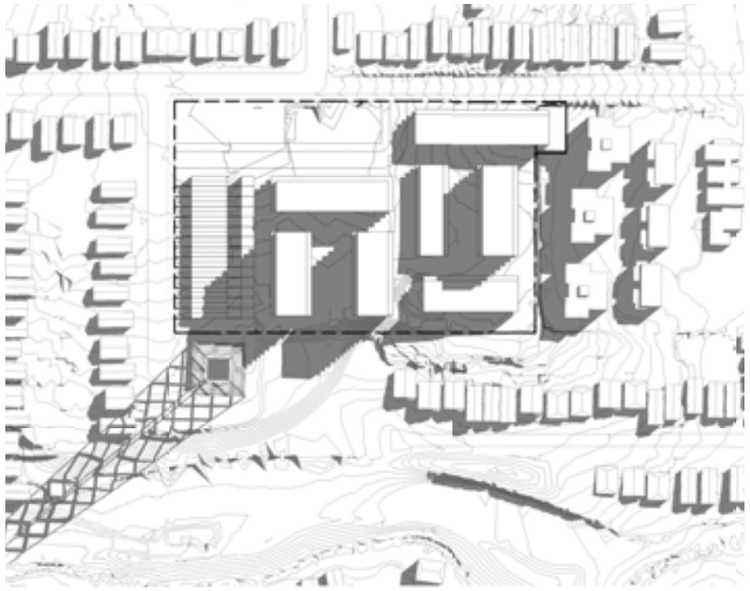
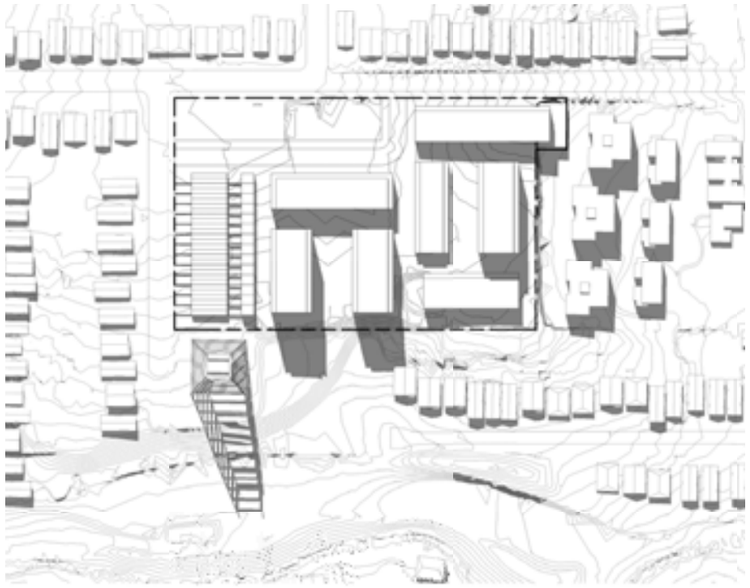
### 6.2.4 Shadow Study



01 Equinox (22 September 2012) 9am



02 Equinox (22 September 2012) 12pm

03 Equinox (22 September 2012) 3pm

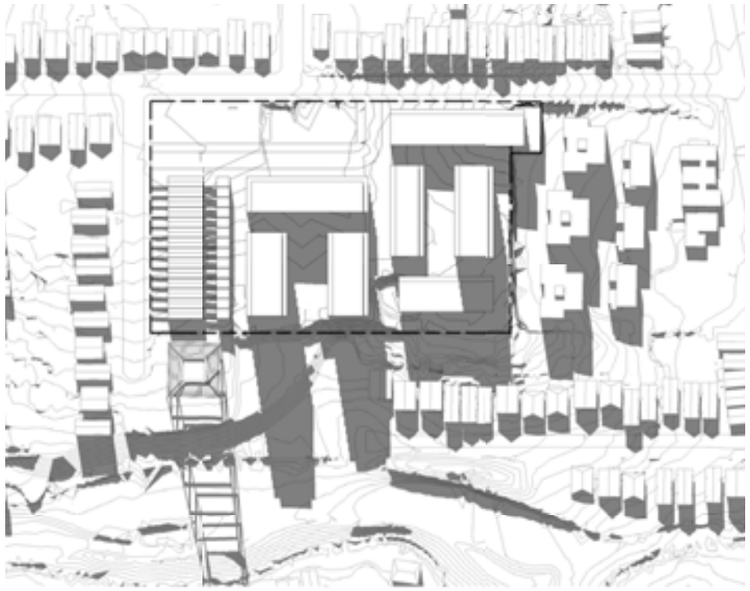
Equinox Shadow Analysis - Option 02

Minimal impact on neighbouring properties with some over-shadowing of the Walter Street rear gardens from midday.

Over-shadowing by the taller buildings falls over the Council Reserve and telecommunications tower to the south of the site.

### 6.2.4 Shadow Study

04 Mid-Winter (21 June 2012) 9am



05 Mid-Winter (21 June 2012) 12pm

06 Mid-Winter (21 June 2012) 3pm

Mid-Winter Shadow Analysis - Option 02

Any development on the site will cast a shadow during the morning (9am to 10am) and afternoon (2pm-3pm) in mid-winter.

The most sensitive period is during the middle of the day. The setbacks from the southern boundary ensure the Walter Street properties aren't impacted. The longest shadows fall over the Council Reserve and the Gore Hill Freeway.

### 6.2.5 View Analysis - Option 02

01 View across the Gore Hill Freeway from Naremburn

03 View From Richmond Avenue

02 View across the Gore Hill Freeway from Naremburn

04 View From Richmond Avenue

### 6.2.5 View Analysis - Option 02

01 View from Edward Street

03 View from the corner of Richmond Avenue & Artarmon Road

### 6.2.5 View Analysis - Option 02

01 View from the corner of Artarmon Road and Scott Street

03 View from Walter Street

02 View from Edward Street

04 View from the corner of Richmond Avenue & Artarmon Road

### 6.2.5 View Analysis - Option 02

01 View from the corner of Small Street and Willoughby Road

02 View from the corner of Small Street and Willoughby Road

03 View from Willoughby Incinerator

04 View from Willoughby Incinerator

### 6.2.5 View Analysis - Option 02

01 View from Artarmon Reserve

03 View between no. 16 & 18 Salisbury Road

02 View from Artarmon Reserve

04 View between no. 16 & 18 Salisbury Road

### 6.2.5 View Analysis - Summary

Similar conclusions can be drawn to those outlined above in Option 01 (6.1), where the long views to the site illustrate the visibility of the development. The most notable view being 01, 03, 06, 08, 09 and 10.

The replacement of the contiguous building along the eastern boundary with four buildings, including a 12-storey block, results in the site being increasingly visible from the east. Views 07, 08 illustrate the impact of this change in the scheme.

The variations in the heights of the taller buildings makes a positive contribution to views 01 and 06, which now show the massing stepping down from the tallest (16-storeys) adjacent to the telecommunications tower down to 12-storeys at the eastern boundary.

Views that need further consideration throughout the design process include 03, 07 and 08.


01 View across the Gore Hill Freeway from Naremburn


03 View From Richmond Avenue


03 View from Edward Street


04 View from the corner of Richmond Avenue & Artarmon Road


05 View from the corner of Artarmon Road and Scott Street


06 View from Walter Street


07 View from the corner of Small Street and Willoughby Road


08 View from Willoughby Incinerator


09 View from Artarmon Reserve


10 View between no. 14 and 16 Salisbury Road

### 6.2.6 Design Appraisal

**1. Spaces**

*The design will incorporate the creation of significant open space on site that is for the residents and the general public alike. This space will provide amenity through landscape design that promotes healthy and active lifestyles, improve amenity for existing and proposed dwellings, visual privacy and the opportunity for recreational and social engagement.*

Design Response
1. Linear park along Artarmon Road, 25m x 132m, featuring passive and active recreation, publicly accessible
2. Front and rear gardens provided for the terraces along Richmond Avenue
3. Improve the site permeability and connectivity with surrounding areas by encouraging pedestrian movements through the site
4. Ground floors apartments have access to private open spaces (courtyards)
5. All other dwellings have access to a range of private open spaces within their developments - improved contained of courtyards from Option 01

Recommendations
- Address the change in levels along the Artarmon Road frontage, which fall in 4m west to east, through terracing of the space of retaining walls along its eastern edge
- Further characterisation of the site's various spaces, including the setback zones around the site's edges

**2. Access**

*Access to the site will be gained through a number of spaces and routes, for a range of modes, and in a manner that allows safe movement patterns. The layout of the site should encourage residents and neighbours to walk and cycle, instead of relying on the private vehicle to access services or commute to work and school.*

Design Response
1. Minimise the number of access and egress points for vehicles from Artarmon Road - 3 (existing) to 1 (proposed)
2. Provides additional access from Richmond Avenue, at its northern end near the junction with Artarmon Road
3. Avoiding site access at the junction of Edward Street and Artarmon Road
4. Access to site at existing Scott Street junction with Artarmon Road is removed. All basement levels are accessed from within the site, via the connector roads

Recommendations
- Define the turn-in and turn-out arrangements for the Artarmon Road access
- Determine wher the access to basement level parking is provided from the north-south connector roads
- Test the requirements for the Scott Street basement parking entrance - whether this can be provided within the site
- Refer to accompanying traffic report by Aecom

**3. Circulation**

*The circulation arrangement will provide permeability through the site for both residents and the wider community, unlocking a previously contained and secure site. For ease of navigation, sense of place and safety, the site will feature streets and spaces fronted by buildings. All streets and routes will be owned and managed by the strata, though they'll remain accessible to the public.*

Design Response
1. Two north-south connector roads provide access between Artarmon Road and the park in the north of the site, to the site's southern boundary and Walter Street, via the Council Reserve
2. All routes are publicly accessible and feature pedestrian and cycle paths
3. Site's access road (along park edge) and connector roads are fronted by development, including ground floor apartments with direct street access
4. Western connector road provides access to the terrace's rear garages and granny flats, which ensures access from Richmond Avenue is retained for pedestrians only
5. East-west access through the development parcels is provided for pedestrians.

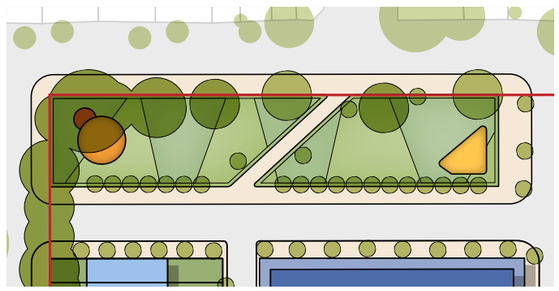
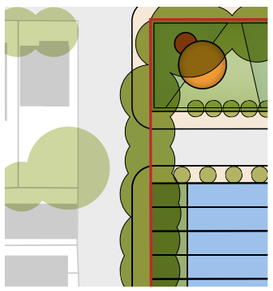
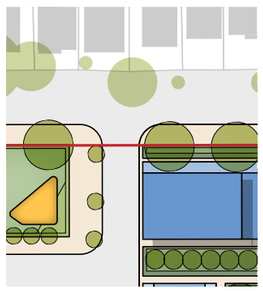
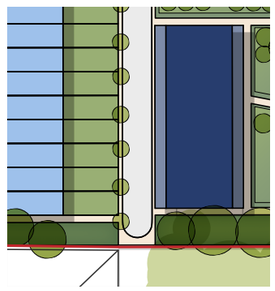
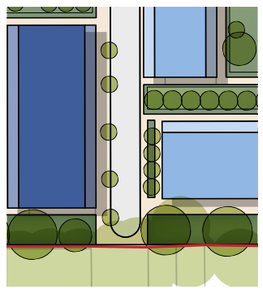
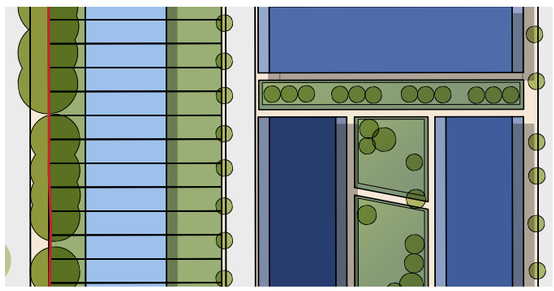
Recommendations
- Define whether the east-west pedestrian connections (point 5) are publicly accessible
- Investigate the type and form of pedestrian connection between the site and Walter Street through the Council Reserve

**4. Transition**

*The proposed development will respond to the existing character and grain of the neighbourhood, and will also relate to the future desired character that Council has proposed for the Willoughby Road Corridor. Redevelopment of the site will respond to the varying conditions by transitioning height and mass from the neighbouring properties to the internal 'void' zones deep within the site's boundaries.*

Design Response
1. 4-storey building at south-eastern corner facilitates transition between Walter Street to the south and the site's taller buildings to the north (12) and north-west (16 & 12 storeys)
2. The heights and footprints of buildings steps down towards the more sensitive streetscape, particularly Richmond Avenue and the western end of the Artarmon Road frontage.
3. 12-storey block at the site's eastern boundary seeks to transition to the 7-storeys at Castle Vale - see recommendations

Recommendations
- Too much height at the eastern boundary, as the 12-storey block will appear overbearing when compared to the existing 7-storey development. A relationshop that is compounded by the change in levels
- Greater change in building heights between the taller buildings (centre) and the site's eastern boundary, and the northern edge to the public park

### 6.2.6 Design Appraisal

**5. Interface**

*The site will address the four varied edges that exist along its boundary by respecting and contributing positively to these different conditions. Proposed development will address the edges with built frontages and landscaped setbacks that remove the gated perimeter fence and return the site to the neighbourhood*. The form and scale of development will be compatible with the existing properties.

Design Response
1. Development along Richmond Avenue is two-storey terrace typology, reflecting the existing low-density character of the street
2. Artarmon Road features a linear park, which sets development 45m back from the street edge
3. Development along the eastern end of Artarmon Road responds to the change in levels and the elevation of the properties along the northern frontage
4. Setbacks from the site's eastern and southern boundaries respond to over-shadowing of existing properties - see recommendations
5. Taller buildings are located in the centre of the site where the impact on adjacent properties is reduced

Recommendations
- Development along the eastern boundary needs to be reviewed in terms of the transition between Castle Vale (existing 7-storey development) and level changes
- The built form along the southern frontage of the park should be considered in terms of its visual impact and interface with a public space

**6. Scale**

*Development will be of an appropriate scale, in terms of height, location, orientation and yields. This will be achieved by balancing height of development with open space and the public realm to achieve the optimum level of density. The visibility of the site is a major consideration, one which will influence the location and orientation of buildings, particularly when viewed from the south of the site.*

Design Response
1. Heights not to exceed 20-storeys, as was proposed in the initial 2010 concept plan
2. Taller buildings along the site's southern boundary to be orientated with the short-edge to the south, reducing its visibility from Naremburn, Walter Street and the Gore Hill Freeway
3. Single contiguous building has been replaced by four buildings that range in height from 4-12 storeys, to provide the same GFA as Option 01, just in a more conventional arrangement that satisfied SEPP 65 requirements

Recommendations
- Reduce height of key buildings to respond to visual impact of site within long views, as outlined above

**7. Shadows**

*Built form will be designed and orientated to ensure reasonable daylight access is delivered to all properties and public domain within and adjacent to the site. Setbacks, open spaces and building articulation should be used to maximise access to sunlight and mitigate any instances of over-shadowing caused by the proposal. Careful consideration should be granted to those properties located to the south-east, south and south-west of the site.*

Design Response
1. Development setback from the eastern and southern boundaries to be a minimum of 10m
2. Reduce height of buildings along southern and eastern boundaries (maximum of 4-storeys)
3. Taller buildings to be located in the centre of the site where shadows are cast over the Council Reserve, telecommunications tower site and the Gore Hill Freeway
4. 4-storey at the southern edge reduces the impact on Walter Street properties, though a reduction in the 12-storey block to its north is required to mitigate some of the impact it causes

Recommendations
- Respond to the shadow diagrams outlined above, particularly the impact of the development at midday during mid-winter
- Ensure appropriate analysis of solar access for proposed buildings, in line with SEPP 65 requirements

**8. Sustainability**

*Sustainable design and development measures will form the basis of development on this site. At this early stage nothing is precluded. Sustainability will be approached holistically looking at a triple bottom line concept that looks at Economic, Social and Environmental objectives. Measures will be undertaken to ensure the future of the community is secured over the life of this project.*

Design Response
1. All appropriate sustainability approaches and mechanisms can be investigated as part of the on-going design
2. Scale of development will support co-gen or tri-gen energy centre
3. WSUD systems to be designed as part of the site's landscape and open space network
4. Support a car-sharing scheme, which will reduce the number of parking spaces required on the site, reduce car ownership, and encourage patronage of public transport

Recommendations
- Nothing is precluded at this stage of the project
- See ESD Statement in accompanying report by JBA Planning