the winner of the competition, the master plan was developed further to reflect further design development and feedback from key community and planning stakeholders.

4.0 Community and Stakeholder Consultation

4.1 Previous Consultation

The Environmental Assessment Report for the Concept Plan Approval was publicly exhibited by the NSW Department of Planning and Infrastructure online and at three physical locations for an extended period of two months between 3 April 2013 and 17 May 2013. During this period a total of 296 public submissions and one petition were made regarding the project by the general public and nine submissions by public agencies. A further 136 public submissions and three public agency submissions were provided to the Department following the submission of a Preferred Project Report (amended proposal) by Nine in October 2013.

Figure 4 and **Table 1** below provide a summary of the most prominent issues raised during the exhibition of the original Concept Plan application. A more detailed analysis of these submissions is contained in Section 3.0 and 4.0 Of the Response to Submissions and Preferred Project Report (JBA, October 2013).

The extensive documented feedback from the community arising from the original Concept Plan application has informed the approach of LEPC9 and the project team to the revised master plan from the outset. Extensive information was provided to each of the competitors in the architectural design competition, and CHROFI scheme was selected as the winner in large part due to its well-considered response to the key site-specific issues raised by the community and agencies during the previous assessment process.

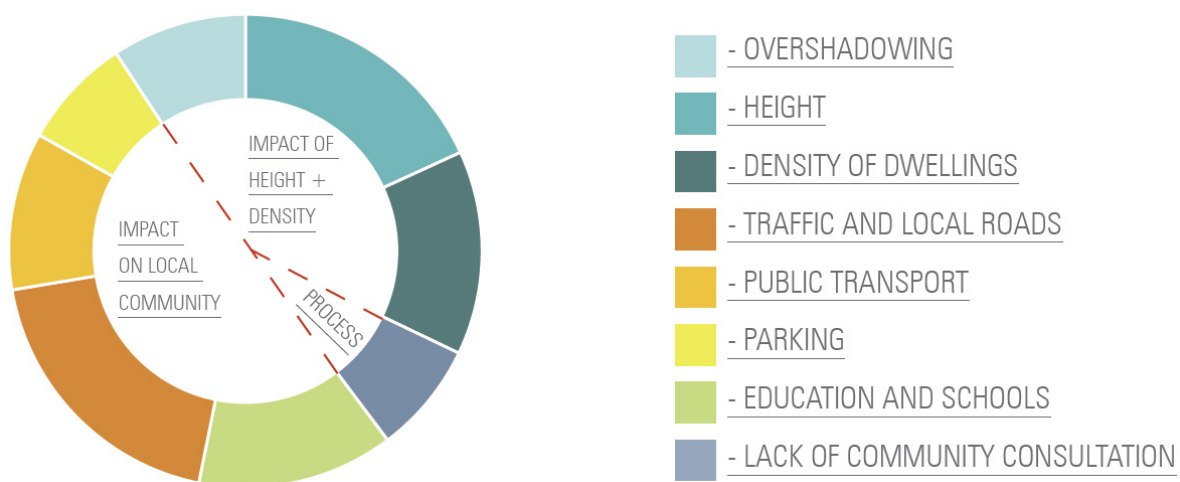


Figure 4 – Simplified summary of community issues during original Concept Plan exhibition
Source: CHROFI

Table 1 – Summary of issues raised in public submissions for original Concept Plan application

Issue Category	Number of Submissions Issue Raised In	Percentage of Total Submissions Raising Issue
Traffic and Local Roads	215	73%
Height	202	69%
Density of Dwellings	158	53%
Education and Schools	150	51%
Public Transport	120	41%
Overshadowing	103	35%
Community Consultation	86	29%
Parking	86	29%
Process Related	75	25%
Non-Residential Land Uses	73	25%
Electromagnetic Radiation	64	22%
Infrastructure Capacity	53	18%
Masterplan for Surrounding Area	45	15%
TXA Tower	13	4%

A full description of each issue category is provided in the 2013 Preferred Project Report available on the Department's website.

4.2 Pre-Submission Consultation

Prior to the submission of this S75W Modification Application, LEPC9 has undertaken a number of activities in order to engage with key stakeholders within the community and relevant government stakeholders as required under the project SEARs:

- Meetings with planning officers at the NSW Department of Planning and Environment and Willoughby City Council.
- Targeted stakeholder meetings with key local community organisations:
 - Willoughby Area Action Group
 - Willoughby South Progress Association
 - Artarmon Progress Association.
- Letterbox drop to 2,600 households within the Site's surrounds and a newspaper advertisement placed in the North Shore Times newspaper informing residents of the information sessions and website described below.
- Two public information evenings held in Willoughby in May 2016 to provide opportunities for members of the local community to discuss the proposed modifications with members of the project team during the master planning process.
- Establishment of a project website – www.parksidewilloughby.com – to disseminate information regarding the proposal and provide an additional avenue for community feedback into the master planning process.
- Establishment of an 1800 project phone line and dedicated email address to receive and respond to community queries regarding the project.

A full description of the stakeholder engagement process is provided in the Stakeholder and Community Engagement Summary Report (**Appendix D**). In addition to the proponent's stakeholder and community engagement process, key government stakeholders were provided with the opportunity to review and provide input into the Secretary's Environmental Assessment Requirements for the

project by the NSW Department of Planning & Environment. This resulted in Council, Transport for NSW, Roads and Maritime Services, Office of Environment and Heritage, Sydney Water and the Heritage Council of NSW all providing formal feedback to the Department.

The key community and stakeholder feedback received during the May 2016 program of engagement can be summarised as follows:

- High level of support for the design amendments to the master plan, including the revised layout of the internal road and building footprints, including key view corridors;
- High level of support for the revised public open space layout and increase in the overall area and connectivity of these spaces;
- High level of support for the expression of the urban design and architectural intent, including for the design excellence process;
- Support for the proposed café offerings and children's playground on the Site;
- General support for the proposed built form treatment to street interfaces along Artarmon Road and Richmond Avenue;
- Desire for further information regarding the impact of the revised master plan on overshadowing of properties in Walter Street and Castle Vale;
- Desire for further information regarding potential connections through Walter Street Reserve for cyclists and pedestrians;
- Desire for further information regarding the projected traffic generation from the amended development, and impact on key local roads, intersections and site access points;
- Moderate to strong support for the upgrades to the Willoughby Road intersection.
- Moderate to strong opposition to the building elements above eight storeys in height;
- Strong opposition to the proposal to increase to 510 dwellings;
- Strong concern about incoming population and ability for services and schools to accommodate that population; and
- Strong concern regarding potential traffic impacts from additional dwellings.

Following the public community consultation, and prior to submission of this modification application to the Department of Planning and Environment, the Proponent and the project team met with Council and representatives of the Willoughby Area Action Group, Willoughby South Progress Association, Artarmon Progress Association and Naremburn Progress Association. The purpose of these meetings was to inform these stakeholders of the key findings of the further technical assessments and the amendments to the master plan resulting from the initial stakeholder engagement phase.

4.3 Post-Submission Engagement

This S75W Modification Application and supporting studies will be placed on public exhibition, providing a formal opportunity for the community, public agencies and other interested stakeholders to provide feedback on the revised master plan. This feedback will be considered during the formal assessment of the modification application. If the S75W Modification Application is referred to the NSW Planning Assessment Commission (PAC) for determination, the PAC will also engage with relevant community and government stakeholders prior to making their determination.

5.0 Description of Proposed Modification Application

The Proponent is seeking approval under Section 75W of Part 3A of the EP&A Act to modify the Concept Plan Approval (MP10_0198). The scope of the modification application is addressed in detail in the following sub-sections. In summary, the proposed modification essentially seeks to:

- Replace the approved residential master plan with the revised CHROFI master plan for 510 dwellings across eight residential flat buildings ranging in height from 4 to 9 storeys, two buildings being up to 11 and 12 storeys and small-scale local commercial uses such as cafes;
- Amend the configuration and layout of public open space within the Site, resulting in a 28% increase in area, improved connectivity and additional potential for deep soil planting;
- Include a new public benefit offer that provides \$3 million towards the upgrade of the Willoughby Road/ Artarmon Road/ Small Street intersection and \$1 million contribution toward bushland regeneration and access upgrades to Walter Street Reserve; and
- Provide a simpler internal road network, providing for on-street visitor parking within a new loop road and a new roundabout access point to Artarmon Rd;
- Allow for small-scale non-residential uses such as local retail, office, community or child-care uses to cater to demand generated predominately by the new residential population of the Site.

The CHROFI master plan is detailed in full in their Urban Design and Master Plan report, which accompanies this submission under separate cover. Key Concept Plan parameters which are proposed to be modified are described in the following chapter. An extract of the masterplan is provided in **Figure 5**, and a summary of key changes to the development parameters is provided in **Table 2** below. Illustrative photomontages are located at **Figures 6** and **7**.

The proposed changes will necessitate a number of modifications to the current terms in the Instrument of Approval. The changes necessitated by the proposed modification are set out in **Appendix E**.

Table 2 – Summary of key changes

Measure	Approved	Proposed	Change
Apartments	400	510	+110
Floor Space Ratio	1.2:1	1.5:1	+0.3:1
Non-Residential GFA	500m ² + The Loft Building	500m ² + The Loft Building	No change
Building Volume (above existing ground)	161,671m ³	156,287m ³	-5,384m ³ Reduced by 3%
Maximum building height	8 storeys (RL 105.4 plus plant)	12 storeys (RL 115.0 plus plant)	Three buildings above current approval at 9, 11 and 12 storeys
Public Open Space	5,478m ²	7,017m ²	+1,539m ² (28% increase)
Communal Open Space	8,329m ²	8,351m ²	+22m ²
Vehicular access points	2 x Artarmon Road 1 x Richmond Ave	1 x Artarmon Road 1 x Richmond Ave	1 less driveway to Artarmon Road
Parking rates	1 & 2 Bed – 1 space 3 Bed – 1.25 spaces Visitor – 1 per 4 dwellings	1 & 2 Bed – 1 space 3 Bed – 1.25 spaces Visitor – 1 per 4 dwellings	No change
Development Contributions	As per Council's S94A Plan.	As per Council's S94A Plan.	No change
Affordable Housing	16 apartments (4%)	20 apartments (4%)	+ 4 apartments
Planning Agreement	Not applicable/not required.	\$4 millions	+\$4 million



Figure 5 – Proposed Master Plan
Source: CHROFI



Figure 6 – Indicative photomontage from Artarmon Road looking south
Source: CHROFI and Ivolve



Figure 7 – Indicative photomontage from Naremburn looking north
Source: CHROFI and Ivolve

5.1 Urban Design and Built Form

The following sections outline the key urban design and built form parameters, and should be read in conjunction with the CHROFI Masterplan and Urban Design Report (under separate cover).

5.1.1 Building Envelopes

The amended master plan provides for ten residential building envelopes (plus The Loft) ranging in height between 4 and 12 storeys, as illustrated in **Figure 5. Table 3** below summarises the proposed building height in storeys and the maximum levels of each building.

Building envelopes provided in Drawings 1.19 to 1.21 of the CHROFI Master Plan Report (Appendix A) are maximum envelopes which set the horizontal and vertical parameters for future buildings and not the final detailed building envelopes. These are the maximum envelopes for which approval is sought, and all building articulation, balconies and the like will be required to be within this envelope and will be subject to further assessment as part of future DAs.

In addition to the maximum building envelopes for which approval is sought, CHROFI has prepared a reference design that adds detail of the architectural intent and indicative design of each building within the Site. Whilst final buildings will differ from the reference design as the buildings are refined and delivered in accordance with the design excellence process and assessment of individual Development Applications by Council (**Section 5.7**), this reference design provides a clearer expression of the final form of the development and allows for a more accurate and comprehensive environmental assessment of the development.

The proposed building envelopes present a strategy that seeks to ensure an appropriate interface between the

- Low-scale buildings to the Artarmon Road and Richmond Avenue street edges to provide a fine-grain and low-scale transition to surrounding residential areas;
- A central core of north-south oriented mid-rise buildings that are generally shielded by the perimeter buildings and minimise their visual impact through orientation; and
- Three taller elements located centrally within the site, with smaller floorplates to minimise visual impacts and overshadowing.

Figure 9 provides a comparison of the approved and proposed building envelopes. Buildings A, B and C will typically present to the street interfaces as only a two storey building due to the setting down of the lower floor level and the deep street setback to the upper level, as illustrated in **Figure 10**.

Table 3 – Summary of proposed building heights¹

Building	Height in Storeys	Maximum RL* (including plant)
Building A	4	94.3
Building B	4	94.3
Building C	4	94.3
Building D	7 to 11	103.4 115.8

¹ Note that the Australian Height Datum (AHD) Reduced Level (RL) is a national measure of height above mean sea level, and is not the height of buildings above ground level. This measure is a more accurate representation of building height, as existing site levels will change over the course of future development of the site.

Building	Height in Storeys	Maximum RL* (including plant)
Building E	8 to 12	106.5 118.9
Building F	8 to 9	103.4 106.5
Building G	6/7	94.3
Building H	4/6	95.2
Building J	3/5	88.1
The Loft	2	Existing

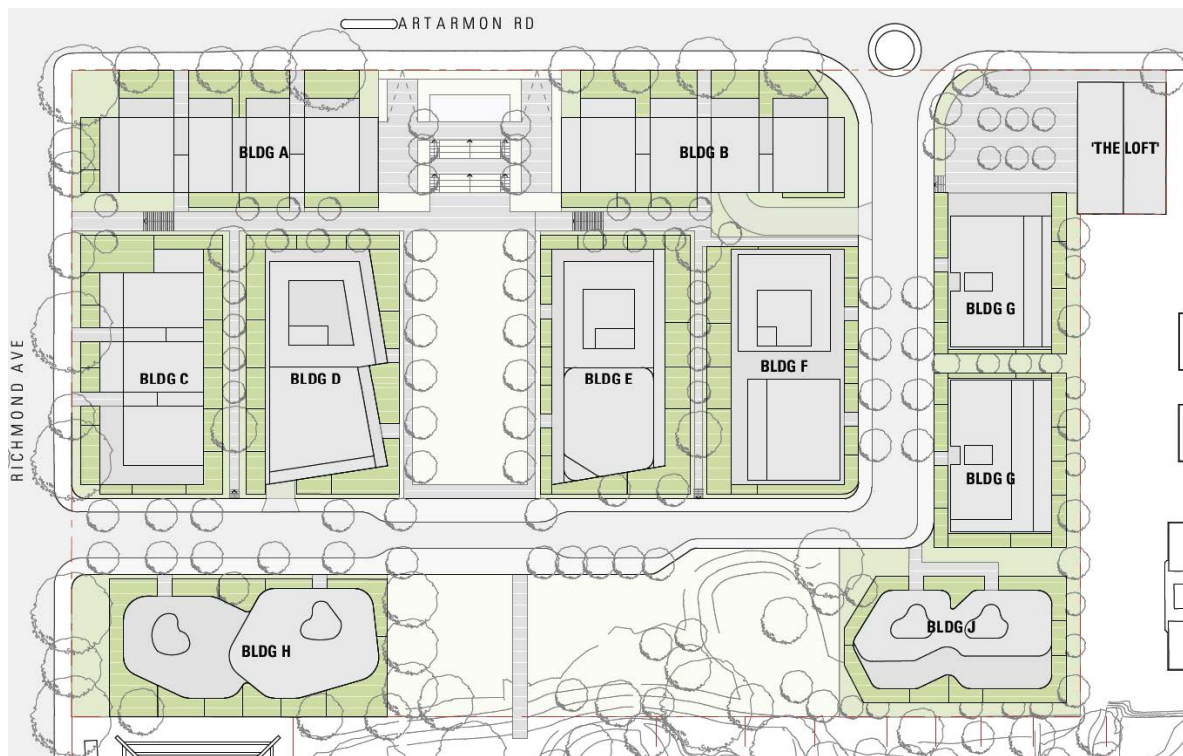


Figure 8 – Reference design illustrating indicative development within amended envelopes

Source: CHROFI

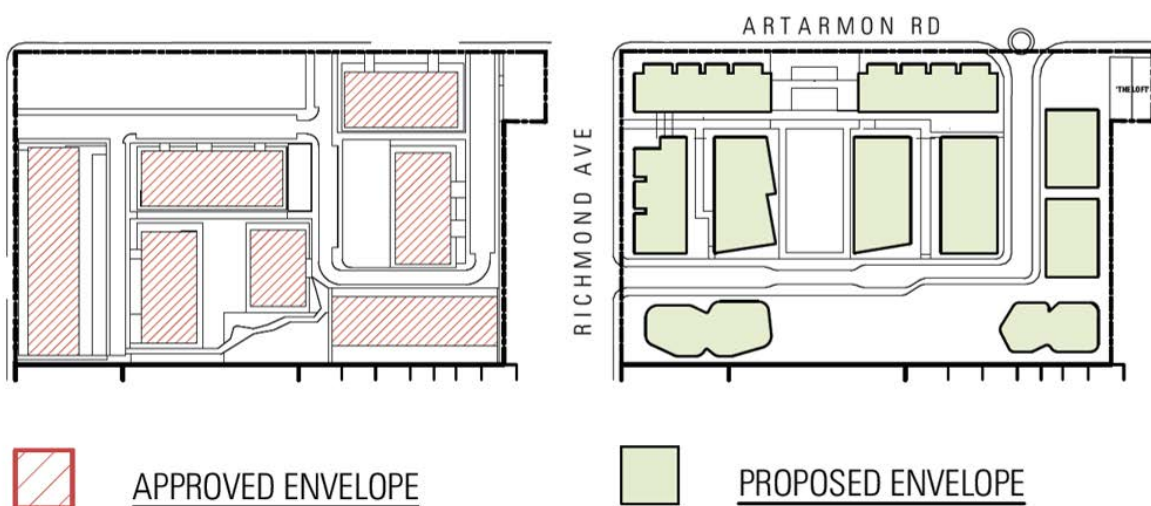


Figure 9 – Comparison of approved and proposed building footprints

Source: CHROFI



Figure 10 – Illustration of design treatment to interface for Buildings A, B and C
Source: CHROFI

5.1.2 Gross Floor Area, Building Volume and Dwellings

Table 4 below summarises the proposed changes to key development parameters resulting for the proposed master plan.

Of particular note is the fact that whilst the gross floor area is proposed to be increased by 28%, through skilful urban design, narrowing of proposed building envelopes and lowering of site levels through excavation, the actual volume of building envelope above the existing ground levels would in fact be reduced by 4%.

Table 4 – Proposed amendments to key development parameters

	Approved	Proposed	Change
Gross Building Volume	181,727m ³	173,789m ³	-5,384m ³ Reduced by 4%
Gross Floor Area (GFA)	35,886m ²	45,876m ²	+9,990m ² Increased by 28%
Residential Dwellings	400 dwellings	510 dwellings	+110 dwellings Increased by 28%
Residential GFA	35,886m ²	44,626m ²	+8,740m ² Increased by 24%
Non-residential GFA	500m ² + The Loft Building	500m ² + The Loft Building	No change

5.2 Public Open Space and Landscaping

McGregor Coxall Landscape Architecture have worked closely with CHROFI to develop a Landscape Master Plan that is integrated into the overall urban design approach. **Figure 11** below illustrates the open space strategy developed by CHROFI that has informed the revised master plan, whilst **Figure 12** illustrates the more detailed Landscape Master Plan. The Master Plan and Urban Design Report includes more detailed design and description for the proposed landscaping strategy for each public space.

The key change to publicly accessible open space within the site is achieved by re-orienting the primary public open space (the 'Village Green') from an east-west alignment pressed against Artarmon Road to a north-south alignment that continues the alignment of Edward Street. This amendment will substantially increase the amenity and safety of this public open space, and create a natural

public destination at the terminus of Edward Street that provides the potential for a direct connection through to the Walter Street Reserve at the southern edge of the Site – linking the local community to the regional open space network along Flat Rock Creek.

Significantly, through slimming the approved building envelopes and rationalising the internal street network, the overall publicly accessible open space will be increased by 28%. Importantly, the proposed open space is substantially more accessible to the public, connecting each of the open spaces throughout the site in comparison to the series of isolated disconnected open spaces approved under the Concept Plan Approval.

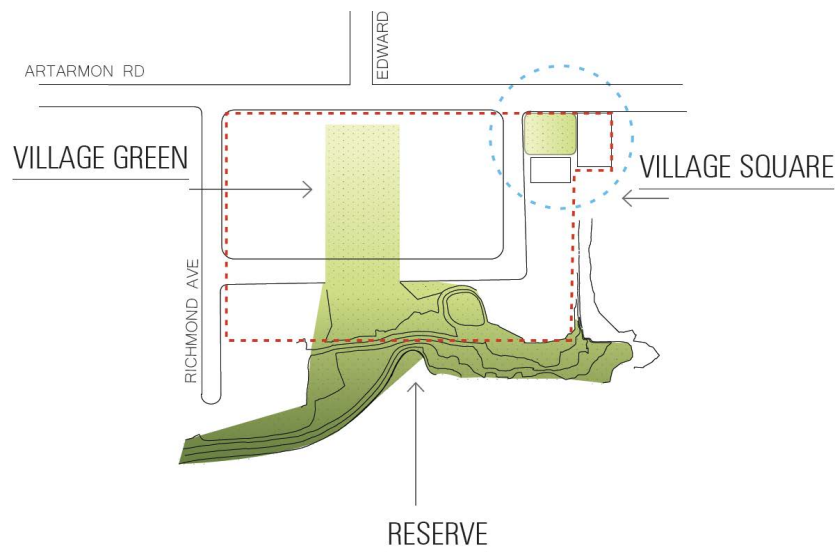


Figure 11 – Public open space strategy
Source: CHROFI

5.2.1 Public Open Space

A Landscape Master Plan has been prepared by McGregor Coxall for the overall site (**Figure 12**) and each of the unique individual spaces comprising this network. Key features of the public open space network are described below. Public open spaces will be owned and maintained under a Community Title arrangement with a covenant to ensure public access to these spaces. **Figure 13** compares the approved publicly accessible open space configuration with the proposed amended master plan.

Village Square

The Village Square is proposed to be an intimate public plaza fronting Artarmon Road and the internal street that is activated by the non-residential uses within The Loft building and Building G, with an area of approximately 700m². The space will function as a commercial/ community hub, with generous landscaping and a stepped grade separation from Artarmon Road providing a high-amenity space for the community to gather around a small café, leisure or retail offering.

Village Green

The Village Green is proposed to be a large, connected public open space that is accessible from Artarmon Road, catering to a range of passive and active recreational uses with an area of approximately 1,700m². Large, gently-sloping lawn areas framed by large new trees and pedestrian footpaths will provide a high quality and sunlit space for use by the public and future residents.

A small café or kiosk may be located within the southern section of the space adjacent to the loop road, providing a destination to draw visitors into the Site and providing parents with an opportunity to supervise children playing within the

southern sections of the parkland. The existing 'bowl' in the site topography has inspired a new children's playground, providing an interesting and interactive space for children to play within the site, and accessible to the broader regional open space network via new connections through the Walter St Reserve.



Figure 12 – Landscape Concept Plan
 Source: McGregor Coxall

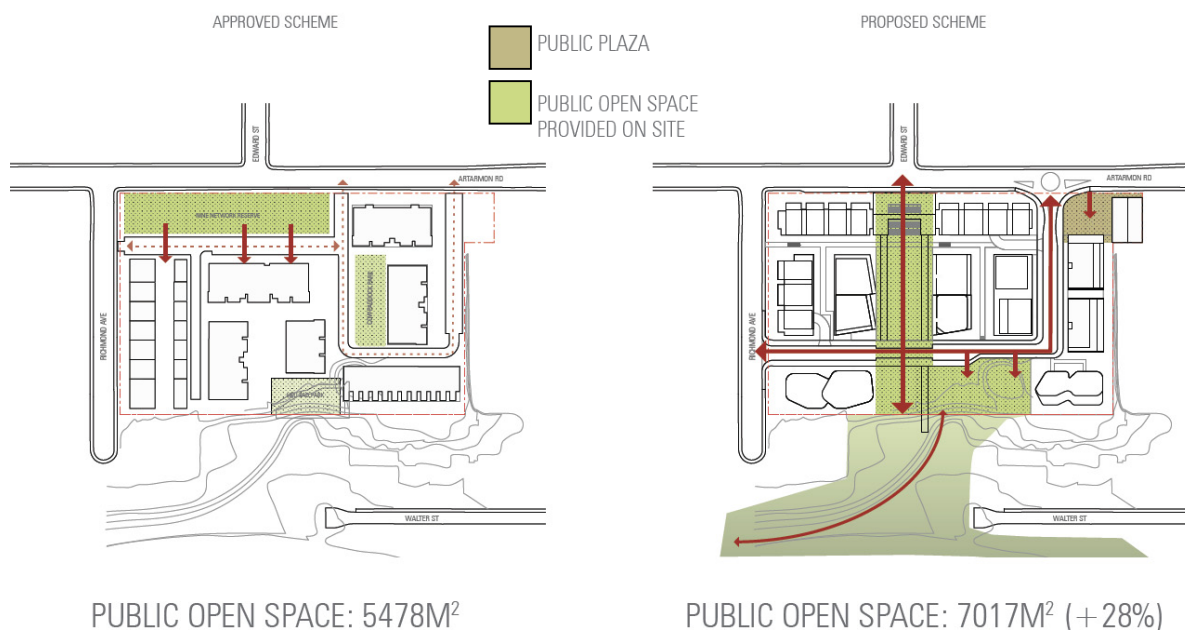


Figure 13 – Comparative analysis of approved and proposed publicly accessible open space
Source: CHROFI

5.2.2 Communal and Private Open Space

The character of the Willoughby local area and streetscapes is characterised by well-maintained private gardens, and the CHROFI masterplan seeks to respond to this by facilitating a generous provision of landscaped private gardens and courtyards for ground-floor apartments. This will reinforce the fine-grain street character of future buildings, provide a high level of amenity to these apartments and contribute to the greening of the site.

Residents will have access to a diverse range of communal open spaces within the site, balancing a mixture of hard and soft landscaped areas. Opportunities for accessible rooftop terraces and landscaping will be investigated as part of detailed design in order to further increase areas available for communal and private open space.

Table 5 summarises the proposed amendments to the areas of private and communal open space within the Site.

Table 5 – Proposed changes to communal and ground-level private open space

	Approved (m ²)	Proposed (m ²)
Communal Open Space – Hard	736	1,043
Communal Open Space – Soft	3,786	2,305
Private Open Space – Ground	3,629	5,304
Total	8,151	8,652

5.2.3 Walter Street Reserve

Condition 18 of the existing Concept Plan Approval requires the provision of a “bush track” through the Walter Street Reserve connecting the southern edge of the Site through to the Walter Street roadway. The existing reserve is heavily overgrown and weed-infested, as well as being quite steep in gradient. This modification application would continue to meet this requirement, however, the improved connectivity provided by the revised public open space strategy also offers the opportunity to create a more significant and higher quality connection between the reserve and public open space within the Site.

As part of the proposed public infrastructure contribution (**Section 5.4**) it is proposed to contribute a sum of \$1 million to Council, or undertake works-in-kind to equal value, that would be used for the construction of new access pathways and the bush regeneration of the Walter Street Reserve. This could also include new connections to the west to Artarmon Reserve, or improved infrastructure on Walter Street.

Given that the Artarmon Reserve is Council-owned land, it is appropriate that further consultation and collaborative design should occur with Council and the local community to determine the best approach to the upgrade of the Reserve should this s75W Modification Application (and associated public benefit offer) be approved. Recommended conditions requiring that this occur prior to the commencement of works on the Site are included at **Appendix E**.

5.2.4 Tree Removal and Replacement

The amended master plan and landscape concept necessitates amendments to planned tree retention and removal within the Site. Redgum Horticultural have identified 62 existing trees that are nominated for removal and 35 trees that would be retained throughout the proposed works (**Appendix I**). **Figure 14** below illustrates the location of the relevant trees (refer **Appendix I** for detailed plan).

The Landscape Concept Plan prepared by McGregor Coxall indicates an indicative landscaping scheme involving the planting of more than 100 new trees within the Site. In addition, the final landscaping scheme would also include a range of shrubs and groundcover planting that will substantially increase the greenery of the Site and provide additional visual screening of building forms. All new landscape plantings within the Site would be native plant species selected from Willoughby Council's list of recommended species. A new Statement of Commitment to this effect is contained in **Appendix E**.

- Trees numbered in **orange** are recommended for **retention**.
- Trees numbered in **blue** are recommended for **removal**.

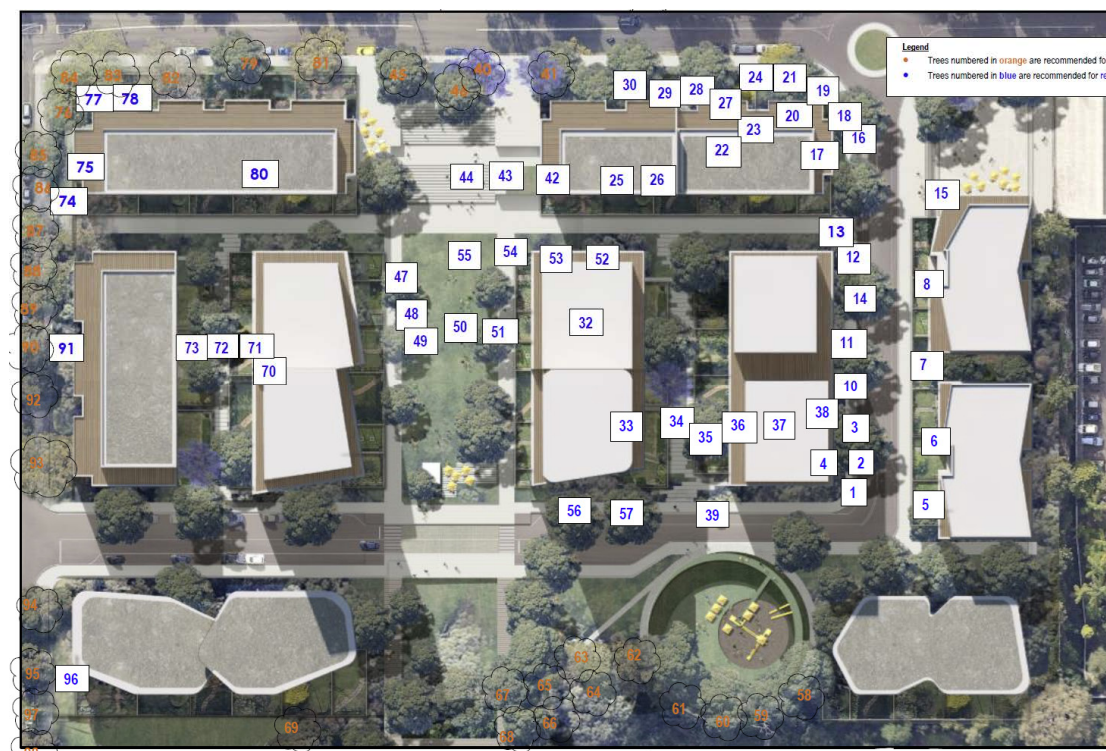


Figure 14 – Illustration of trees proposed for retention and removal overlain on amended master plan
Source: Redgum Horticultural

5.3 Land Uses

The master plan, as it is proposed to be amended, continues to be for the residential redevelopment of the Site with small ancillary commercial uses to service the needs of new residents. Under the Concept Plan Approval, the following land uses are currently permissible with development consent on the Site:

Residential accommodation; neighbourhood shops; food and drink premises; recreation areas; community facilities; exhibition homes; exhibition villages; recreation facility (indoor).

Following further discussion with the community, it was identified that there is a need to provide additional child care within the locality to support the demand generated by future residential development of the Site. As such, it is proposed to permit 'child care centres' as an additional permitted use within the Site. Any future Development Application for this use would need to demonstrate satisfactory arrangements for staff parking, child drop-off and pick-up, safety, privacy and compliance with the relevant child care design standards.

5.4 Public Infrastructure Contributions

LEPC9 has offered to enter into a Voluntary Planning Agreement (VPA) with Willoughby City Council to provide an additional contribution to public infrastructure within the locality. An initial draft letter of offer to Council is attached at **Appendix F**.

In brief, this offer would involve:

- \$3 million financial contribution to Council for the upgrade of the intersection of Willoughby Road, Artarmon Road and Small Street (refer **Section 5.5**); and
- \$1 million financial contribution, or works-in-kind of equal value, toward the upgrade of the Walter Street Reserve including bushland regeneration and accessibility improvements to be agreed with Council (refer **Section 5.2.4**).

This contribution toward local infrastructure of \$4 million is substantial and *additional* to the increased Affordable Housing Contribution of 4% and Section 94A development contributions that will be payable to Council for local infrastructure improvements associated with the increase in dwellings. The works proposed under the VPA are not currently required under the Concept Plan Approval, and have significant benefits to the broader community beyond the impacts of the proposed residential development of the Site. The VPA offer equates to a contribution in excess of \$36,000 per additional dwelling for which approval is sought as part of this Modification Application.

5.5 Traffic, Access and Parking

The amended master plan by CHROFI has been prepared in collaboration with the appointed traffic engineers, GTA Consultants, in order to deliver a transport strategy that is sufficient, safe and appropriate to the Site's intended development.

5.5.1 Upgrade to Willoughby Road Intersection

As noted in **Section 5.4** above, it is the intention of LEPC9 to contribute \$3 million to Willoughby City Council for the upgrade of the intersection of Willoughby Road, Artarmon Road, and Small Street. This has been costed based on the reference design commissioned by Council as a required upgrade to support its Willoughby Leisure Centre Masterplan. **Figure 15** illustrates Council's 2012 reference design

for these works, which would require further detailed refinement by Council and the RMS prior to proceeding. In essence, this upgrade would provide for:

- New right-hand turning lane for north-bound traffic moving into Small St;
- New south-bound slip lane for traffic exiting Small St onto Willoughby Rd;
- New median north on Willoughby Rd north of intersection; and
- Improvements to signal phasing to allow more efficient turning movements.

As discussed in **Section 6.6**, this upgrade would have significant benefits to local traffic flows for the wider community.



Figure 15 – Council’s reference design for the Willoughby Road intersection upgrade

Source: *Willoughby Leisure Centre Master Plan, Traffic and Parking Study*, GTA Consultants 2012

5.5.2 Site Access and Internal Circulation

This Modification Application seeks to rationalise the approved site access and circulation arrangements to provide a simpler, more efficient and safer connection into the existing road network than is contained in the Concept Plan Approval. By replacing the complicated approved internal road network with a simple loop system, the amended access arrangements would provide for better integration with the local street network whilst also increasing the site area available for use as publicly accessible open space. **Figure 16** illustrates the simplified access and circulation strategy employed, whilst **Table 6** summarises the proposed amendments to the approved site access arrangements.

During community consultation, a small number of residents suggested that the Richmond Avenue access point could be limited to a one-way flow to reduce the number of vehicles using this local street. GTA have determined that a one-way site entrance at this location would be feasible from a traffic engineering perspective without impacts on the performance of the Artarmon Road site access point. As the community feedback represented the views of only a small number of individuals who raised the matter during pre-submission consultation, the option to limit this as one-way has been included as an option for consideration following further stakeholder feedback during the formal public exhibition period.

Table 6 – Proposed amendments to site access arrangements

Location	Approved	Proposed
Richmond Avenue	<ul style="list-style-type: none"> 2-directional site access road 	<ul style="list-style-type: none"> 2-directional site access road (with option to limit to 1-way ingress)
Intersection: Richmond Ave and Artarmon Rd	<ul style="list-style-type: none"> New roundabout. 	<ul style="list-style-type: none"> No new control.
Intersection: Artarmon Rd and Edward St	<ul style="list-style-type: none"> No new control. New pedestrian refuge, with potential upgrade to pedestrian crossing at western approach. 	<ul style="list-style-type: none"> No new control. New pedestrian refuge, with potential upgrade to pedestrian crossing at western approach.
Artarmon Road	<ul style="list-style-type: none"> 1 new left-in, left-out only site access road to west of Scott Street. Scott Street restricted to left-in, left-out. 	<ul style="list-style-type: none"> Scott Street deleted. New roundabout to single site access road.

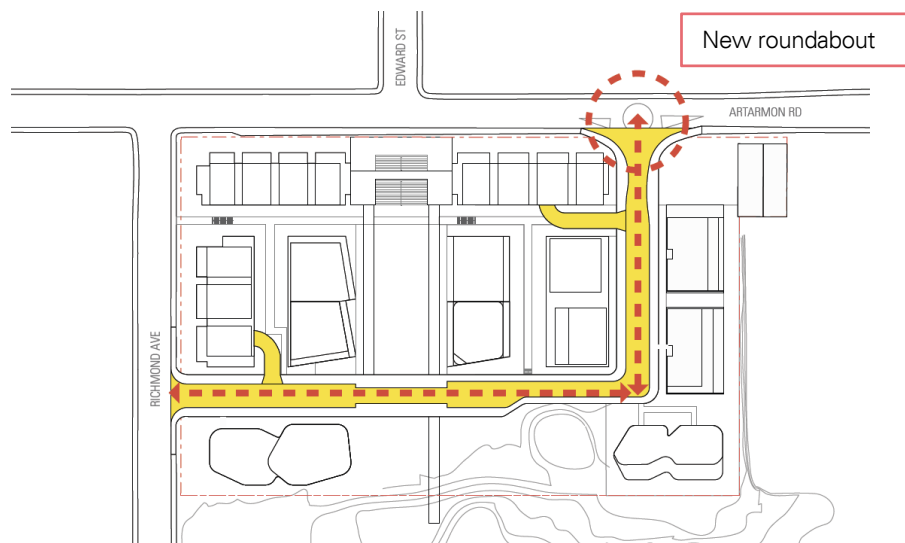


Figure 16 – Proposed site access and internal circulation
Source: CHROFI

5.5.3 Parking

Condition 29 of the Concept Plan Approval currently sets rates for on-site parking and visitor parking. It is not proposed to amend these rates as part of this Modification Application, which are consistent with the Willoughby Development Control Plan 2012 (DCP) and the applicable RMS guidelines for residential apartment buildings. Condition 29 also requires that parking for ancillary non-residential uses within the Site be in accordance with the provisions of the Willoughby DCP.

All residential parking will be located in basements of buildings, with basement access provided from the internal loop road only (no additional driveways to Artarmon Road or Richmond Avenue).

Condition 30 of the Concept Plan Approval requires that, where possible, visitor parking required under Condition 29 be provided kerbside on the internal street network. This will be maintained within the amended master plan, with the simpler internal loop road structure providing for clearer access to on-street spaces for visitors to the Site. As a result of the proposed amendments, the indicative number of kerbside visitor parking spaces available within and adjoining the Site will not change as a result of the proposed amendments.

Condition 31 of the Concept Plan Approval requires the incorporation of provision for a car sharing scheme's vehicles on the Site. No change is proposed to this condition. It is expected that car share parking spaces will be provided kerbside on the internal loop road, subject to detailed design and consultation with Council and a car share provider prior to the submission of a Development Application for the construction of this road.

5.6 Project Staging

An indicative staging plan (**Figure 17**) has been prepared to provide an indication of the potential staffing of construction and occupation of the project. This plan is indicative only, as the actual staging will be dependent on market conditions and demand at the time of development. It is proposed that an updated Staging Plan will be submitted to Council with the first Development Application and each subsequent development application for the Site.

Proposed public and communal open space within the Site will also be staged in accordance with **Figure 17**, with the portion of open space within each stage to be completed prior to issuing of an Occupation Certificate for the dwellings within that development stage.

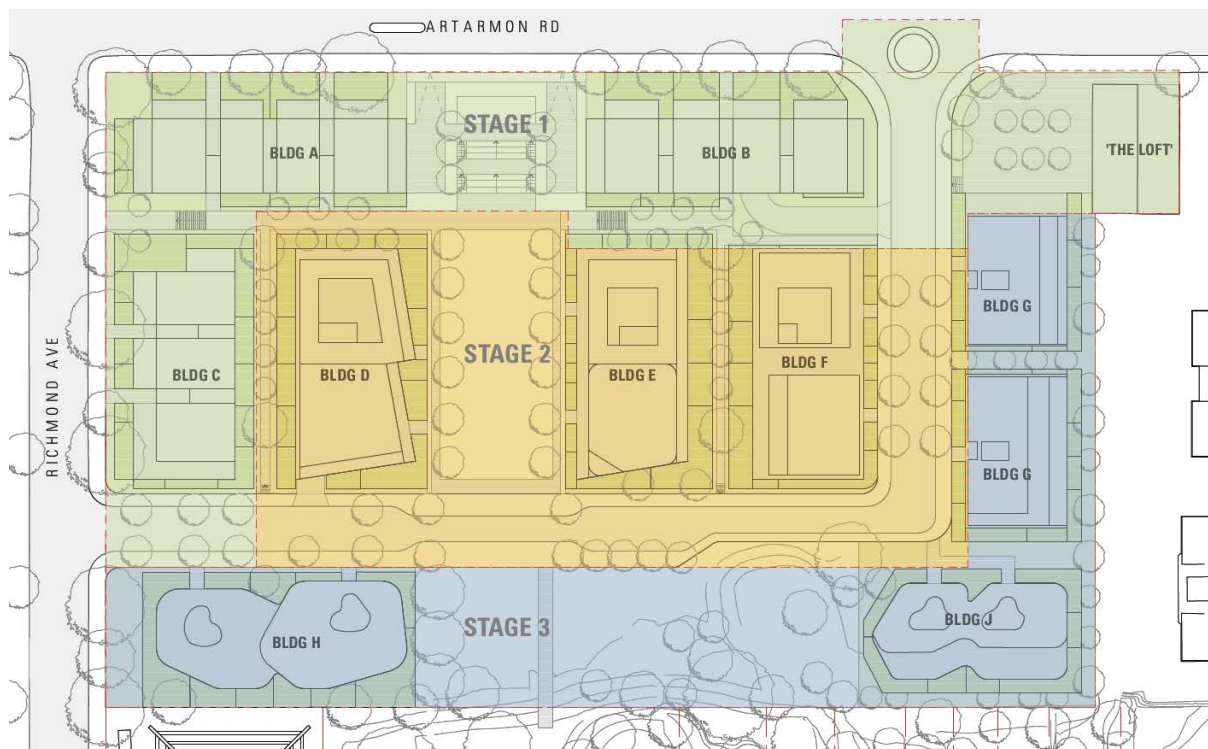


Figure 17 – Indicative staging plan
Source: CHROFI

5.7 Design Excellence

Conditions 1 and 2 of the Concept Plan Approval require that future Development Applications for buildings demonstrate the achievement of a high standard of architectural design and a diversity of architectural responses. These conditions are not proposed to be changed, and are strongly supported by the proponent-led design process undertaken to date.

The amended master plan is the outcome of a voluntary architectural design competition convened by LEPC9, involving a number of Australia's leading urban design and architecture firms, to ensure that the master plan supports the attainment of design excellence from the outset of this project. It is proposed that at detailed Development Application stage, a number of these firms will be engaged to design individual buildings within the site to provide diversity in architectural character under the guidance of CHROFI as the master plan architect and Mr Andrew Andersons AO as the executive architect.

6.0 Environmental Assessment

Table 7 provides a detailed summary of the individual matters listed in the Secretary's Environmental Assessment Requirements for the proposed modification to Concept Plan MP10_0198, and provides a preliminary assessment of these issues in addition to identifying the relevant sections in the report and accompanying technical studies for further discussion.

Table 7 – Secretary's Environmental Assessment Requirements

Requirement	Location in Report / Appendix
Notwithstanding the key issues specified below, the EA must include an environmental risk assessment to identify the potential environmental impacts associated with the development.	Appendix G
Where relevant, the assessment of the key issues below, and any other significant issues identified in the risk assessment, must include: <ul style="list-style-type: none"> adequate baseline data; consideration of potential cumulative impacts due to other development in the vicinity; and measures to avoid, minimise and if necessary, offset the predicted impacts, including detailed contingency plans for managing any significant risks to the environment. <p>The EA must be accompanied by a report from a qualified quantity surveyor providing:</p> <ul style="list-style-type: none"> a detailed calculation of the capital investment value (CIV) (as defined in clause 3 of the EP&A Regulation 2000) of the proposal, including details of all assumptions and components from which the CIV calculation is derived; an estimate of the jobs that will be created by the future development during the construction and operational phases of the development; and certification that the information provided is accurate at the date of preparation. 	Planning Report, Technical Appendices and CHROFI Master Plan Report
	Provided under separate cover
Key Issues	
1. Relevant EPIs, Policies, and Guidelines to be addressed	
The EA shall address the statutory provisions applying to the site contained in all relevant Environmental Planning Instruments, including: <ul style="list-style-type: none"> <i>State Environmental Planning Policy (Infrastructure) 2007</i> 	Appendix H
<ul style="list-style-type: none"> <i>State Environmental Planning Policy No. 19 - Bushland in Urban Areas</i> 	Section 6.2.4
<ul style="list-style-type: none"> <i>State Environmental Planning Policy No. 55 – Remediation of Land</i> 	Refer to Appendix J of original Concept Plan Environmental Assessment Report.
<ul style="list-style-type: none"> <i>State Environmental Planning Policy No. 65 – Design Quality of Residential Apartment Development</i> 	CHROFI Master Plan Report and Section 6.2.3
<ul style="list-style-type: none"> <i>State Environmental Planning Policy (Building Sustainability Index: BASIX) 2004</i> 	Section 6.8.1 and ESD Statement
<ul style="list-style-type: none"> <i>Willoughby Local Environment Plan 2012.</i> 	Section 6.2.2
The EA shall also address relevant planning provisions, goals and strategic planning objectives in the following: <ul style="list-style-type: none"> A Plan for Growing Sydney 	Section 6.1
<ul style="list-style-type: none"> NSW Long Term Transport Master Plan 	Appendix H
<ul style="list-style-type: none"> Development Near Rail Corridors and Busy Roads - Interim Guideline 	Appendix E
<ul style="list-style-type: none"> Guide to Traffic Generating Developments 	Section 6.6 and Appendix H
<ul style="list-style-type: none"> NSW Bicycle Guidelines 	
<ul style="list-style-type: none"> NSW Planning Guidelines for Walking and Cycling 	
<ul style="list-style-type: none"> Crime Prevention Through Environmental Design Principles 	Section 6.8.5
<ul style="list-style-type: none"> Heritage Council Guidelines, Design in Context – guidelines for infill development in the Historic Environment (2005) 	Appendix J
<ul style="list-style-type: none"> Heritage Council Guidelines in Heritage Curtilages (1996) 	
<ul style="list-style-type: none"> Willoughby City Strategy 	Section 6.2.2
<ul style="list-style-type: none"> Willoughby Development Control Plan 	

Requirement	Location in Report / Appendix
2. Comparison with the concept approval (MP10_0198)	
The EA shall: <ul style="list-style-type: none">demonstrate how the proposed modification can be assessed and determined within the scope of Section 75W of the Environmental Planning and Assessment Act 1979, and in particular shall demonstrate that the proposal has limited environmental impacts beyond those already assessed for the concept approval	Section 6.2.1
<ul style="list-style-type: none">provide a comparative assessment of the proposed modification against the approved scheme (qualitative and quantitative), including comparison plans clearly identifying the proposed amendments in plan and elevation, and provide a rationale for the amendments and an analysis of benefits / impacts, including measures to mitigate any potential impacts; and	Section 5.0 and 6.0, Appended Design and Technical Statements
<ul style="list-style-type: none">outline and justify any proposed changes to the existing terms of approval, future assessment requirements and commitments	Section 5.0 and Appendix E
3. Ecologically Sustainable Development (ESD)	
The EA shall: <ul style="list-style-type: none">identify how best practice ESD principles have been incorporated in the design, construction and ongoing operation phases of the development, and include innovative and best practice proposals for environmental building performance; and	Section 6.8.1, Appendix E and CHROFI Master Plan Report
<ul style="list-style-type: none">demonstrate that the development has been assessed against a suitably accredited rating scheme to meet industry best practice.	
4. Pre-submission consultation statement	
The EIS must describe the pre-submission consultation and community engagement process, issues raised and how the proposed development has been amended in response to these issues. A short explanation should be provided where amendments have not been made to address an issue.	Section 4.0 and Appendix D
5. Design excellence, built form and public domain	
The EA shall: <ul style="list-style-type: none">demonstrate how the proposed modification to the concept approval is capable of achieving design excellence	Section 3.3 and 5.7 and Appendix C
<ul style="list-style-type: none">address the height, bulk and scale of the proposed development within the context of the surrounding area and nearby Artarmon Conservation Area, demonstrating how the proposal integrates within the local environment and relates to the height of existing / approved development surrounding the Site;	Section 6.2 and 6.7 and CHROFI Master Plan Report
<ul style="list-style-type: none">include a detailed visual and view analysis to and from the Site from key vantage points, including the suburbs of Willoughby, Artarmon and Northbridge;	Section 6.4 and CHROFI Master Plan Report
<ul style="list-style-type: none">demonstrate how the orientation, height, bulk, scale, massing, activation and building setbacks will reflect the context of the surrounding area;	Section 6.3 and CHROFI Master Plan Report
<ul style="list-style-type: none">detail proposed open space provision on Site, including measures to clearly define public, private and communal space, and integrate the open space, public domain and landscaping proposals within the existing area; and	Section 5.2 and 6.5 and CHROFI Master Plan Report
<ul style="list-style-type: none">demonstrate how the proposal is capable of complying with safety by design principles (CPTED).	Section 6.8.5
6. Environmental and residential amenity	
The EA shall: <ul style="list-style-type: none">provide an assessment of any environmental impacts on the surrounding area, such as overshadowing, solar access, acoustic privacy, visual privacy, view loss and micro climatic impacts and propose measures to mitigate any impacts;	Section 6.0 and CHROFI Master Plan Report
<ul style="list-style-type: none">demonstrate that the concept proposal is capable of complying with SEPP 65 – Design Quality of Residential Apartment Development and the Apartment Design Guide, including justification for any compliance / non-compliance;	Section 6.2.3 and CHROFI Master Plan Report
<ul style="list-style-type: none">address any visual impact with regards to the adjacent telecommunications tower; and	Section 6.2 and 6.4 and CHROFI Master Plan Report
<ul style="list-style-type: none">provide details of proposed adaptable housing in accordance with Section C6 of the Willoughby Development Control Plan (Section C6).	No change to approved condition, refer to Appendix E
7. Traffic and transport	
The EA shall include a new or updated traffic and transport assessment taking into account any changes in relation to:	

Requirement	Location in Report / Appendix
<ul style="list-style-type: none"> current daily and peak hour vehicle, public transport, pedestrian and bicycle movements, together with the existing traffic and transport infrastructure provided in the area; existing and future performance of key intersections providing access to the Site, including Artarmon Road/Willoughby Road/Small Street, and any road/intersection upgrades required to accommodate the modified development the operation of transport networks, including rail and bus, having regard to service levels, usage and the ability to accommodate the forecast number of trips; measures to encourage users of the development to make sustainable travel choices, including proposals to improve walking, cycling, public transport and car sharing; and on-Site car parking provision and arrangements for access, loading and deliveries, including details of service vehicle movements. 	Section 5.5 and 6.6 and Appendix H
8. Drainage and groundwater	
The EA shall address drainage issues associated with the development/Site, including erosion and sediment control, stormwater, drainage infrastructure and incorporation of Water Sensitive Urban Design measures, including stormwater and grey water reuse in buildings.	Section 6.8.6 and Appendix E
9. Contributions and/or Voluntary Planning Agreement	
The EA shall address the provision of public benefit, services and infrastructure having regard to Council's Section 94A Contribution Plan and/or provide details of any Voluntary Planning Agreements or other legally binding instrument proposed to facilitate this development as agreed between Council and the proponent.	Section 5.4 and Appendix F
10. Statement of commitments	
The EA must include a draft Statement of Commitments detailing measures for environmental management, mitigation measures and monitoring for the project.	Appendix E
Plans and Documents	
The EA must include all relevant plans, architectural drawings, diagrams and relevant documentation required under Schedule 1 of the <i>EP&A Regulation 2000</i> . Provide these as part of the EA rather than as separate documents. In addition, the EA must include the following:	
<ul style="list-style-type: none"> Site analysis plan Site survey plan, showing existing levels, location and height of existing and adjacent structures/buildings locality / context plan building envelopes showing the relationship with proposed and existing buildings in the locality; architectural drawings (to a usable scale at A3); plans, elevations, sections and photomontages clearly showing the proposed amendments compared to the concept approval schedule of proposed gross floor area per land use shadow diagrams wind impact assessment assessment against SEPP 65 and the ADG ESD statement pre-submission consultation statement heritage impact assessment traffic and parking assessment visual and view impact analysis and photomontages physical model public domain plans, including a landscape master plan geotechnical and structural report assessment of electronic radiation impacts 	CHROFI Master Plan Report
	Appendix M
	CHROFI Master Plan Report
	Appendix D
	Appendix J
	Appendix H
	CHROFI Master Plan Report
	Provided under separate cover
	CHROFI Master Plan Report
	Section 6.8.7
	Appendix L
Consultation	
During the preparation of the EA, you are required to consult with the relevant local, State or Commonwealth Government authorities, service providers, and community.	Appendix D

6.1 Strategic Planning Policies

6.1.1 A Plan for Growing Sydney

A Plan for Growing Sydney, the NSW Government's metropolitan strategy, was released in December 2014. This strategy establishes key goals and objectives to guide the development of Sydney over the next 20 years. The following key goals have been established:

1. A competitive economy with world-class services and transport;
2. **A city of housing choice with homes that meet our needs and lifestyles;**
3. A great place to live with communities that are strong, healthy and well connected; and
4. A sustainable and resilient city that protects the natural environment and has a balanced approach to the use of land and resources.

A clear direction of A Plan for Growing Sydney is that housing supply needs to be accelerated to deliver new housing in Sydney in order to meet the needs of a larger than forecast population and to satisfy demand for different types of housing. Under this goal there are three relevant key directions which include:

- Accelerate housing supply across Sydney;
- Accelerate urban renewal across Sydney – providing homes closer to jobs; and
- Improve housing choice to suit different needs and lifestyles.

The proposed modifications to the Concept Plan Approval will directly assist in meeting these key directives, consistent with the strategic vision of Sydney. This is discussed further below:

Housing Supply

A Plan for Growing Sydney adopts the 2014 Population, Household and Dwelling Projections for NSW produced by the NSW Department of Planning and Environment. These forecasts indicate that population growth within the Sydney metropolitan area will occur at a significantly faster rate than had been projected as part of the preceding metropolitan and subregional strategic planning documents.

At the time of the original Concept Plan application (and during the preparation of the Willoughby Local Environmental Plan 2012) the Draft Inner North Subregional Strategy set dwelling targets for the Willoughby LGA which required the delivery of 272 new dwellings each year. Under the 2014 Projections, it is forecast that projected household growth will require the delivery of 433 new dwellings in Willoughby each year, a 59% increase on the previous target.

As can be seen in **Figure 18** below, actual dwelling completions over the past 12 years has averaged only 227 dwellings per annum, with completions exceeding the projected requirement of 433 in only two years. Given that actual housing production has consistently fallen short of both the dwelling targets under the Draft Inner North Subregional Strategy and the 2014 Projections, there is clearly a need to support additional housing production beyond planned capacity.

In light of this, it is considered that there is considerable planning merit in supporting additional opportunities for well-designed housing density on the Site in order to make a further small but significant contribution toward local housing supply. This is particularly pressing given the long-term shortfall in housing production within the LGA and the increase in projected housing requirements.

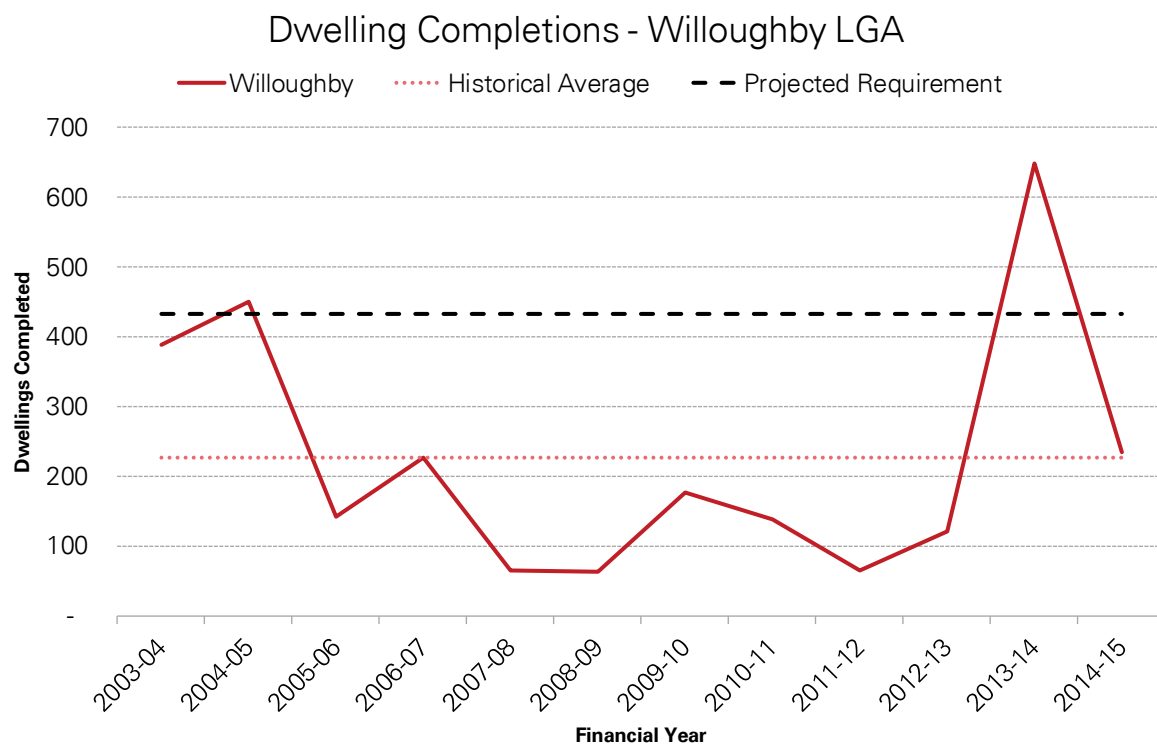


Figure 18 – Comparison of historical dwelling completions and projected requirement
Data source: NSW Department of Planning & Environment

Urban Renewal

The second direction for improving Sydney's housing choices relates to locating new housing in or near centres to encourage people to live near jobs. This direction predominately relates to urban renewal within or around centres to ensure that new housing is accessible to services and facilities and does not place additional strain on the delivery of new infrastructure.

The delivery of the modified Concept Plan will assist with the urban renewal of the Site to provide additional housing choice in an accessible and desirable location. The Site is well serviced by a number of nearby employment and service/retail

centres that enable people to live near jobs, including North Sydney and the Sydney CBD, as well as designated Strategic Centres at Chatswood and St Leonards.

Housing Choice

A Plan for Growing Sydney recognises that mixed housing types are required to meet the needs of the housing market. The provision of housing choice is to be underpinned by good design. With the provision of additional housing, in a range of different types and sizes, it is expected that the overall supply of housing will be boosted and housing affordability will be improved.

The proposed modified scheme for the site will deliver housing that diversifies the typologies available in the surrounding locality, and the overall housing choice. In facilitating the future provision of apartments on the site, the modified proposal can better adapt and directly respond to market demands. This means that the dwellings can vary in style, size and mix to be reflective of the housing needs in the local area.

The proposed increase in the yield of the site will also improve housing affordability through access to supply, which is considered to be a critical issue in Sydney. This is also principally assisted by the increase in the number of affordable dwellings provided on the site.

6.1.2 Willoughby City Strategy

The *Willoughby City Strategy Community Strategic Plan 2013-2029* (the Strategy) establishes the broad strategic directions for the future of the Willoughby LGA and covers issues such as community and cultural life, the natural environment, housing, transport, the local economy and civic leadership. The proposed modifications to the Concept Plan approval are considered to be consistent with the Strategy by:

- Increasing the amount of publicly accessible open space within the Willoughby LGA through the provision of a larger and better-connected space within the Site;
- Support environmental objectives by contributing to the regeneration of the Walter Street Reserve in conjunction with Council;
- Promoting healthy living by locating new development in close proximity to local and regional open space and recreation networks, including key cycling and walking routes;
- Ensuring that future residential development achieves a high standard of environmental performance;
- Providing for increased housing choice within the Willoughby and Artarmon communities by delivering high quality residential apartment living with a mix of apartment styles and sizes;
- Facilitating the delivery of additional affordable housing within the Willoughby LGA;
- Ensuring appropriate interfaces and transitions between new housing development and established residential and heritage conservation areas;
- Contributing to the improvement of existing local traffic congestions through a voluntary contribution to the upgrade of Willoughby Road, Artarmon Road and Small Street; and
- Locating new development close to an established public transit corridor.

It is noted that the Strategy has not been updated in light of the release of A Plan for Growing Sydney or the 2014 projections of population and housing growth.

6.2 Statutory Planning Matters

6.2.1 Environmental Planning and Assessment Act 1979

Part 3A

The Concept Plan for the Site was approved under Part 3A of the EP&A Act with delegation from the (then) Minister for Planning. Part 3A of the EP&A Act was repealed in March 2011, however, transitional provisions were enacted that provide for continuity in the assessment of Part 3A projects, including for modifications, under Schedule 6A of the EP&A Act.

The modification of an approved Concept Plan by an incoming developer is a normal process which has some precedent in NSW. Master plans for major urban development projects obtained by the original landowner, such as Central Park (former Carlton United Breweries site), the Channel 7 Site (Epping), Putney Hill (Royal Rehabilitation Centre site), Kirrawee Brickpit, and Clemton Park (former Sunbeam factory) all evolved significantly following the purchase of these sites by residential developers. In each case, the amended master plan resulted in a significantly superior design, development, planning and community outcomes compared to the original plan.

Recognising that complex urban development projects do change as time progresses, urban conditions change and new parties become involved, Section 75W of the EP&A Act permits a versatile approach in the modification of approvals under Part 3A that facilitates this type of modification to the master plan for the Site.

The project, as it is proposed to be modified, continues to be for the residential redevelopment of the Site with some small-scale non-residential uses and does not fundamentally change the essential nature of the project. Notwithstanding the proposed increase in the number of dwellings and maximum height of buildings, the project does not give rise to any new environmental assessment issues when compared to the environmental assessment for the Concept Plan Approval. Whilst this modification application seeks approval for a range of changes to the Concept Plan Approval including to the layout of buildings, an increase in dwellings and the height of three buildings, following a detailed review of impacts it is considered that any impacts associated with the proposed modification will have limited environmental consequences beyond those which were the subject of the original environmental assessment for the Concept Plan Approval (see *Barrick Australia Ltd v Williams* [2009] NSWCA 275). In fact the amended master plan results in a number of improvements to the key measures considered during the original planning assessment. As such, this modification application is able to be properly considered pursuant to S75W. Furthermore, the modification application will be subject to a process of environmental assessment, community input and independent determination that is the same as the original Concept Plan application.

Future Assessment Framework

Under the transitional Part 3A provisions contained in Schedule 6A of the EP&A Act, development which is covered by a Concept Plan approved under Part 3A but is subject to assessment under Part 4:

- is taken to be development which may be carried out with consent under Part 4, despite anything to the contrary in an environmental planning instrument;
- must be consistent with any development standard within the terms of the Concept Plan approval;
- must be generally consistent with the terms of approval for the Concept Plan;

- the provisions of any environmental planning instrument or development control plan do not have effect to the extent of any inconsistency with the approved Concept Plan.

All applications for the residential development of the site will be assessed under Part 4 by Willoughby City Council, in accordance with the development parameters established under the Concept Plan as they are proposed to be amended.

6.2.2 Willoughby Local Environmental Plan 2012 and Willoughby Development Control Plan 2012

There have been no substantive changes to the local planning framework within the immediate locality of the Site since the Concept Plan Approval. The Willoughby Local Environmental Plan 2012 (LEP 2012) was introduced during the previous assessment phase for the Concept Plan, and has not been subsequently amended to reflect the approved master plan. The Site continues to be zoned SP2 Infrastructure (Telecommunications Facility), and the LEP provides for a lower floor space ratio on the Site than on neighbouring properties at Castle Vale and along Walter Street.

LEP 2012 rezoned the low-density residential properties along the northern side of Walter Street from a low density zoning to R3 Medium Density Residential and increased the maximum building height control to permit development up to 12 metres in height. A Development Application for the development of the site immediately to the south-east of the Castle Vale site for a residential flat building was submitted to Council in early-2016. Feedback during the community engagement process indicated that there had been some recent interest in the redevelopment of other properties along Walter Street to reflect the higher-density planning controls. In light of this, consideration should be given to the fact that Walter Street is unlikely to retain its present low density residential character in the medium term.

The master plan has been designed with regard to the provisions of the Willoughby Development Control Plan 2012 (the DCP), in particular:

- Residential and visitor parking rates are consistent with the provisions of the DCP for residential flat buildings;
- Street setbacks to Artarmon Road and Richmond Avenue have been provided in accordance with the requirements of the DCP;
- Solar access to surrounding residential dwellings on Walter Street has been assessed in accordance with the provisions of the DCP to ensure that all dwellings receive solar access in excess of Council's requirements; and
- The reference design has had regard for the DCP requirement that 50% of all apartments be designed and constructed as adaptable dwellings.

6.2.3 State Environmental Planning Policy No. 65 – Design Quality of Residential Flat Development

The CHROFI Master Plan Report addresses the principles and key provisions of the SEPP 65 and the Apartment Design Guide (ADG). Whilst detailed assessment of compliance with the ADG will be undertaken as part of the assessment of future detailed Development Applications by Willoughby City Council, it is noted that:

- At least 2 hours of sunlight is achieved to 80.4% of all apartments on 21 June under the CHROFI reference design, indicating that the proposed building envelopes are capable of achieving a highly satisfactory solar access;

- 65.5% of apartments could be naturally cross-ventilated under the CHROFI reference design, indicating that the final development at detailed DA stage is capable of complying;
- Only 8.8% of apartments under the CHROFI reference design are single-aspect south-facing apartments, demonstrating that the final development at detailed DA stage is capable of complying with the provisions of the ADG. Furthermore, it is noted that high-quality district and regional views are available to the south of the Site, substantially increasing the potential amenity of south-facing apartments within future buildings; and
- The proposed building envelopes comply with the habitable-to-habitable building separation distances under the ADG for all building envelopes, with the exception of the separation between Buildings A and C/D and between Buildings B and E/F, where habitable-to-habitable interface would not be achieved without additional visual privacy measures. This is considered to be acceptable given that these distances represent the maximum possible building envelopes (which are generally refined at DA stage), affect only a small number of potential apartments and can be readily resolved prior to the Development Application stage through detailed design measures.

As such, the amended master plan is considered to be consistent with the key SEPP 65 principles and key provisions of the ADG, and will ensure that individual buildings achieve a high level of residential amenity following detailed design. The CHROFI Master Plan report addresses the achievement of the SEPP 65 design principles in further detail.

6.2.4 State Environmental Planning Policy No.19 – Bushland in Urban Areas

State Environmental Planning Policy No.19 – Bushland in Urban Areas (SEPP 19) seeks to protect remnant bushland for a range of ecological, aesthetic and recreational objectives. Historical aerial imagery² shows that the Site was almost entirely cleared for grazing prior to the commencement of use for the Nine studios. Similarly, the (now) Walter Street Reserve was also devoid of vegetation in association with this land use. Existing vegetation on the Site is not a remainder of previous natural vegetation on the Site, and is not representative of the structure of natural vegetation due to the extensive existing development of the Site. As such, SEPP 19 is not considered to apply to the Site. In any case, as discussed as **Section 5.2** and **6.5**, the proposed Landscape Concept Plan prepared by McGregor Coxall includes a substantial landscaping plan for the Site using species from Council's native species list. In addition, the VPA proposes a contribution of \$1 million to Council to facilitate bushland regeneration and access improvements within the Walter Street Reserve, which is currently weed-infested. This will be required to be in accordance with the existing plan of management for this reserve, or under a new plan of management developed by Council in consultation with the community and the Proponent. As such, it is considered that the proposal is consistent with the aims of SEPP 19.

² For example, the 1943 aerial photography made available by NSW Land and Property Information at <http://maps.six.nsw.gov.au/>

6.3 Built Form and Urban Design

The following sections assess the key aspects of the built form and urban design and the comparative environmental impacts between the approved master plan and the amended CHROFI master plan

6.3.1 Urban Design Composition

Considerable attention has been paid to create a built form and massing that compliments the local and district context, and results in reduced impacts for the community. The Site is unique by virtue of its size, location and context. As a large consolidated site of 3 hectares, it is well suited to accommodating additional building height within a strong urban design without additional impacts on the surrounding area. Slender and elegant buildings are able to be delivered in the centre of the site whilst ensuring each street is completed with a sensitive low edge building.

In the approved scheme, three of the buildings are eight storeys tall with wide 24m building footprints, located particularly close to the southern boundary and highly visible from Artarmon Road and the east. The squat proportions of these buildings, arising from the series of compromises in the original Concept Plan Approval, results in a massing that appears bulky and stout, and overall the building arrangement creates a convoluted tangle of built form which offers limited visual breaks to see either sky or the public green spaces.

At the ground plane, the large building envelopes and absence of clearly navigable corridors throughout the Site creates a lack of legibility and allows building mass to dominate views into, through and within the Site. By creating a strongly aligned grid of buildings, the ground plane is readily navigable for both the general public and future residents and more likely to be utilised. The strong north-south spines along the central public space and the new Scott Street create clear views to the new open space opportunity at the southern edge of the Site as well as opening up important district views to Naremburn and St Leonards.

CHROFI worked with the existing site falls and a logical building arrangement which locates height deep into the site. Buildings along the street are pushed below street level to reduce visible bulk, whilst the remaining buildings step down into the site to reduce overall building heights. The three highest proposed buildings are 9, 11 and 12 storeys which crest across the hilltop, stepping down in height to Castle Vale in the east and Richmond Ave in the west as illustrated in **Figure 19**.

By sinking the buildings down into the site, the additional height is at most 9.1m above the maximum approved RLs. As illustrated in **Figure 20**, the overall proposed increase in building height in comparison to the approved 8-storey buildings is only 9.1 metres for Building E and only 5.8 metres for Building D³.

The area of the building with additional heights are small in footprint, helping to create a slender, elegant proportion to the buildings. The position of this height is moved away from the southern boundary, helping to create public open space on the southern boundary, and reducing overshadowing impact on Walter St residents. Despite the additional height, the impact is less overshadowing, more slender refined forms when viewed from the surrounding context and more land for the public domain.

³ Note that the current Concept Plan Approval building envelopes do not make allowance for any rooftop plant equipment or lift overruns. The CHROFI master plan makes allowances for these in the proposed building envelope plan to more accurately reflect the overall building height. For the purpose of a direct comparison, 500mm has been added to the approved building envelopes as a very conservative allowance.

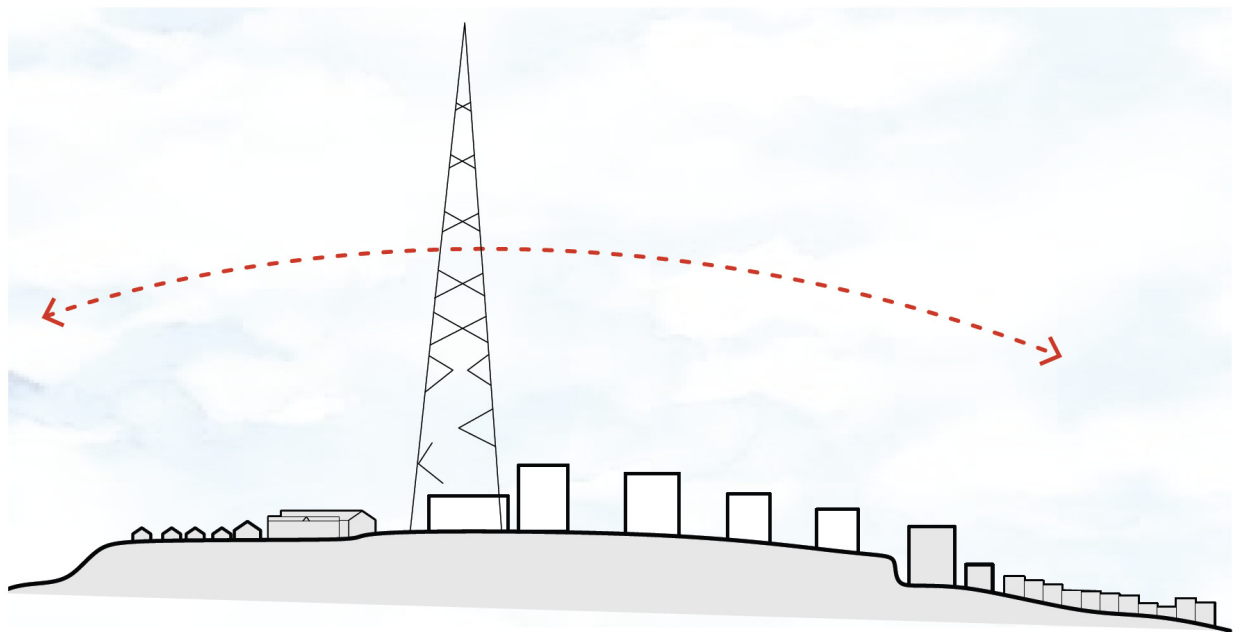


Figure 19 – Cresting of building form across the Site and to surrounding areas
Source: CHROFI

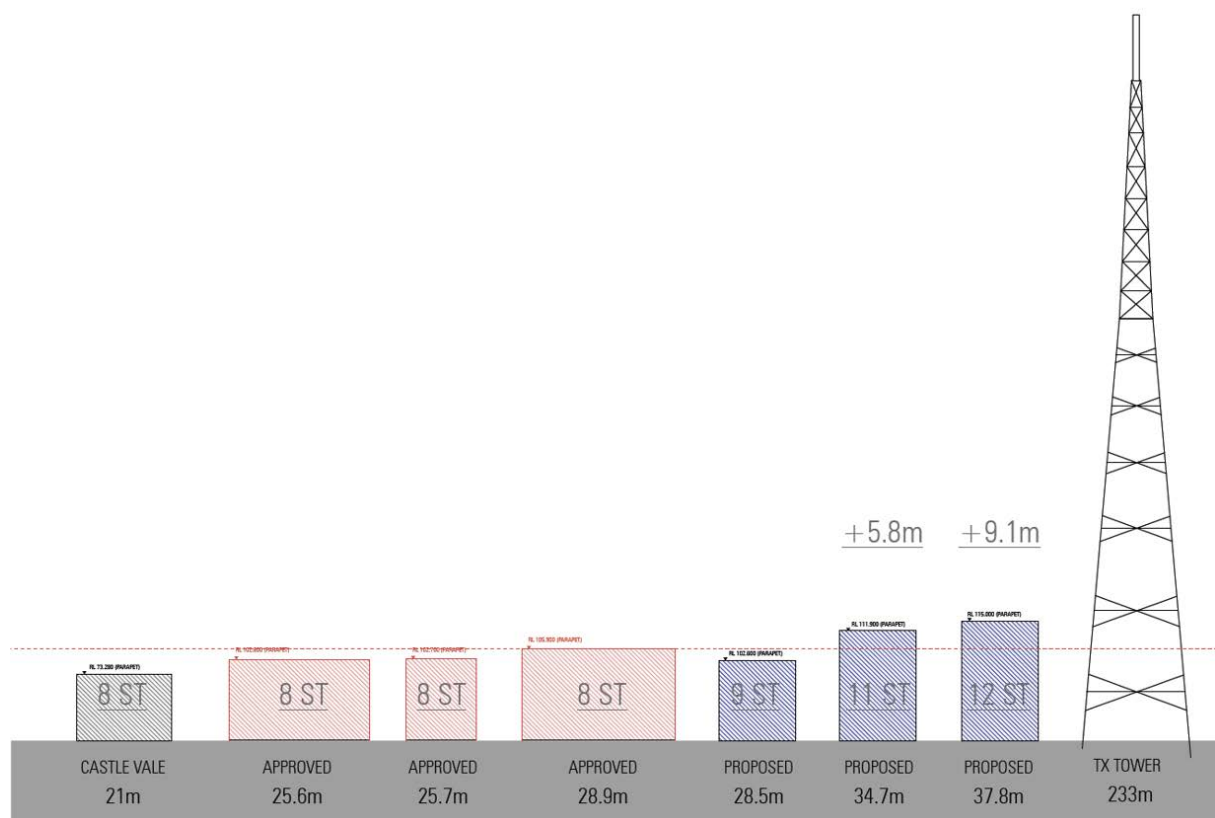


Figure 20 – Comparison of existing, approved and proposed building heights (tallest three buildings)
Source: CHROFI

6.3.2 Interface, Transitions and Visual Privacy

The following sections provide an assessment of the interface of the proposed building envelopes to key existing site interfaces.

Richmond Avenue

Richmond Avenue is a local road with minimal road traffic and a low density scale. As can be seen in **Figure 21**, the approved street wall height to Richmond Avenue is higher than proposed under the amended master plan, which sets the upper level back from the street in order to reduce visual bulk. In addition, the relocation of the internal loop road and the heavy articulation of the western elevation of future buildings along this street will produce a less repetitive street frontage with less visual dominance (see **Figure 22**).

The separation distance between existing dwellings along Richmond Avenue and new dwellings would be approximately 30 metres, and combined with the retention of existing mature trees along this street, it is expected that the proposed amendments will result in a neutral or beneficial outcome for this transition interface compared to the approved Concept Plan.

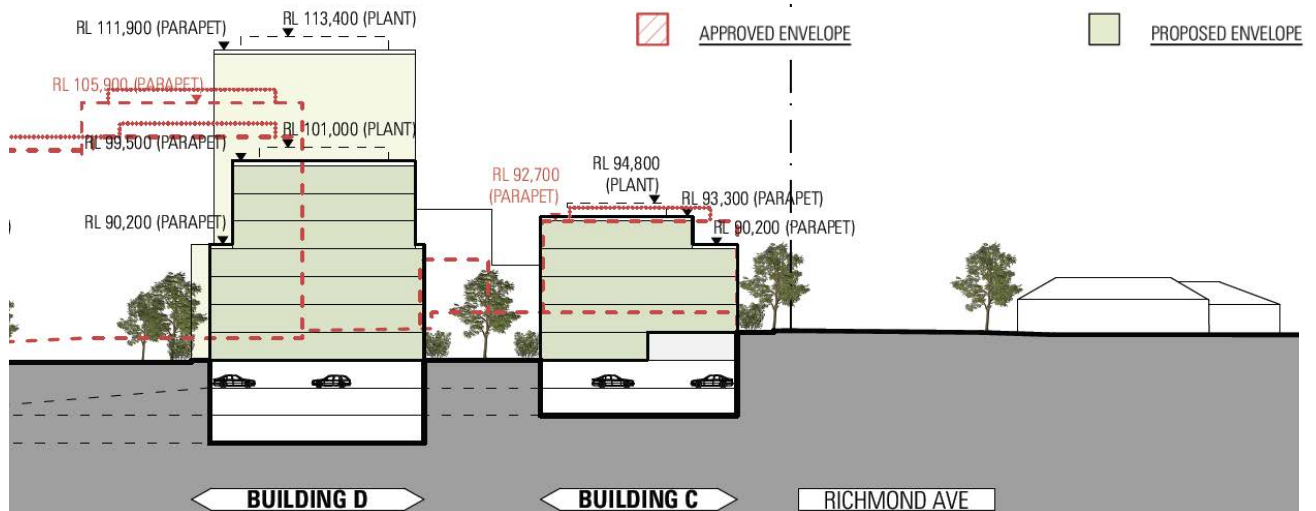


Figure 21 – Section illustrating approved and proposed envelopes to Richmond Avenue

Source: CHROFI



Figure 22 – Indicative photomontage illustrating approved (left) and proposed (right) envelopes

Source: CHROFI

Artarmon Road

Artarmon Road is a local thoroughfare between Chatswood, Artarmon and Willoughby to Willoughby Road and eastern areas of the LGA. The street falls from the west to the east, with some properties on the northern side of the street being set several metres above the street level behind a notable retaining wall. As with the Richmond Avenue interface, the CHROFI master plan proposes a lower-scale street edge that utilises a lower ground floor level and a heavily recessed upper level to present to the street as a 2-3 storey building (**Figure 23**).

Whilst the re-alignment of the public open space to a north-south axis reduces the physical separation between existing dwellings and new buildings at the corner of Artarmon Road and Richmond Avenue, it is considered that the new street edge building will in fact provide a more appropriate transitional scale than the Concept Plan Approval. Under the Concept Plan Approval, dwellings on Artarmon Road between Richmond Avenue and Edward Street look across the street and the narrow approved park directly onto a very wide six storey apartment building. The amended scheme reduces this separation, but the new buildings present as only two to three storeys in height and acts as a visual shield to taller buildings behind. As illustrated in **Figure 24**, the proposed development presents to Artarmon Road in a highly sensitive manner that is appropriate for a low density interface, particularly in light of the taller street buildings within the Castle Vale development immediately to the east of the Site.

Separation distance between proposed and existing dwellings would be some 30 metres, which is more than double the habitable-to-habitable separation distances recommended under the ADG to ensure a suitable level of visual privacy and scale transition.

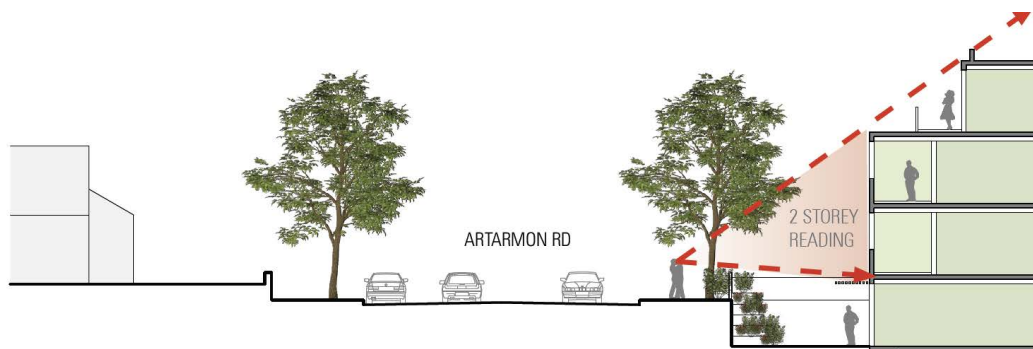


Figure 23 – Section illustrating approved and proposed envelopes to Artarmon Rd
Source: CHROFI



Figure 24 – Indicative photomontage of proposal fronting Artarmon Rd
Source: CHROFI and Ivolve

Castle Vale

The Castle Vale development is an existing residential apartment development with residential flat buildings that scale up in height from Willoughby Road towards the common property boundary with the Site.

The amended master plan reduces the overall height of the easternmost building within the Site (closest to Castle Vale) compared to the approved Concept Plan (from 8 storeys to 4-7 storeys), but also proposes to shift this building closer to the common property boundary. This is illustrated in **Figure 25**. The top two levels of Building G are proposed to be stepped down toward the common property boundary, providing for a reduced visual interface (particularly when viewed from lower levels and ground within Castle Vale) and increased solar access. As a result, the proposed Building G will read as only slightly taller than the adjoining apartment buildings within the Castle Vale site, with a reduced overshadowing impact as detailed in **Section 6.3.2**.

Separation distance between the existing Castle Vale buildings and the proposed Building G would be approximately 25 metres, which is approximately 40% greater than the habitable-to-habitable building separation recommended under the ADG.

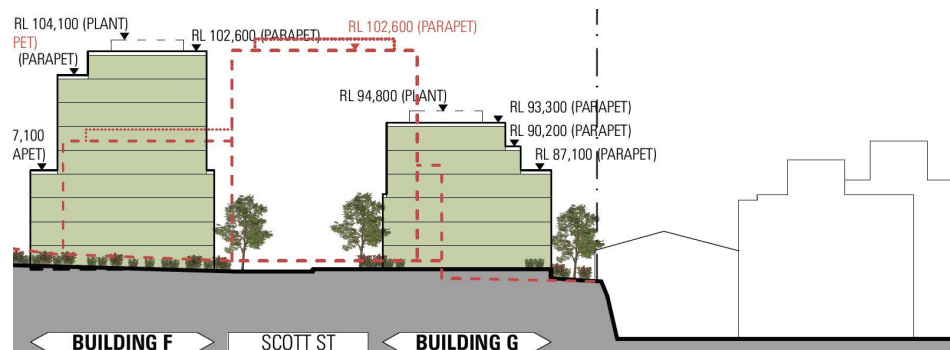


Figure 25 – Section illustrating approved and proposed envelopes to Castle Vale
Source: CHROFI

Walter Street

Figure 26 below illustrates a substantial reduction proposed to the extent of building envelope located along the southern site boundary which interfaces with the Walter Street dwellings. Overall, the length of building adjacent to the southern property boundary is reduced from approximately 155 metres under the approved master plan to approximately 100 metres under the amended master plan. **Figure 27** illustrates that whilst the tallest proposed building within the Site will be partially visible from Walter Street, there will be substantially greater articulation and separation of buildings when viewed from the south. This will provide residents in the backyards of the existing Walter Street properties with a greater sense of openness in comparison to the bulkier approved buildings along the southern boundary. The proposed 'bush building' (Building J) in the south-eastern corner of the site will be heavily sculpted in accordance with the master plan design intent, with a materials palette selected to be recessive in the landscape and blend into the landscaped character of the escarpment.

As noted in **Section 6.2.2**, the properties on Walter Street adjoining the Site were rezoned for medium density residential development up to four storeys in height under LEP 2012, which came into force after the exhibition of the original Concept Plan application. As such, the character of this transitional zone is likely to change significantly over the medium term as these properties are redeveloped.

Building J will be separated from existing Walter Street properties by between 30 and 40 metres, which is more than double the building separation required under

the ADG to ensure visual privacy. The future Development Application for this building will need to demonstrate that appropriate design measures are included to ensure satisfactory privacy, through measures such as unit orientation and solid balconies to reduce direct views. It is noted that as outlined above, it is quite possible that the existing dwellings in Walter Street will have been redeveloped by the time that Building J is delivered and as such these considerations may be different or irrelevant.

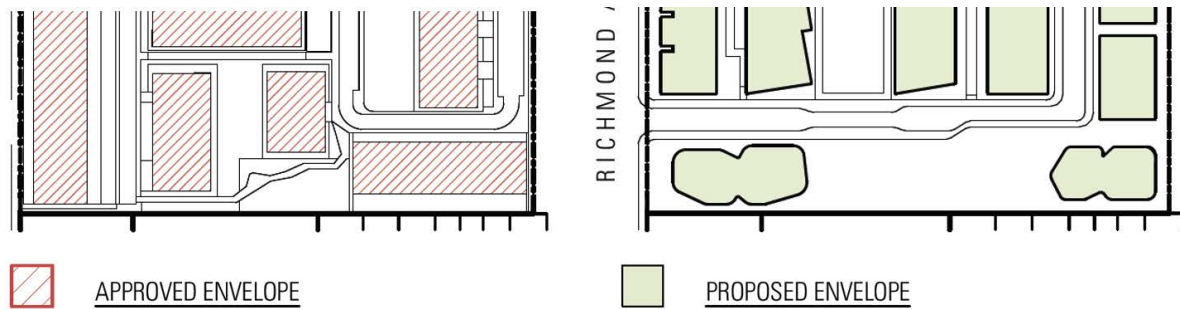


Figure 26 – Comparison of the southern boundary interface and building footprints
Source: CHROFI



Figure 27 – Indicative photomontage of approved (above) and proposed (below) building envelopes viewed from Walter Street (looking west)
Source: CHROFI and Ivolve

6.3.3 Overshadowing

The development of the CHROFI master plan has from the outset been guided by two key principles:

- Ensuring that the proposed master plan does not result in a net worsening of solar access for adjoining properties in comparison to the approved Concept Plan; and
- Ensuring that all existing dwelling houses and apartments achieve a level of solar access that complies with the applicable provisions of the Willoughby DCP and the ADG respectively, except where this is not currently achieved due to existing topographical conditions⁴.

Detailed shadow modelling for the proposed building envelopes has been undertaken at 1-hour intervals between 9am and 3pm for the winter solstice, equinoxes and summer solstice in order to support a comprehensive analysis of the comparative overshadowing impact of the amended master plan (Appendix 1 to the CHROFI Master Plan Report).

Detailed overshadowing diagrams are provided in the Master Plan Report, however, due to the scale of the site, the number of approved and proposed buildings and the complexity of the existing landform, a numerical comparison of the modelling results for approved and amended master plans provides for the most accurate and objective assessment of overall overshadowing impacts.

Walter Street Dwelling Houses

Figure 28 below provides a summary of the solar access to each of the potentially affected dwelling houses located on Walter Street. The Willoughby DCP 2012 requires that private open space and dwellings receive a minimum of three hours of direct sunlight to both the main living room and principal private open space⁵. This table outlines the number of hours (measured at 15 minute intervals) of direct sunlight received to the dwelling's rear façade and private open space at 21 June (winter solstice), presenting a worst-case analysis of overshadowing which would be substantially reduced at other times of the year. For these dwellings, the solar calculations indicate the following outcomes in comparison to the approved Concept Plan:

- **Rear Façade:**
 - 4 of the dwellings would receive more direct sunlight under the amended scheme;
 - 2 of the dwellings would receive the same amount of direct sunlight under the approved and amended scheme;
 - 3 of the dwellings would receive 15 minutes less direct sunlight under the amended scheme, but all of these dwellings would still exceed the DCP requirement of 3 hours; and
 - 1 dwelling would receive 30 minutes less sunlight under the amended scheme, but would exceed the DCP requirement with a total of 5.5 hours of direct sunlight;

⁴ Existing dwellings at 27A, 27B, 29A, 29B and 31 Walter Street currently receive less than 3 hours of direct sunlight due to existing topographical conditions, and therefore currently do not achieve DCP compliance irrespective of approved and future development.

⁵ As it is not possible to determine the location of living areas within each private dwelling, which may not be located to the rear of each property, CHROFI's methodology adopts a measure of the rear (northern) façade of each dwelling for the purpose of this assessment. A detailed description of the solar modelling methodology is contained in Appendix 1 of the Master Plan Report.

- 9 of the 10 dwellings comply with the minimum DCP requirement under the amended scheme, with the non-complying dwelling receiving additional sunlight under the amended scheme in comparison to the approved scheme; and
 - There is a net improvement in direct sunlight hours to rear facades received in aggregate by the affected dwellings under the amended scheme in comparison to the approved Concept Plan.
- **Private Open Space:**
- 3 dwellings received no direct solar access to the main private open space area under the approved scheme due to existing site topographies, and this would not change under the amended scheme;
 - 1 dwelling receives only 15 minutes of direct sunlight under the approved scheme due to existing site topographies, and this would be improved by 45 minutes under the amended scheme;
 - 1 dwelling currently receives only 2 hours of direct sunlight under the approved scheme due to existing site topographies, which would be increased to 2.75 hours under the amended scheme;
 - 1 dwelling that receives 5.5 hours of direct sunlight under the approved scheme would receive an additional 30 minutes of sunlight under the amended scheme;
 - 1 dwelling that receives 4 hours of direct sunlight under the approved scheme would receive the same amount of sunlight under the amended scheme;
 - 3 dwellings would receive less direct sunlight to their private open space under the amended scheme, but would still exceed the DCP requirement with between 4.25 and 5.5 hours of direct sunlight; and
 - There is a net improvement in direct sunlight hours received in aggregate by the principal private open spaces of affected dwellings under the amended scheme in comparison to the approved Concept Plan.

ST NO.	REAR FAÇADE (HOURS)		REAR PRIVATE OPEN SPACE (HOURS)	
	APPROVED	PROPOSED	APPROVED	PROPOSED
31	4.25	5.75	2	2.75
29A	4	4.25	0.25	1
29B	3.5	3.75	0	0
27A	3.5	3.25	0	0
27B	2.5	2.75	0	0
25	5.75	5.5	5.75	5
23	6	6	4	4
21	6	6	5.5	6
19	5.25	5	4.75	4.25
17	6	5.5	6	5.5
46.75		47.75	28.25	28.5
		+ 1 HR		+ 15 MINS

Figure 28 – Calculations of solar access to Walter Street dwellings at 22 June
Source: CHROFI

In light of the above, it can be surmised that the amended scheme provides a lesser overshadowing impact compared to the approved Concept Plan as:

- Aggregate solar access to the 10 affected dwellings is improved for both facades and private open space;

- The majority of affected dwellings either have reduced overshadowing or do not lose any sunlight under the amended scheme for both rear facades and private open space; and
- Where there is additional overshadowing to an individual dwelling, the affected dwelling will still receive a minimum of 3 hours of direct sunlight in accordance with Council's DCP.

Castle Vale Residential Flat Buildings

A small number of apartments within the two south-western residential flat buildings are affected by overshadowing from both the approved and amended master plans. Due to the east-west orientation of these buildings, west-facing apartments only receive direct sunlight after 12pm.

As a result of overshadowing from the approved Concept Plan, four apartments within the Castle Vale development would receive less than the two hours of direct sunlight recommended under the ADG on 21 June (winter solstice). In the amended CHROFI scheme, only three apartments would receive less than two hours of direct sunlight. This represents a net improvement in the overshadowing impacts as a result of the proposed amendments to the master plan on the Castle Vale buildings.

It is noted that under the ADG it is not necessary for each individual apartment to receive a minimum of two hours of direct sunlight, but rather that 70% of the apartments in a building receive this amount. The existing buildings comply with this requirement under both the approved and amended schemes.

Whilst a net improvement is achieved, there is a change to the individual apartments affected by overshadowing between the approved scheme and the amended scheme and the times at which apartments are affected. **Figure 29** below indicates the number of apartments that are overshadowed during each 15-minute interval between 1pm and 3pm on 21 June. During 6 of the 8 measurement periods, there are no more or fewer apartments overshadowed under the amended scheme in comparison to the approved scheme. Between 2:15pm and 2:45pm, one additional apartment is overshadowed compared to the approved scheme. However, the overall assessment is considered to be a net improvement compared to the approved scheme.

Under the approved scheme, four west-facing apartments located across the lower two levels of the southernmost existing residential flat building did not achieve two hours of direct sunlight on 21 June (refer **Figure 30**). Under the amended scheme, the upper two apartments which did not previously receive two hours of sunlight would now achieve this requirement, but one additional apartment located on the lower level in the south-western corner of the building to the north would no longer receive two hours of sunlight. This continues to represent a net improvement in overshadowing impacts as a result of the proposed amendments.

In light of the above, it is clear that:

- There is a net improvement in the overshadowing impacts under the amended scheme compared to the approved Concept Plan;
- The amended scheme ensures that solar access is provided to each affected building in the Castle Vale site would continue to achieve compliance with the solar access design criteria under the Apartment Design Guide (70% of apartments).

1-1:15			1:15-1:30		1:30-1:45		1:45-2	
BLD #	APPROVED	PROPOSED	APPROVED	PROPOSED	APPROVED	PROPOSED	APPROVED	PROPOSED
Tower A	0	0	0	0	0	0	0	0
Tower B	0	0	0	0	0	0	0	1
Tower C	0	0	0	0	1	0	4	2
TOTAL	0	0	0	0	1	0	4	3
No change			No change		Improvement		Improvement	
BLD #	2-2:15		2:15-2:30		2:30-2:45		2:45-3	
Tower A	APPROVED	PROPOSED	APPROVED	PROPOSED	APPROVED	PROPOSED	APPROVED	PROPOSED
Tower B	0	0	1	1	1	1	1	1
Tower C	0	3	0	4	1	6	2	7
TOTAL	8	4	10	7	12	8	14	9
	8	7	11	12	14	15	17	17
Improvement			Reduction		Reduction		No change	

Figure 29 – Measurement of number of existing Castle Vale apartments overshadowed at 15-minute intervals at 21 June

Source: CHROFI

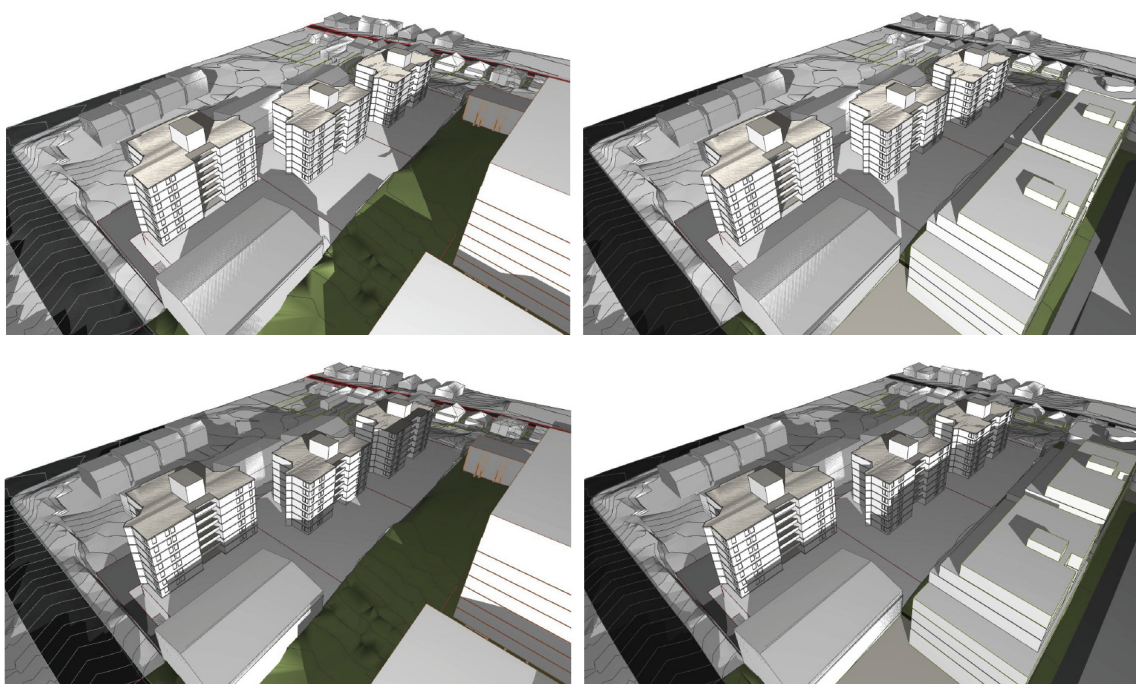


Figure 30 – Castle Vale approved (left) and proposed (right) shadowing for 2pm (above) and 3pm (below) at 21 June

Source: CHROFI

Conclusion - Overshadowing

Overshadowing was one of the major contentions in the assessment of the original Concept Plan application, and was one of the primary reasons for the PAC seeking to reduce the extent and height of building envelopes (and hence the number of approved dwellings) in their final determination. This assessment and further detailed analysis by CHROFI demonstrates that, notwithstanding the proposed increases to height and density under this Modification Application, the outcome of the amended scheme would be a net improvement in overshadowing impacts in comparison to the currently approved master plan. This outcome has been achieved through intelligent design that has resulted in the careful placement of more slender buildings within the Site in direct awareness of the overshadowing constraints, reflecting the overarching design intent of ensuring overshadowing is improved from the current approval.

6.3.4 Density

This Modification Application seeks to increase the Floor Space Ratio (FSR) on the site from 1.2:1 to 1.50:1. As outlined in the preceding and following sections, the consequential increase in the maximum gross floor area (GFA) proposed does not give rise to any significant adverse environmental impacts, and in fact supports a number of initiatives which reduce the impacts of the Concept Plan.

The amended CHROFI master plan positions buildings intelligently within the site and makes use of topographical changes and building set downs to reduce the volume of buildings above existing ground levels within the Site by 4% (**Figure 31**). As such, the appearance of built form density from outside of the Site would be reduced in compared to the approval despite the proposed increase in GFA.

The Site is a large, consolidated land holding that presents a unique opportunity to manage the off-site impacts of higher density development whilst supporting a significant public benefit both through new public open space within the Site and through additional contributions to local infrastructure. These benefits are additional to the existing Concept Plan Approval and therefore require additional density to ensure the feasibility of the project. The proposed density is comparable to or lower than a number of areas within the Willoughby LGA which have similar interfaces to lower-density residential environment:

- Willoughby Road – FSR between 1.5 and 2:1
- Artarmon (west of station) – FSR of 2:1
- Chatswood South (Devonshire St/ Johnson St) – FSR of 1.7:1
- Northbridge – FSR of 2.0 to 2.6:1

It is noted that the adjoining Castle Vale development, which has a maximum FSR of 1:1, was rezoned and constructed in the 1970s. The Castle Vale development was completed around the same time as the extension of the Warringah Freeway to Willoughby Road (1978), and more than a decade before the completion of the Gore Hill Freeway (1992). Given the significant changes in the infrastructure and urban development context of the Site over the intervening four decades, the 1.5:1 FSR proposed for the Site is modest in comparison.

In a broader context, large master planned infill residential sites have achieved densities that are equal to or in excess of that proposed in comparable settings:

- Putney Hill, Ryde – FSR between 1.5 and 2.8
- Union, Balmain – FSR of 1.5
- Clemton Park – FSR between 1.55 and 2.15
- Morton Street, Parramatta – FSR of 1.75
- Arise, Lane Cove (150 Epping Rd, Lane Cove) – FSR of 1.9
- Macquarie Park Village – FSR of 2.28
- Kirrawee Brickpit – FSR of 1.92

In light of the above, it is considered that the proposed increase to density development is compatible with the Site's location and the additional density does not, in and of itself, give rise to any additional environmental impacts. As demonstrated in this environmental assessment and the accompanying design and technical studies, in many instances the proposed modifications support improvements to key planning performance measures. In light of this, the additional density should be embraced as an opportunity to provide additional housing supply, public amenity and infrastructure improvements on a well-located site.

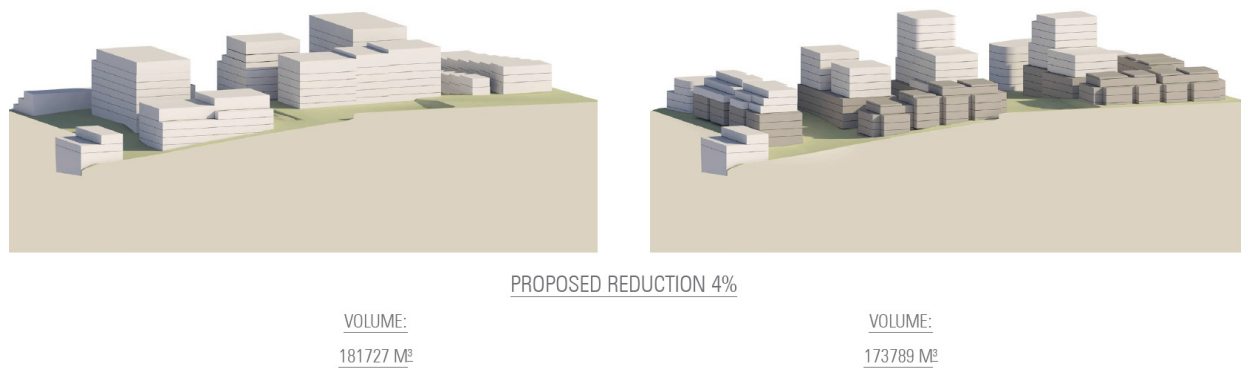


Figure 31 – Comparative assessment of building volume under approved (left) and proposed (right) master plans
Source: CHROFI

6.4 Visual Impact

CHROFI and Ivolve have undertaken a detailed visual assessment to assess the visual impacts of the proposed modifications against the impacts of the approved Concept Plan, which is provided at Appendix 3 of the Master Plan Report. This analysis has adopted the key viewpoints utilised in the assessment of the original Concept Plan for consistency in the assessment process.

Visual impact assessment cannot simply be defined by a comparison of building heights or floor space ratios. The placement of building mass, including the orientation and depth of buildings, relationship between buildings and any changes to site levels all have a significant impact on the perception of the overall building massing. A key design principle in the CHROFI master plan has been to minimise visual impacts and open up potential view corridors through the Site, through the north-south alignment of taller and narrower buildings and the creation of the central spine parkland. The key central corridor, illustrated in **Figure 32**, along Edward Street is a significant local and district view corridor along the 500 metre direct alignment of this street and from further north along Penshurst Street. Similarly, in views from the south around Naremburn, wide views to the Site present the opportunity to provide a more responsive approach to building envelopes to provide greater separation between buildings and minimise visual impact. Under the approved Concept Plan, the large east-west aligned six storey building provides a bulky mass that blocks these through-site views and increases the perceptible building mass.



Figure 32 – Axis from Edward St to St Leonards (left) and actual view south along Edward St from Penkivil St (right)