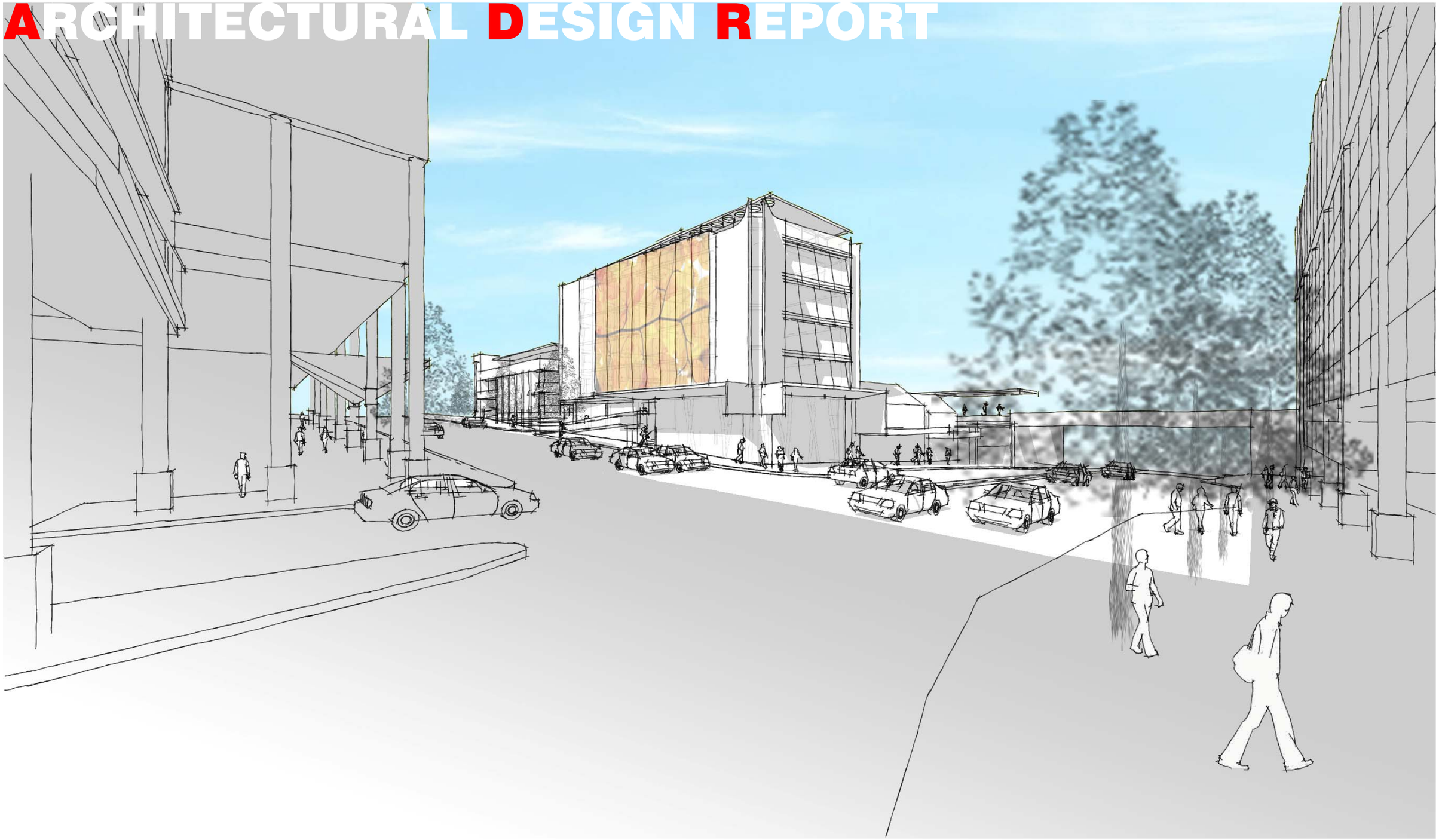
# ARCHITECTURAL DESIGN REPORT



## miranda dental hospital

### 84-86 kiora road, miranda

for Dr Gen Russo, Gentle Dental Care

geoformdesignarchitects

may 2011

# contents

# 01 introduction

This Architectural Design Report has been prepared by GEOFORM DESIGN ARCHITECTS to form part of the Part 3A Project Application submission to NSW Planning on behalf of Dr Gen Russo, Gentle Dental Care Pty Ltd, in relation to the site at 84-86 Kiora Road, Miranda.

## client

Dr Russo is a registered cosmetic dentist and one of Sydney's leading dental practitioners with extensive experience in all aspects of dentistry. In particular, he is considered one of the leading specialists in implant surgery.

Over the last thirty years Dr Russo has built each of his dental practices, ‘Gentle Dental Care 7 days’, into a truly one-stop dental service with an impressive and talented staff of over 50 dental professionals.

This very successful business model has laid the foundation for the proposed, purpose built, dental care hospital. This state of the art building and dental fitout will provide Miranda with its own world’s-best-practice Dental Hospital.

This new development will see the further employment of approximately 86 Dental Care staff plus 2 ancillary retail staff. Of the 86 dental care staff, there will be 28 doctors, 37 nurses and 21 support and administration people.

## vision

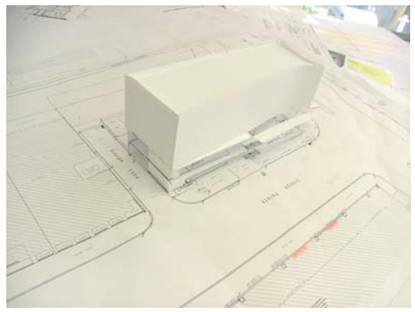
To embody the ‘world’s best practice’ principles in a built form that conveys the state of the art, forward thinking that Dr Russo believes in - through the expression of the architecture and its detailing;

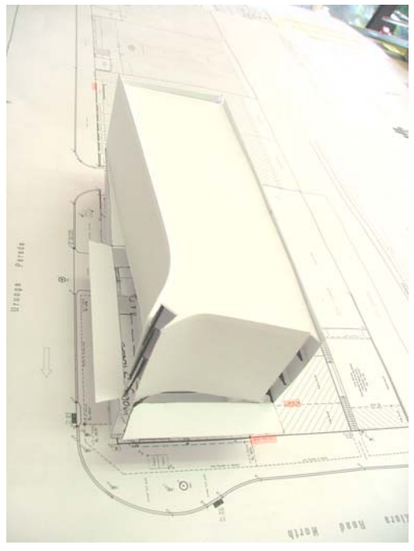
To create a unique building that breathes new life into the Miranda commercial centre which is currently dominated by an environment of large expanses of flat concrete and masonry facades. The proposed corner site for this development takes advantage of its ‘gateway’ location and provides opportunity for a dynamic building form that reinforces and focuses the positive aspects of the busy Kiora Road and Urunga Parade intersection;

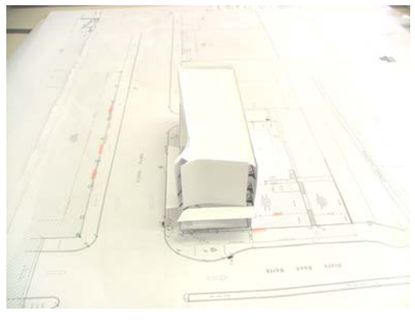
To take advantage of its key and central transport hub location and enhance the active street frontages of Kiora Road and Urunga Parade with transparency and interesting forms;

To create an environmentally sustainable building with a very high quality of design and with reduced running costs for the life of the building; and

To identify, introduce and reinforce the evolving medical community in the precinct.







# 02 built form and urban design

The design evolved from an understanding of the objectives within Councils LEP and DCP, an application of strong urban design principles and a direct response to the immediate context.

## public domain

Given the overbearing flat façade presence of the built up environment within which this site sits, public domain is low on quality, scale, articulation and visual interest. It was the goal of this design processes to specifically address and humanize the public domain, whilst creating a focal point of civic pride, under the following experiences:

## @ street level

The playful interface that runs south down Kiora Road from the Urunga Parade intersection, with a variety of shop fronts and awning heights, has been lost with the newer larger footprint buildings that have been built over the last decade. Our proposal seeks to actively engage the pedestrian with visual interest, transparency and variety of built form at the street edge.

## urban form

The building responds more sophisticatedly at macro level. Rather than produce a block stepped form as prescribed in the Council's LEP and DCP, we have tried to reinterpret the setback principles and apply a more dynamic, fluid aesthetic to the building form. It addresses the corner as a taller form, signifying a 'gateway' element and also offering a counter point to the horizontal mass of Westfield's form. The shape of the envelope has been derived from the phenomenology of spatial movement, ie: spatial flow translated to built form, which express the "turning" and "collecting" quality of the surrounding space (a bit like a vertical piazza) that then terminates and dignifies the currently bland intersection with a vertical spire that also signals the main entry to the buildings essential service. This formal response results in more setback volume / effect than would have been achieved via DCP controls. See the 'volume and massing' studies in the site analysis – section 05.

## materiality / detail

The articulation and materiality of the facades have come about from essentially 'green' decisions. The longer northern elevation along Urunga Parade houses a glazed cooling/heating plenum that utilises the northern sun in summer to establish a 'stack' effect to naturally ventilate the plenum and remove hot air away from the inner skin of the façade. This glazed plenum also acts to trap warm air during the winter months to insulate the building and reduce heat loss.

The plenum doubles up as a civic art installation and will incorporate a digitally printed interlayer laminated in the outer skin of glass.

The shorter, east and west, elevations address solar concerns by incorporating automatic sunshields, or blinds, to add a layer of visual texture.

The southern elevation is divided into two layers with the upper levels utilising more transparent and visually softer materials than the base to minimize visual bulk until such a time that the adjoining site is developed.

The building will be detailed to reflect the exacting and 'state of the art' thinking of its occupants. The overall palette and expression is to evoke a friendly, humanizing presence for the street intersection at this very busy pedestrian and transport hub.


Figure 3.01

## 03 location

The site is located at 84-86 Kiora Road, Miranda, and is within the Miranda Commercial Centre. It is a corner site at the intersection of Kiora Road and Urunga Parade with a third street frontage for rear lane access from Urunga lane. The site is nestled amongst the existing Westfield's development to the North and West, and is a short 30m walk from the Miranda train station to the South.

The site is currently occupied by a two storey brick and tile building which accommodates a bottle shop and hardstand parking accessed from Urunga Lane.

The outlook to the North and West frontages is totally obscured by the neighbouring Westfield's development; however, there are potential distant views to the South from an elevated position. Outlook East of the site is restricted by neighboring developments along the south side of Urunga Parade and the rise of the natural topography.

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# 04 streetscape

Streetscape View – West elevation of Kiora Road


**Figure 4.01**

Streetscape View – North elevation of Urunga Parade


**Figure 4.02**

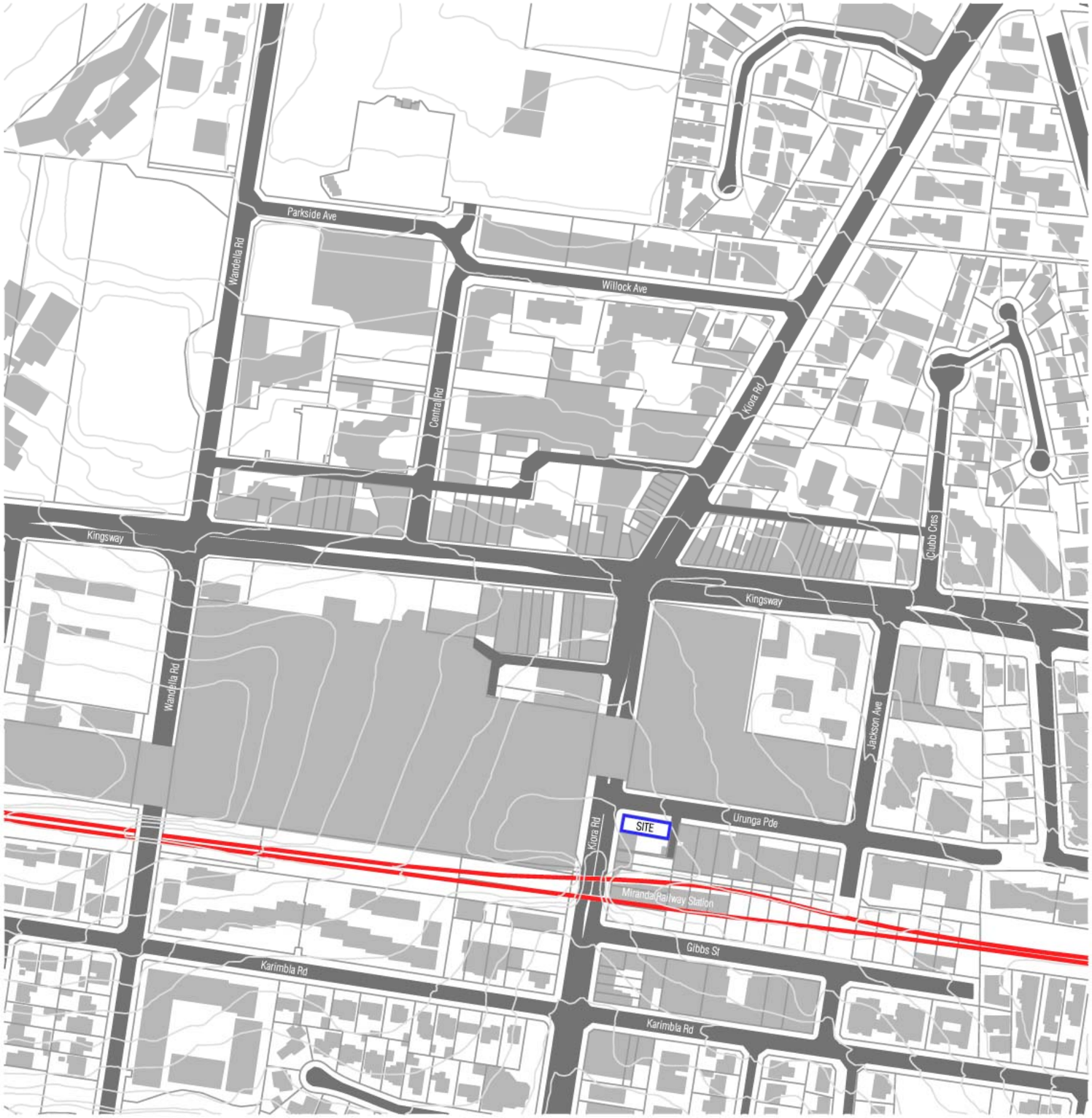


Figure 5.01

# 05 site analysis

## topography

The site falls approx 2 metres from the high point at the eastern site boundary, adjacent to Urunga Lane, to the low point at the western site boundary adjacent Kiora Road. There is also a cross-fall of approx 0.6 metres from Urunga Parade towards the Railway Station to the south.

KEY

2m contours

Site

Illawarra Railway Line

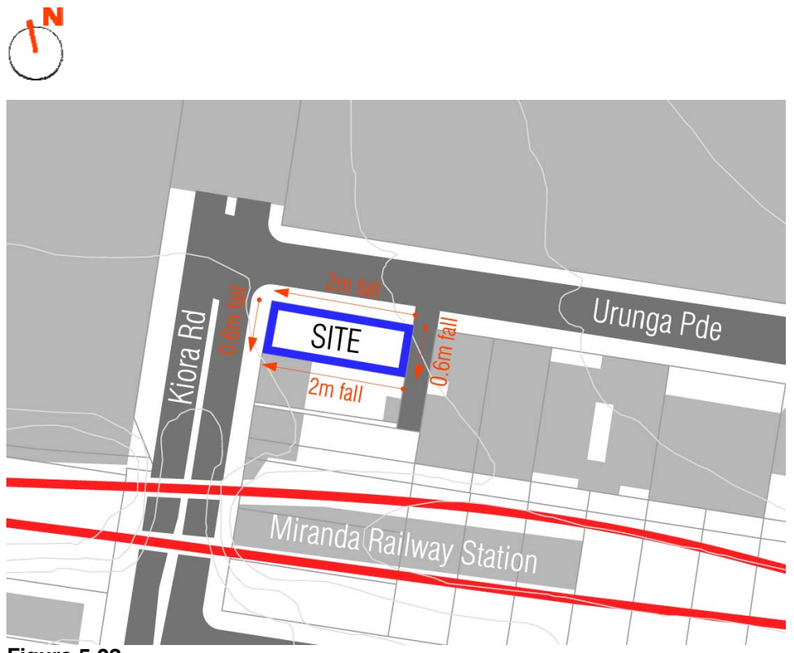


Figure 5.02

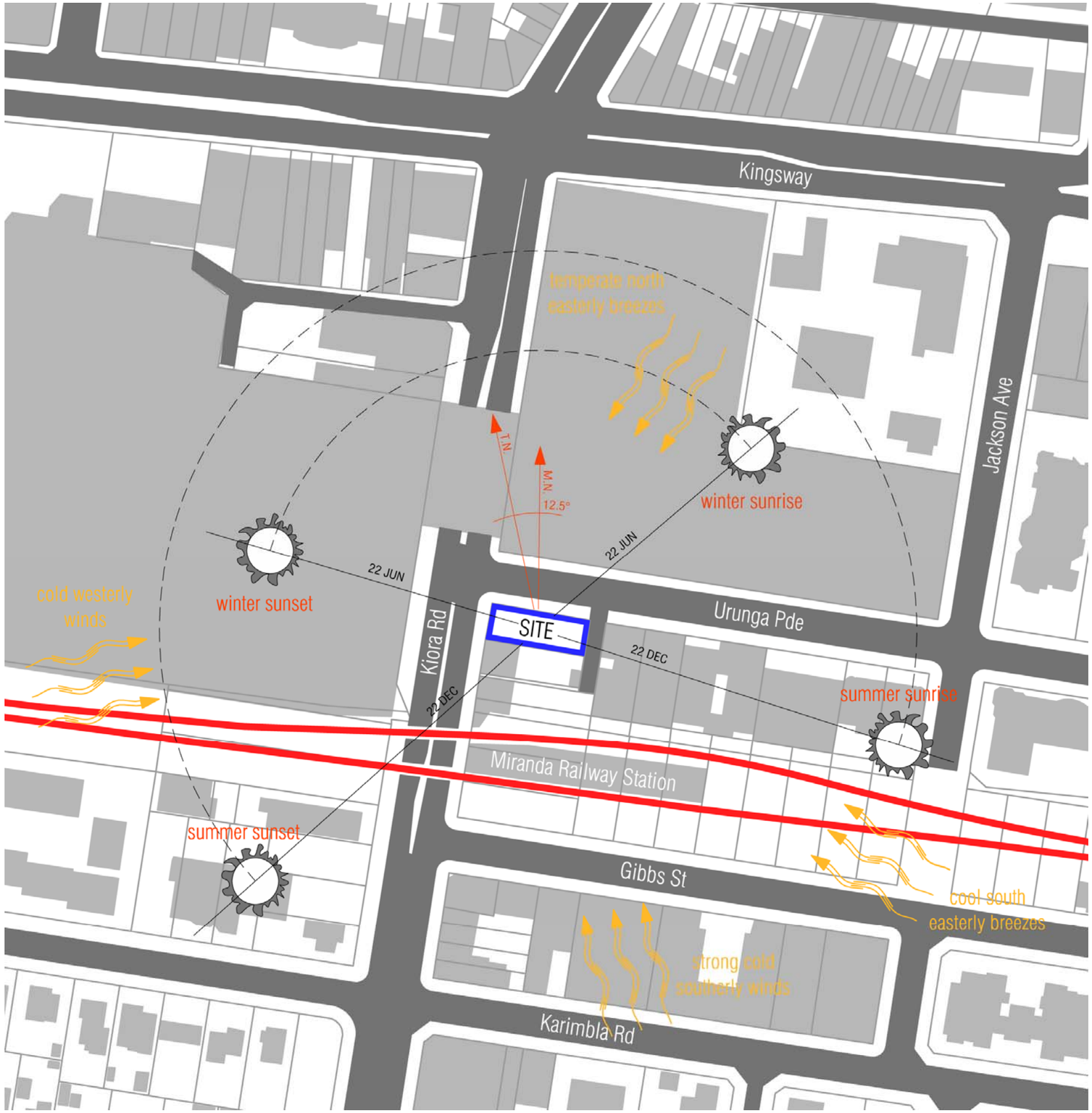


Figure 5.03

## orientation and environment

The long axis of the site is aligned to the east and west and with three street frontages to the West, North and East there is good solar access to the site for most of the year. Solar access to the northern façade is only restricted in winter by the high Westfield facades to the North and West but still receives good solar access to the levels above the street awning between 11am and 3pm.

The longer Urunga Parade frontage is orientated to the North with the West frontage facing onto Kiora Road and the East frontage facing onto Urunga Lane. The south frontage is bounded by the only adjoining property which accommodates an existing 2 storey shop of brick and tile construction.

The site is subject to an annual cycle of warm, temperate, and cold winds which swing from the north to the south direction. In summer the site receives predominantly temperate north easterly breezes with some cool south-easterly breezes and stronger southerly winds. In winter the site receives predominantly colder southerly winds from Botany Bay and cold winds from the west.

Spring and autumn predominantly brings temperate breezes from the north east and cooler winds from the south west respectively.


**Figure 5.04**

## noise

The site is located on Kiora Road at the intersection of Urunga Parade; a busy local collector road that runs in a north-south direction and intersects the RTA main road, Kingsway, north of the site. The site also fronts Urunga Parade which is a local road that can also be accessed from the Kingsway via Jackson road to the north east. As such the site is exposed to some noise from vehicles using these roads as they pass by or queue at the intersection of Kiora Rd and Urunga Parade.

The site is also located approximately 30m north of the Illawarra Railway Line.

Impacts of the traffic and rail noise affecting the site have been detailed in the Noise and Vibration Assessment by 'Acoustic Logic'. See appendices to the Environmental Assessment Report.

## pedestrian and vehicle access

Sutherland Council identifies the subject site as having a very high accessibility index due to the very close proximity of various types of public transport including bus stops, the railway station and a taxi rank; all are within 30 metres of the site.

The site is situated on the primary walking route from the train station to Westfield shopping centre complex.

The proposed development seeks to reuse the existing vehicle access point from Urunga Lane. This will maximise the active frontages available to both Kiora Road and Urunga Parade.

There is an existing unused vehicle crossing from Urunga Parade that will be removed with the kerb and footpath reinstated to Council's requirements.

Existing crossing levels and alignments, utility services and boundaries are documented on the survey detail plan. See appendices to the Environmental Assessment Report.

**Figure 5.05 – not used**

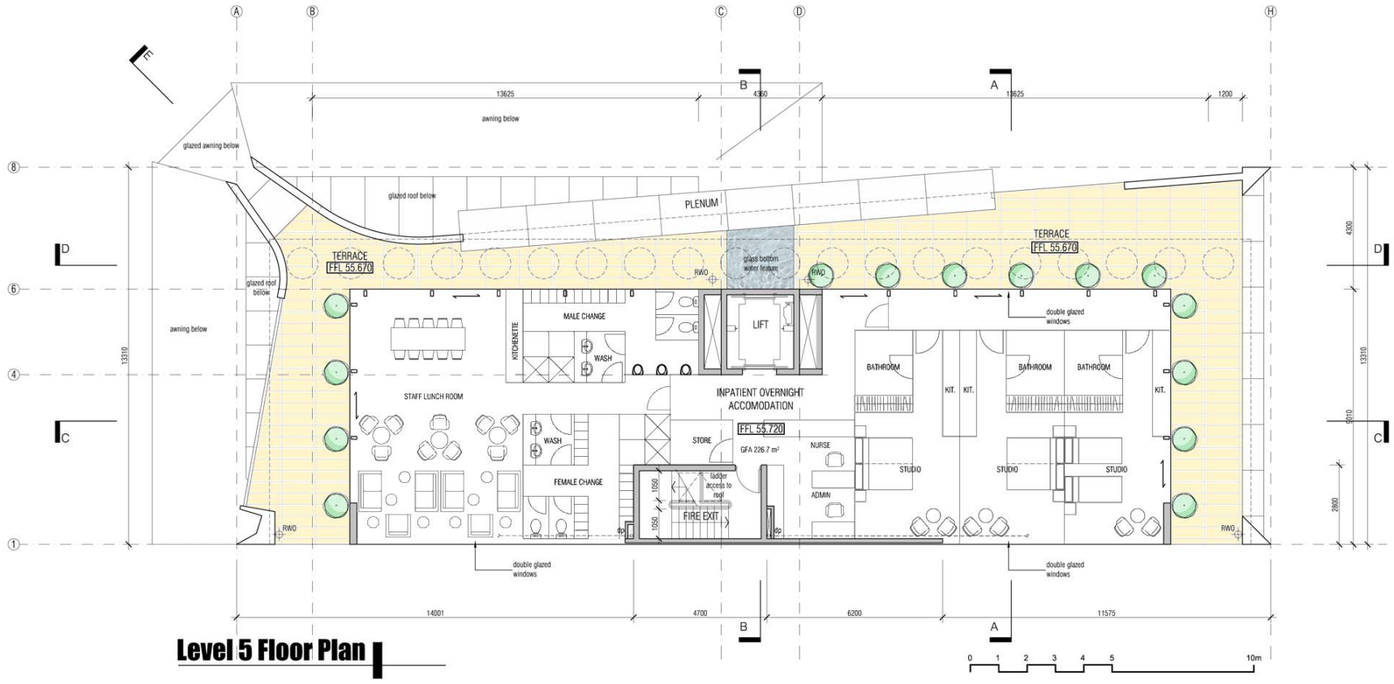


**Figure 5.06**

## open space and landscaped areas

The existing site is currently void of any vegetation and there are no street trees in the footpath adjacent.

The proposed development includes provision for a new street tree in the footpath adjacent to Urunga Parade. The tree will be selected to match the existing street trees opposite the site on Urunga Parade or be of a suitable species to the satisfaction of Local Council.

An additional street tree is proposed to be included in front of the neighbouring building at 50-52 Urunga Parade and seeks to reinforce the avenue of trees that currently exist on the northern side of Urunga Parade adjacent to Westfield. Refer to Figure 5.15 ad Figure 7.05.

Open space on the site is limited to the top storey terrace that wraps around the building on the eastern, northern and western sides of the site. This space is dedicated to use by staff and overnight inpatients.

Key

glass bottom water feature over void to upper ground floor entry lobby

paved outdoor terrace

potted plant

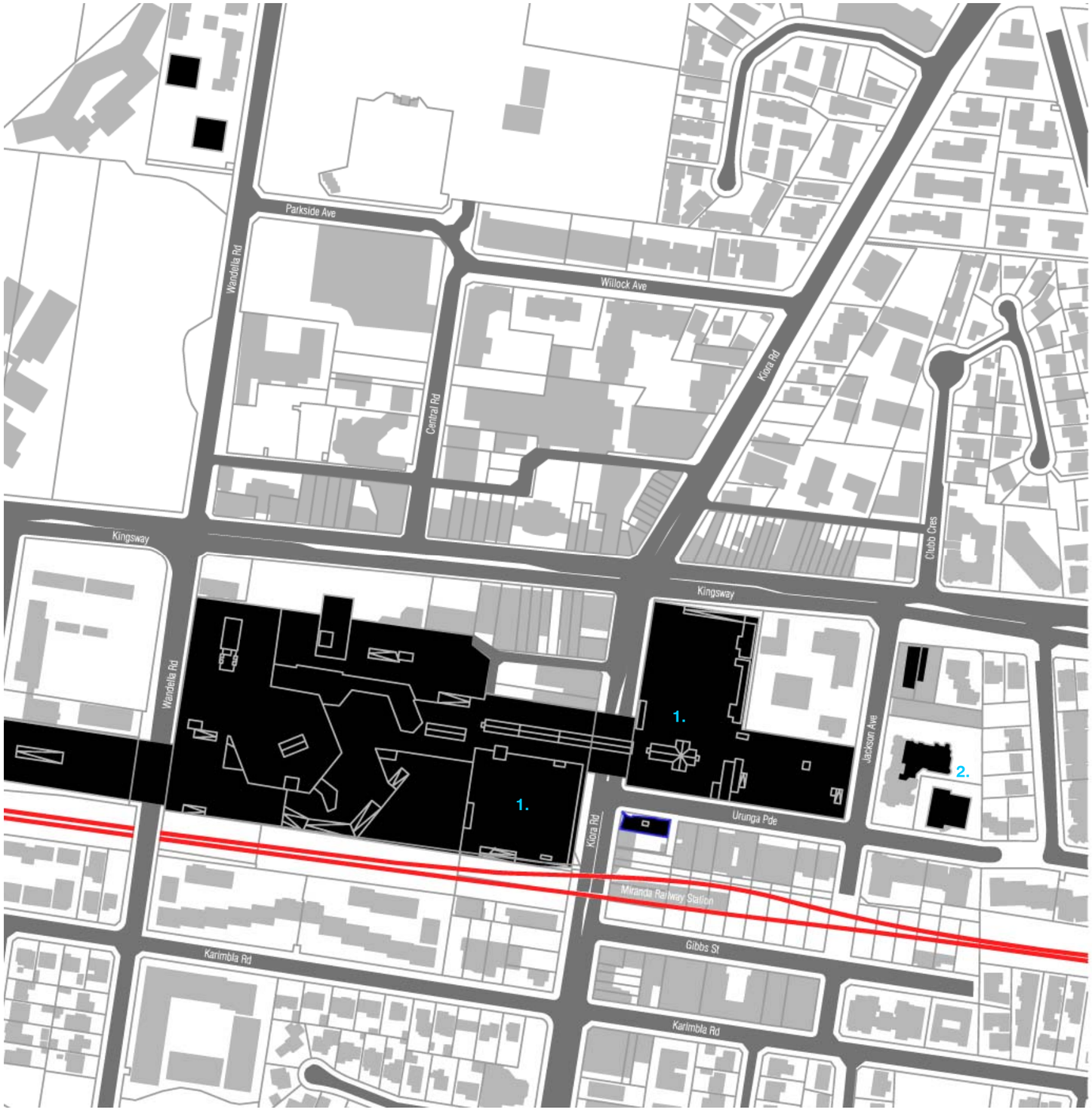


Figure 5.07

## context

The context surrounding the subject site is dominated by the height and bulk of the Westfield Shopping Centre which is located immediately to the North and West of the subject site. When viewed from the subject site, the perceived height and bulk of Westfields is defined by its perimeter parapet wall, typically set at RL 59.00 AHD. It is this datum height that the proposed building height is limited to, even though the permissible height for the site exceeds the RL 59.00 AHD datum.

The diagram on the left shows a plan cut through the surrounding context and the subject site at **RL 58.00 AHD**. This represents a section taken through the upper most floor plate (7th storey) of the proposed building and shows that the bulk and scale of the proposed building is in context with the surrounding development.

The proosed building is shown nestled into the south eastern internal corner of the Westfields development.

KEY

1. Westfield Shopping Centre

2. Residential tower forms

sectional cut through buildings in plan at RL 58.00 AHD

building footprints below RL 58.00 AHD

sectional cut through top storey of proposed building

cadastral survey

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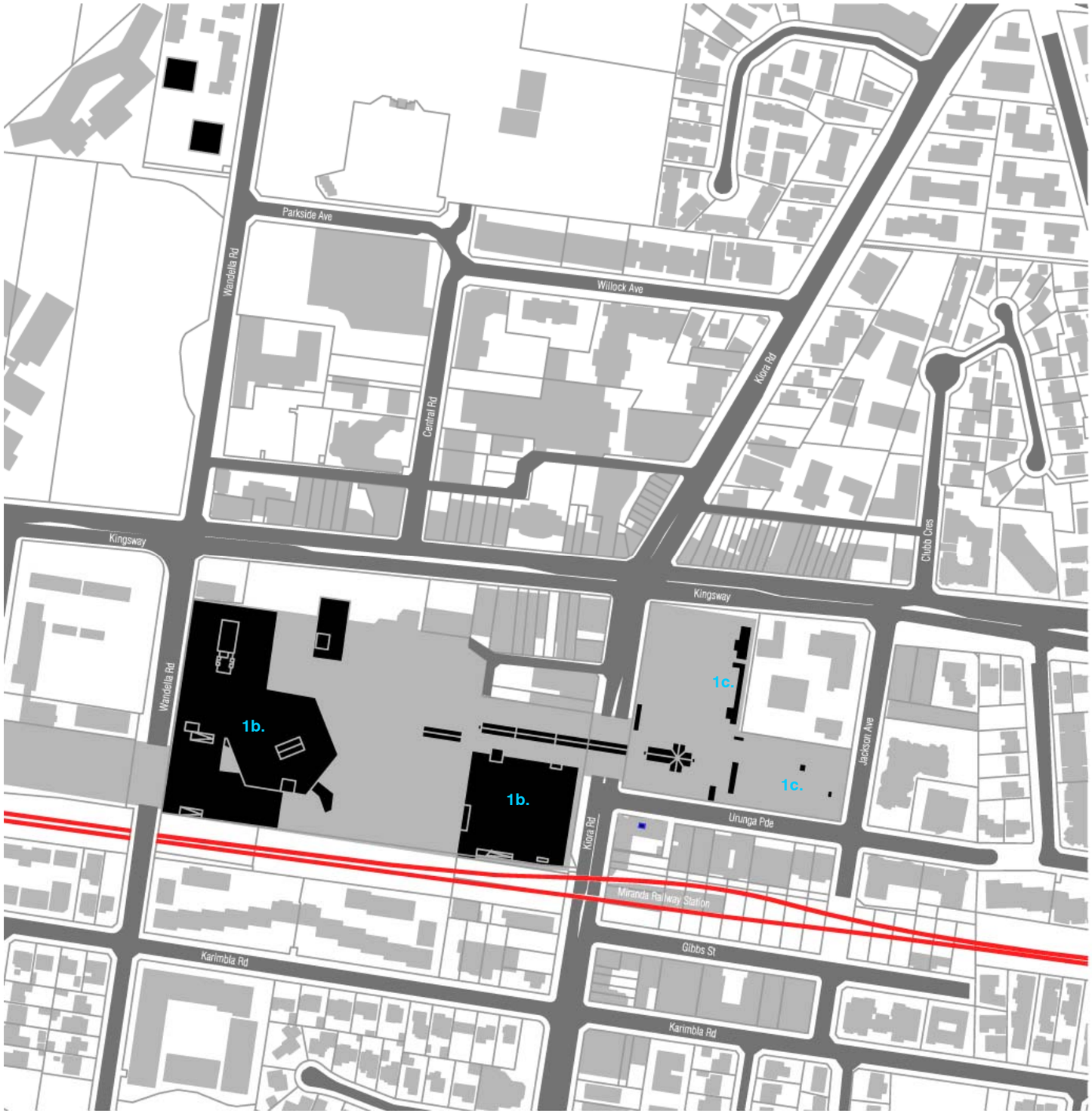


Figure 5.08

This second image on the left shows a plan cut through the surrounding context and subject site at **RL 59.00 AHD**. This represents a section taken immediately above the roof level of the proposed building and identifies the additional height and bulk of the surrounding buildings that is not necessarily immediately percieved from the street level.

KEY

1. Westfield Shopping Centre
   - 1a. glass roofed entry points
   - 1b. additional car parking levels above RL 59.00 AHD
   - 1c. scattered plant rooms and emergency exit structures
2. Residential tower forms

sectional cut through buildings at RL 59.00 AHD

building footprints below RL 59.00 AHD

sectional cut through lift overrun on proposed building

cadastral survey

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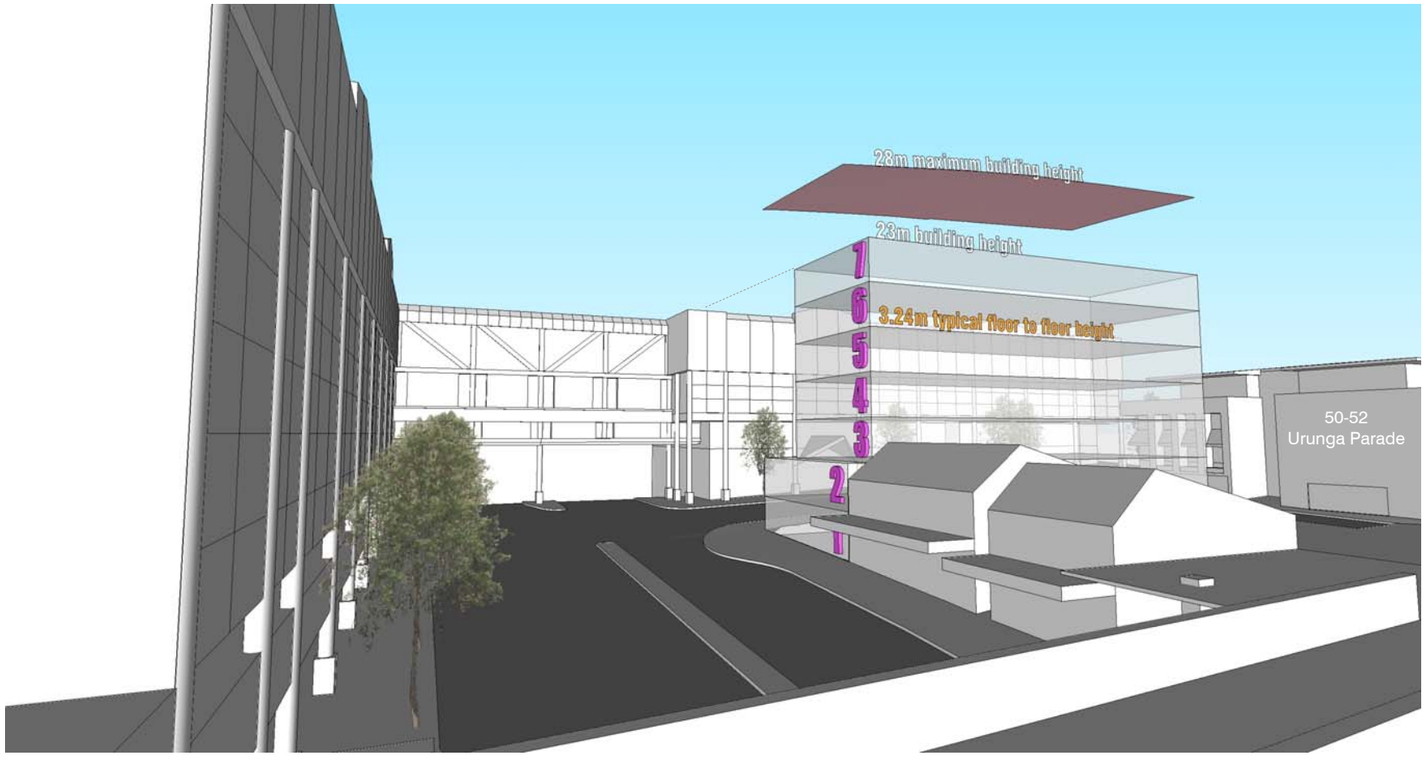


**Figure 5.09**


**Figure 5.10**

## volume and massing – DCP and LEP

Figures **5.09** & **5.10** are 3D representations of a potential building mass that is driven by the Sutherland Council DCP setback controls and the max number of storeys permitted on the site.

The maximum permissible building height of 28m is shown as a floating red plane above the site.

Figure 5.09 is viewed from the top of the railway bridge looking north over Kiora Road, and Figure 5.10 is viewed from the street level on Urunga Parade, looking west towards the Kiora Road intersection.

At a maximum height of 23m, the proposed building height matches the dominant parapet height of the existing Westfeilds development adjacent to the site and is well below the maximum permissible height of 28m.

The Sutherland Council DCP does not require the building be setback from the site boundary for the lowest two storeys although it does require that the built form be set back 2m from the site boundary for additional stories above first two. This is reflected in figures 5.09 & 5.10.

Generally, these two images represent the maximum volume of a built form that will comply with the DCP control of setback, and LEP controls of height and max number of storeys that is considered to be in context with the site and its surrounds.

Note that in each of these diagrams the existing building at 50-52 Urunga Parade is modeled with the Council approved third storey addition shown as per the development consent on this site dated 10 October 2008. Sutherland Council reference no. DA08/0201; and

The two additional street trees forming part of this proposal are also shown Figure 5.10; one in front of the subject site and another in front of the neighbouring building at 50-52 Urunga Parade. These trees are included to reinforce the avenue of trees that currently exist on the northern side of Urunga Parade.

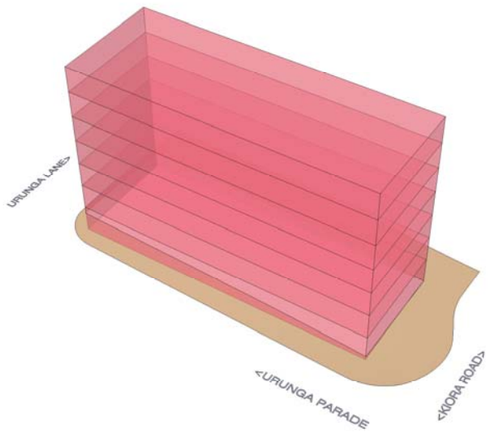


**Figure 5.11**

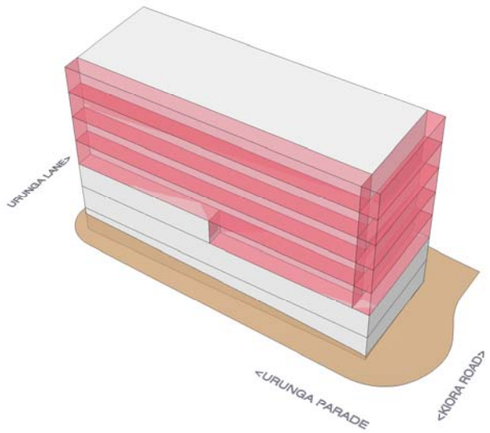


**Figure 5.12**

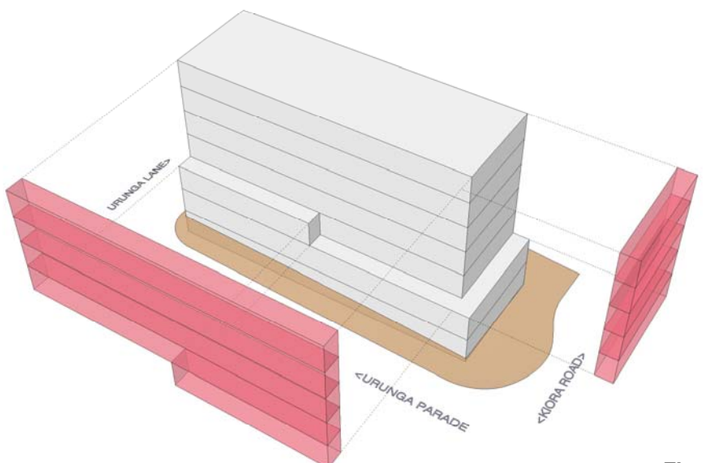


**Figure 5.13**

## volume and massing – DCP and LEP continued

The building form described on the previous page is shown again here from a different perspective. These diagrams show the volume of air that remains around the potential buildling once the required building setbacks have been taken into account.

Figure **5.11**, above left, depicts an empty volume of air that is defined by the site boundaries, capped at a height of 23 metres and with a rise of seven storeys.

While the Sutherland Shire LEP allows for a building of up to 28 metres in height, the proposed development caps the building height at a maximum of 23 metres to match the height of the neighbouring Westfield's development.

Figure 5.12, middle left, depicts the potential building form, depicted on the previous page, that complies with the Sutherland Council DCP and LEP in terms of setbacks, max number of storeys and maximum building height. This building form is positioned within the volume of air described in Figure **5.11**.

Figure 5.13, below left, shows the potential building form driven by the DCP setback requirements with the balance of the air volume offset from the building façade for clarity. The total volume of air mass shown removed from the north and east facade of this building form is **1342 cubic metres**.

The following two pages will show an alternative, less prescriptive, building form that seeks to vary the DCP setback requirements while retaining the principles of the DCP and LEP controls.

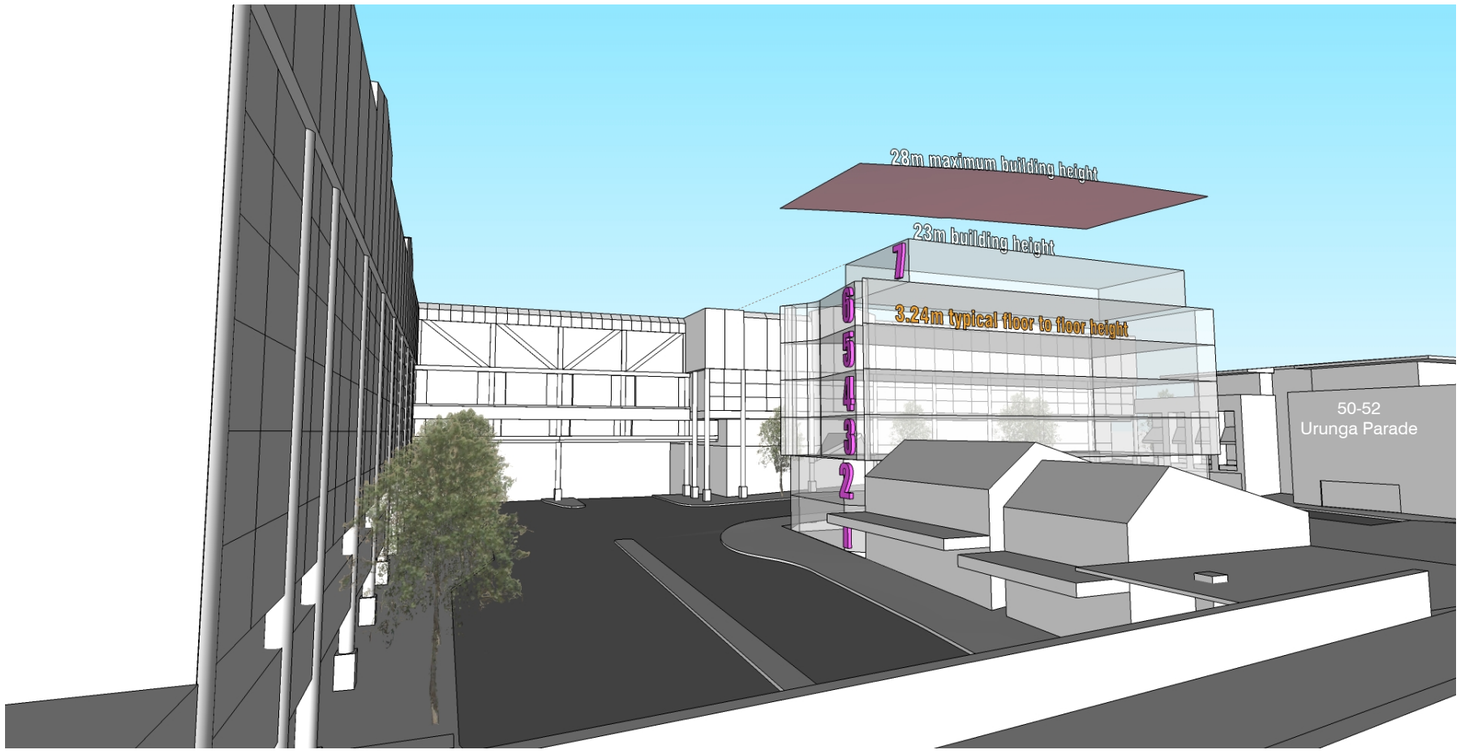


**Figure 5.14**

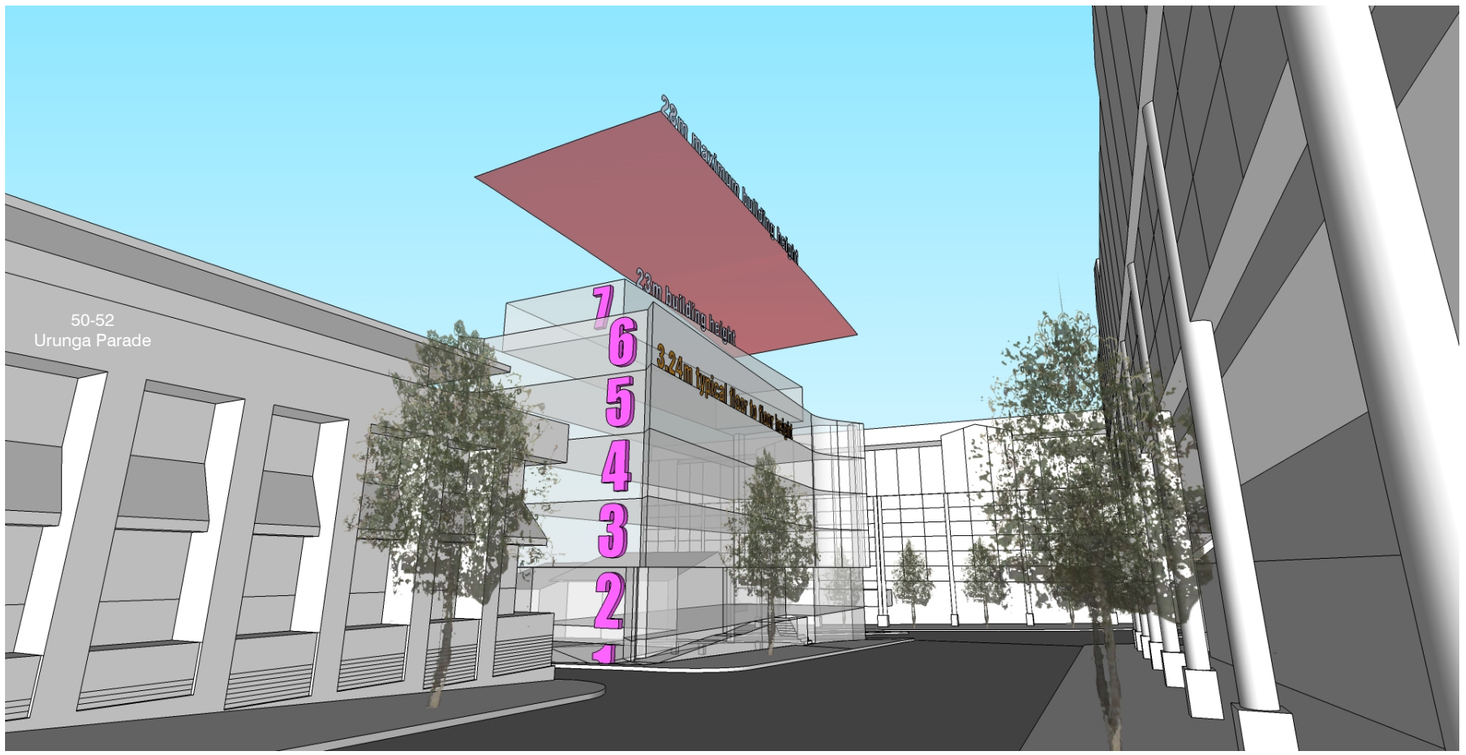


**Figure 5.15**

## volume and massing – proposed

Figures **5.14** & **5.15** show the proposed building form that seeks to vary the DCP and LEP compliant volume in such a way as to not detract from principles of the DCP and LEP controls.

The lowest two storeys are generally set with a zero setback on the Kiora road frontage with localised recesses at the two entry points on the northeast and southeast corners of the building. These are visible in Figure **5.14**.

There is also a larger recess provided in the Urunga Parade frontage, again at the entry point to the building, offering some releif and articulation to the street level façade of the building. Refer to Figure 5.15 and Figure 5.18 over the page.

The vertical planes of storeys 3 though 6 have been bent to produce curved planes; again offering some relief from the flat facades of the surrounding buildings and providing a sense of dynamism to the façade form. The setback of this curved façade form varies from zero up to 2.5 metres back from the site boundary and creates a strong visual depth for the building form. It also signals to the busy Kiora Road & Urunga Parade intersection and the Westfeild underpass.

This proposal also seeks to reduce the perception of the overall height of the building by recessing the upper most storey further back on all three street frontages.

Note that in each of these diagrams the existing building at 50-52 Urunga Parade is modeled with the Council approved third storey addition shown as per the development consent on this site dated 10 October 2008. Sutherland Council reference no. DA08/0201.

The two additional street trees forming part of this proposal are also shown Figure 5.15; one in front of the subject site and another in front of the neighbouring building at 50-52 Urunga Parade. These trees are included to reinforce the avenue of trees that currently exist on the northern side of Urunga Parade.

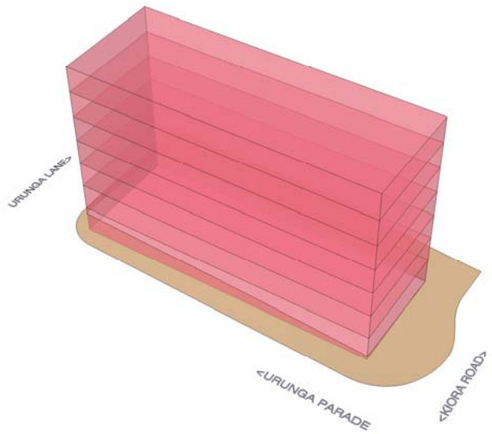


**Figure 5.16**

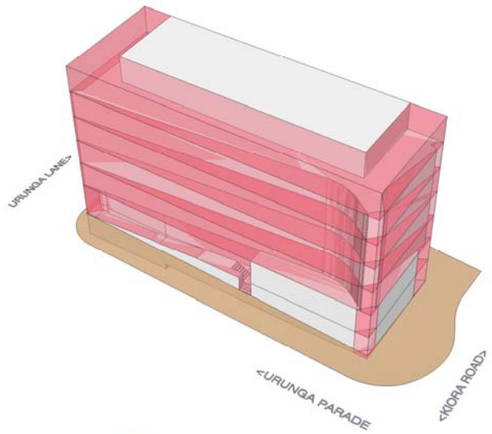


**Figure 5.17**

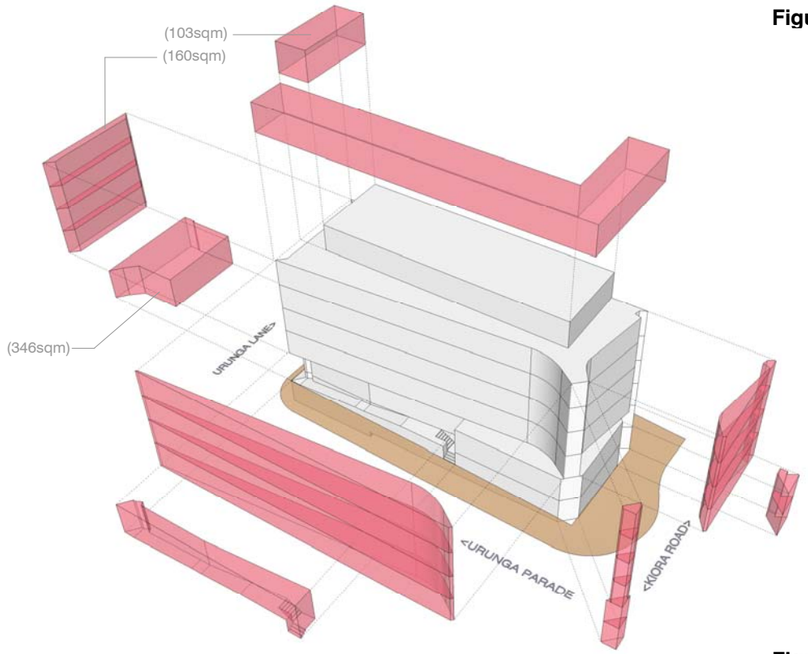


**Figure 5.18**

## volume and massing – proposed continued

The building form described on the previous page is shown again here from a different perspective.

As in the previous figure **5.11**, Figure **5.16**, above left, depicts the same empty volume of air defined by the site boundaries, capped at a height of 23 metres and with a rise of seven storeys.

While the Sutherland Shire LEP allows for a building of up to 28 metres in height, the proposed development caps the building height at a maximum of 23 metres to match the height of the neighbouring Westfield's development.

Figure **5.17**, middle left, shows the propsed building form, depicted on the previous page, that seeks to vary compliance with the Sutherland Council DCP required setbacks. The proposed building form is positioned within the volume of air described in Figure 5.16.

Figure **5.18**, below left, shows the same building form with the balance of the air volume offset from the building façade for clarity. The total volume of air shown removed from around the proposed building form is **2153 cubic metres**. This is **811 cubic metres** more than than DCP and LEP compliant form.

Given that the DCP only requires setbacks for the two active street frontages of Kiora Road and Urunga Parade, it could be argued that the Urunga Lane setback volumes should be removed from this calcution. This results in a reduced total volume of **1544 cubic metres** which is still **200 cubic metres** more than the volume of air around the DCP and LEP compliant form.

This result is due to the more recessive sculptural form of the proposed building and the additional building setbacks at the upper most floor level. While this proposal does not strictly comply with the DCP requirements for setbacks it does however, comply in principle with the need for setbacks and receeding forms for floor levels above the second storey.

It produces a high calibre building with a clear base – middle – top arrangement, exaggerates the idea of 'pulling in' and therfore more strongly conveys the visual idea of setback resulting in a building form that is more aesthetically pleasing and in direct response to the context within the surrounding development.