

ST LEONARDS MIXED USE DEVELOPMENT

CONCEPT DESIGN REPORT

DECEMBER 2014



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	CONTENTS	
1.0	INTRODUCTION	07
2.0	REGIONAL CONTEXT & SITE	09
	2.1 Regional Context	09
	2.2 Site Location	10
	2.3 Adjacent Uses	11
	2.4 Site Photos	12
3.0	APPROVED SCHEME	14
4.0	SITE ANALYSIS	15
	4.1 Topography	15
	4.2 Solar Orientation	15
	4.3 View Opportunities	16
	4.4 Existing Pedestrian Routes	16
	4.5 Existing Traffic	17
	4.6 Current Public Space	17
	4.7 Current Tall Buildings	18
5.0	FUTURE CONTEXT	19
	5.1 Proposed Public Space	19
	5.2 Proposed Tall Buildings	19
	5.3 Current Allowable Height Envelope	20
	DESIGN APPROACH	
6.0	INTERFACE WITH ST LEONARDS PLAZA	22
	6.1 New Public Realm	22
	6.2 Vehicular Connectivity	22
	6.3 Pedestrian Connectivity	23
	6.4 Height of Adjacent Plaza Developments	23
	6.5 Proposed Plaza Buildings: Base Scheme	24
	6.6 Proposed Plaza Buildings: Maximum Envelope	24
7.0	TOWER MASSING	26
	7.1 Tower Set Back from Plaza	26
	7.2 Max Height Equal to Adjacent Development	26
	7.3 Tower Articulated into Two Volumes	27
	7.5 Curved Corners to Soften Form	27
	7.6 Sky Articulation	29
8.0	FSR BONUS INCENTIVES	38
	8.1 Proposed Bonus Structure	38
9.0	DESIGN DESCRIPTION	32
	9.1 Ground Floor Plan	32
10.0	CONTEXTUAL IMAGES	38
	10.1 Massing Views from Context	38
11.0	RESIDENTIAL AMENITY	40
	11.1 Solar Access	40
	11.2 Views	40
	11.3 Building Separation	41
	11.4 Crossflow Ventilation	41
	APPENDICES	
A	Architectural Drawings	
B	View Sharing Analysis	
C	Shadow Analysis	
D	Area Schedule	

The adjacent conceptual image is a representation of the proposed scheme shown with a maximum tower height of 44 storeys and an indicative plaza building height stepped at 16-24 storeys.



1.0 INTRODUCTION

This report has been prepared to analyse the urban design issues associated with future development of the St Leonards Plaza Precinct, an area defined by the Pacific Highway to the north, Christie Street to the East, Lithgow Street to the West, and identified as a key precinct of St Leonards under St Leonards DCP 2010.

Our report assesses the future development potential of the site and seeks to promote a positive urban design outcome through consideration of the following issues:

/ Current LEP controls relating to building use and height,

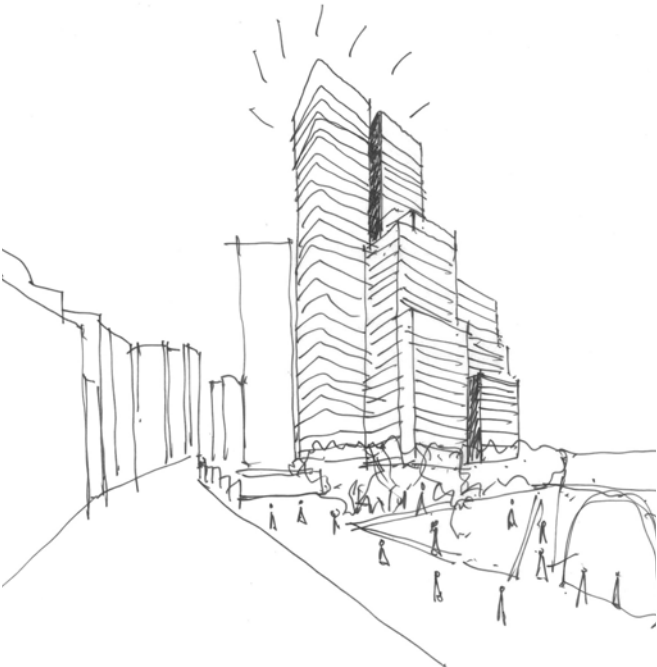
/ The proposed St Leonards Plaza, a new public space envisaged by Lane Cove Council located on the south side of the Pacific Highway including a new below ground connection to St Leonards Railway Station and bus interchange on Pacific Highway,

/ Specifically to the east of the site at 472-520 Pacific Highway and 95 Nicholson Street, a Planning Proposal (PP_2014_LANEC_001_00) (herein referred to as the Leighton / Charter Hall Planning Proposal) has been approved at Gateway and is with the Department for implementation. The Leighton / Charter Hall Planning Proposal rezones five sites from B3 Commercial Core to B4 Mixed Uses and increases the heights from 65m to 115m (472-486 Pacific Highway) and from 72m to 138m (504-520 Pacific Highway).

/ Council has approved a Draft VPA that would enable a variation to its LEP under clause 4.6 for the development at 1-13A Marshall Avenue, St Leonards on the western side of the railway line and opposite side of St Leonards Plaza, to increase the height of the residential building by 9 additional floors to a total height of 94m.

/ Provision of incentive clauses to increase the maximum floor space ratio where specific public benefits are provided.

This report is to be read in conjunction with the accompanying Planning Proposal report prepared by JBA within which specific planning issues are addressed.



2.0 REGIONAL CONTEXT AND SITE

2.1 REGIONAL CONTEXT

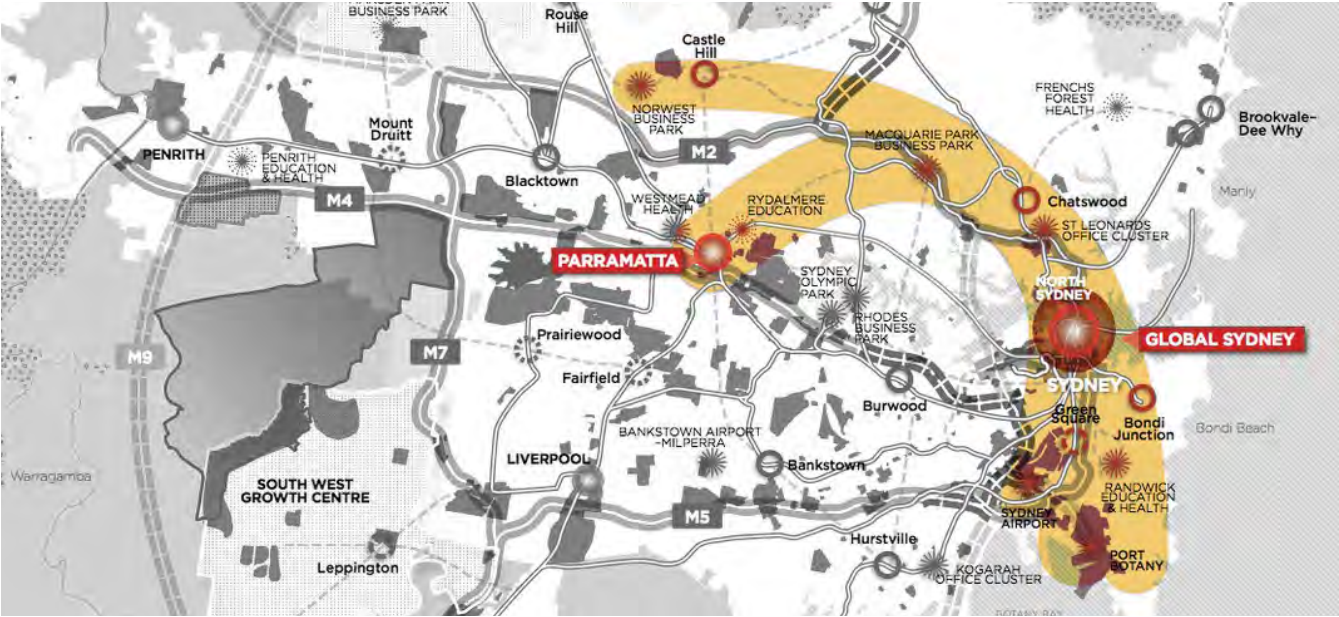
St Leonards is a key mixed use centre located on Sydney's North Shore Railway Line between North Sydney and Chatswood.

Accessible by rail within 15 minutes from the Sydney CBD, St Leonards is located along the Sydney 'Global Arc of Commerce', and has traditionally been a commercial and medical centre enjoying high levels of accessibility via both the Pacific Highway and heavy rail infrastructure while being geographically centrally located on Sydney's North Shore.

During the past two decades, the introduction of high density residential development to St Leonards via projects such as the Forum in combination with associated infrastructure improvements to railway and retail facilities have increased the vibrancy and livability of the town centre. This has resulted in the emergence of a mixed use community which enjoys high levels of employment opportunities within the immediate town centre as well as close proximity to neighbouring mixed use employment centres which include the Sydney CBD, North Sydney, Chatswood and Macquarie Park.

In June 2014, The NSW Government announced that a new rapid transit network would be extended from Chatswood, via St Leonards, through a second harbour crossing to the city centre, and on to the current Bankstown Line.

The gradual diversification and success of traditional commercial centres transforming into successful mixed use precincts such as the Sydney CBD, North Sydney and Chatswood which provide high density residential accommodation in close proximity to public transport and employment opportunities makes St Leonards an ideal location for further mixed use development.



 NORTH SHORE RAILWAY LINE
 PACIFIC HIGHWAY

2.2 SITE LOCATION

The site is located alongside the railway corridor to the south of St Leonards station. The site is an amalgamation of 5 properties, currently occupied by a collection of low-rise office buildings. Three of those have frontage on Lithgow Street to the west, the remainder front Christie Street to the east. A narrow one-way service lane, Christie Lane, runs along the northern boundary linking Christie Street to Lithgow Street.

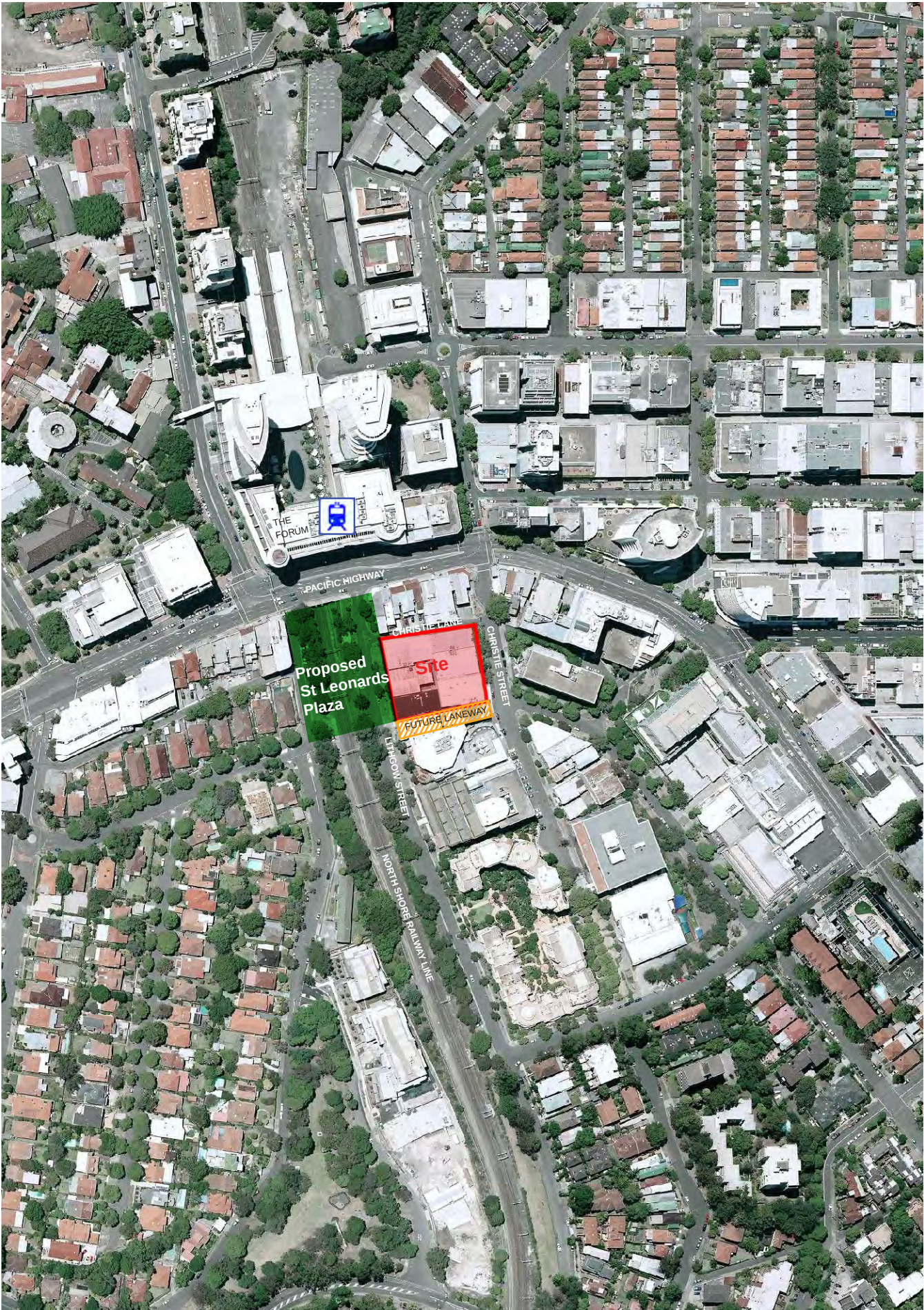
Immediately to the South of the site, two existing low rise commercial buildings at 71-73 Lithgow Street and 82 Christie Street are identified by the Lane Cove Development Control Plan as being converted to a new laneway to facilitate the future closure of Christie Lane to traffic and increased pedestrianisation of the precinct to enable delivery of the proposed new St Leonards Plaza.

Immediately to the North of the site, a row of eight low rise shops front Pacific highway, opposite the St Leonards railway station and mixed use Forum development. The Forum, comprising two residential towers and public plaza at street level, define the town centre of St Leonards.

The Pacific Highway cuts through the centre of St Leonards in an East - West direction, and due to increasing traffic levels over time combined with poor pedestrian connectivity across the highway, a gradual and increasing separation between the north and south of the town centre is occurring.

Immediately to the West of the Site and fronting the entire Western boundary, the new St Leonards Plaza proposed by Lane Cove Council envisages the creation of a new public space on the South side of the Pacific Highway and above the existing rail corridor. The new St Leonards Plaza offers the potential to:

- / Create a new focal point and social 'heart' at the centre of St Leonards, improving the identity and amenity of the district as a whole,
- / Reinforce the railway station, Forum, and new St Leonards plaza as both the geographic and public centre of St Leonards,
- / Improve links across the Pacific Highway through new underground pedestrian routes to the railway station and improved pedestrian crossings at street level,
- / Improve public transport connections through a proposed new bus pickup and setdown area fronting the Pacific Highway immediately opposite the railway station, currently envisaged within Council's plaza design.
- / Such improvements will be of significant benefit in preparing the town centre for the proposed future Rapid Transport Link and second harbour crossing.



LOCATION PLAN



2.3 ADJACENT USES

The site is located opposite the highly successful Mixed Use Forum development - currently the transport, retail and public centre of St Leonards.

To the North East of the site, medium rise commercial buildings front the Pacific Highway, Atchison and Chandos Streets, defining a significant commercial core to the East of the railway station.

To the North West of the site lies the Royal North Shore Hospital and North Sydney institute of TAFE, both also significant areas of employment.

Immediately to the South and South West of the site, low and medium density residential buildings form residential precincts.

The residential area to the South West currently consists of a significant number of single dwelling houses, however the recently announced St Leonards South Strategy envisages redevelopment of these dwellings into a new medium density precinct.

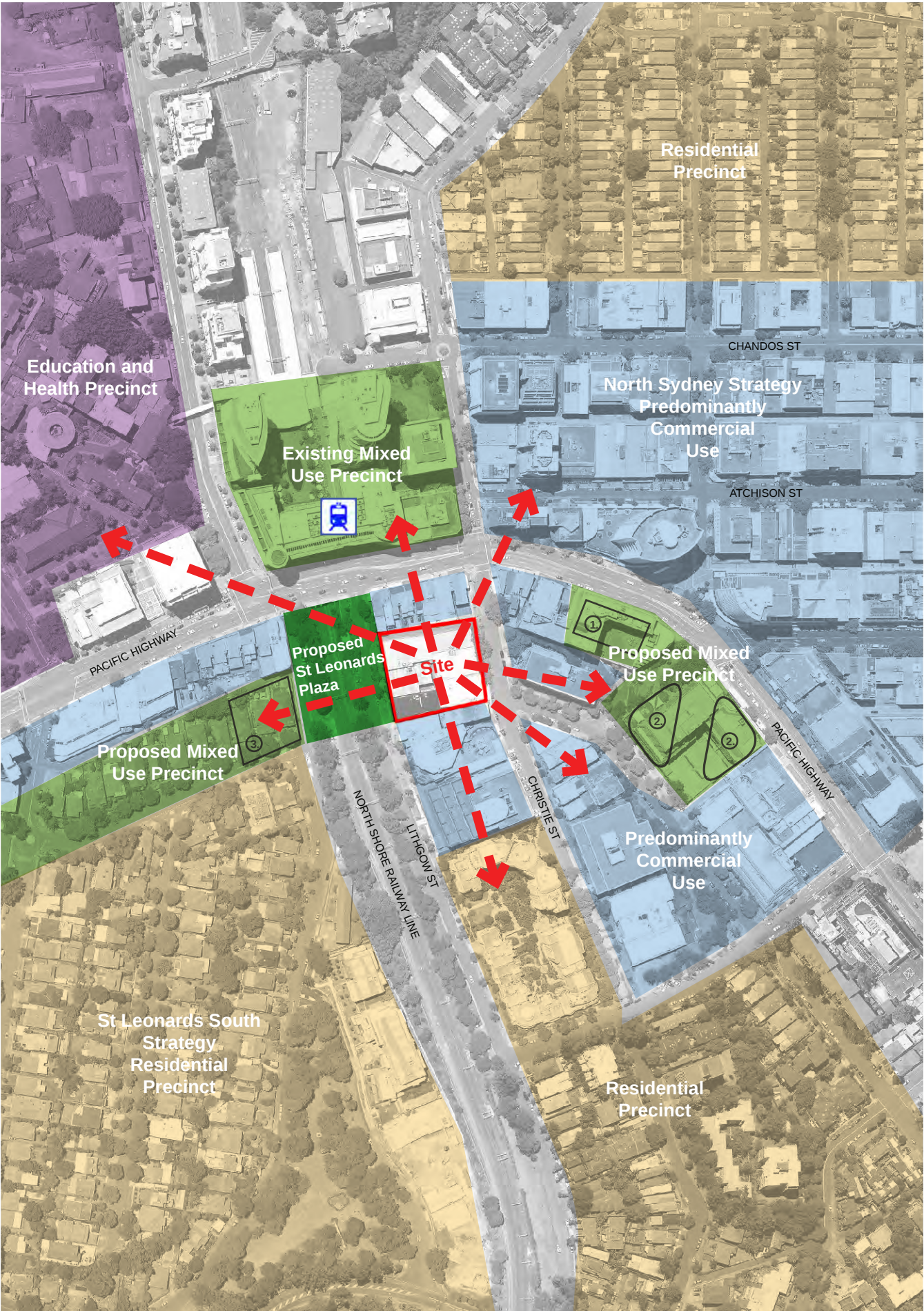
Immediately to the West of the site, on the opposite side of the proposed plaza, a new mixed use development at 1 Marshall Avenue has recently been approved by Council.

To the east of the site, new mixed use developments proposed at 472-520 Pacific Highway and 95 Nicholson Street by Charter Hall and Leighton Holdings will expand the mixed use core of St Leonards to the East by incorporating new residential uses.

The site therefore acts as an interface between multiple different land uses in an area rapidly transforming into a mixed use, while being geographically located at the centre of St Leonards.

The site is currently zoned for commercial use only.

- LEGEND:**
- 1/ Proposed Mixed Use Tower by Charter Hall, 504 Pacific Highway and 95 Nicholson Street
 - 2/ Proposed Mixed Use Towers by Leighton Holdings, 472-486 Pacific Highway
 - 3/ Recently approved Mixed Use tower at 1 Marshall Avenue



ADJACENT USES PLAN





■ Extents of subject site
● Extents of future St Leonards Plaza



3.0 APPROVED SCHEME

3.1 APPROVED COMMERCIAL BUILDING

A Development Consent granted by the Joint Regional Planning Panel in August 2012 for a commercial building located on the site providing 31,000 sqm of new commercial floor space has not proceeded due to lack of demand for commercial space in the precinct.

The approved building was not designed to interface with the proposed new St Leonards Plaza. Construction of the approved design would create significant level interface issues which would reduce the achievable plaza area by approximately one third as well as create highly compromised pedestrian connections to the East due to the 6 metre level change between the ground floor of the approved building and the proposed plaza level.

An opportunity exists to revisit the approved design and achieve the following significant public benefits:

/ Integration of the proposed new St Leonards Plaza into the design,

/ Reinforcement of the site location as an interface between multiple land uses through a change in zoning from B3 Commercial Core to B4 Mixed Use,

/ Provision of much needed high density residential accommodation immediately adjacent to heavy rail infrastructure, in support of current government initiatives and sound urban design principles to improve public transport use and reduce vehicle dependence.

/ Increase pedestrian activation of the proposed new St Leonards Plaza through residential use to deliver a vibrant and lively town centre 24 hours a day, seven days a week.

Such a combination offers the opportunity to regenerate the St Leonards town centre and transform it into a lively and vibrant mixed use precinct.



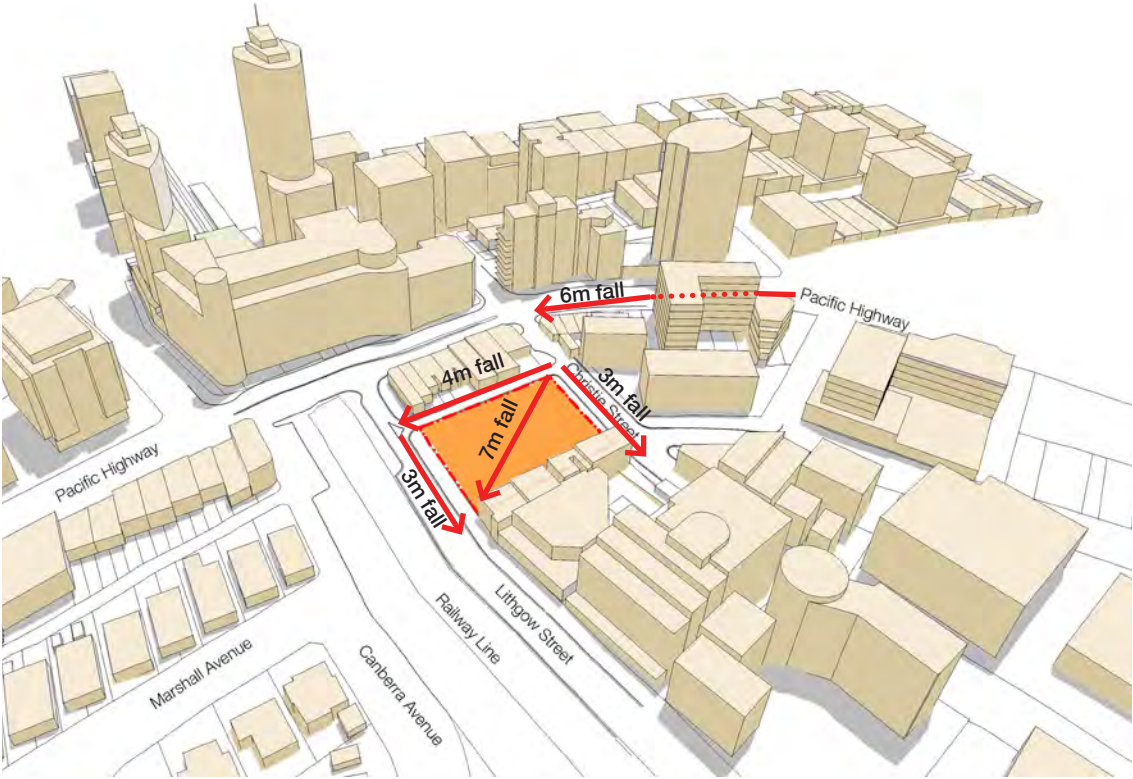
4.0 SITE ANALYSIS

4.1 TOPOGRAPHY:

The site's topography has a high point at the northeast corner on Christie Street and falls approximately 7 metres to the lowest point at the south west corner on Lithgow Street. Along the street frontages, there is a 4 metre fall from east to west along Christie Lane, and falls of 3 metres north to south on Christie Street and 3 metres on Lithgow Street.

To the east, the Pacific Highway climbs by approximately 6 metres to reach a high point at the intersection of Albany Street.

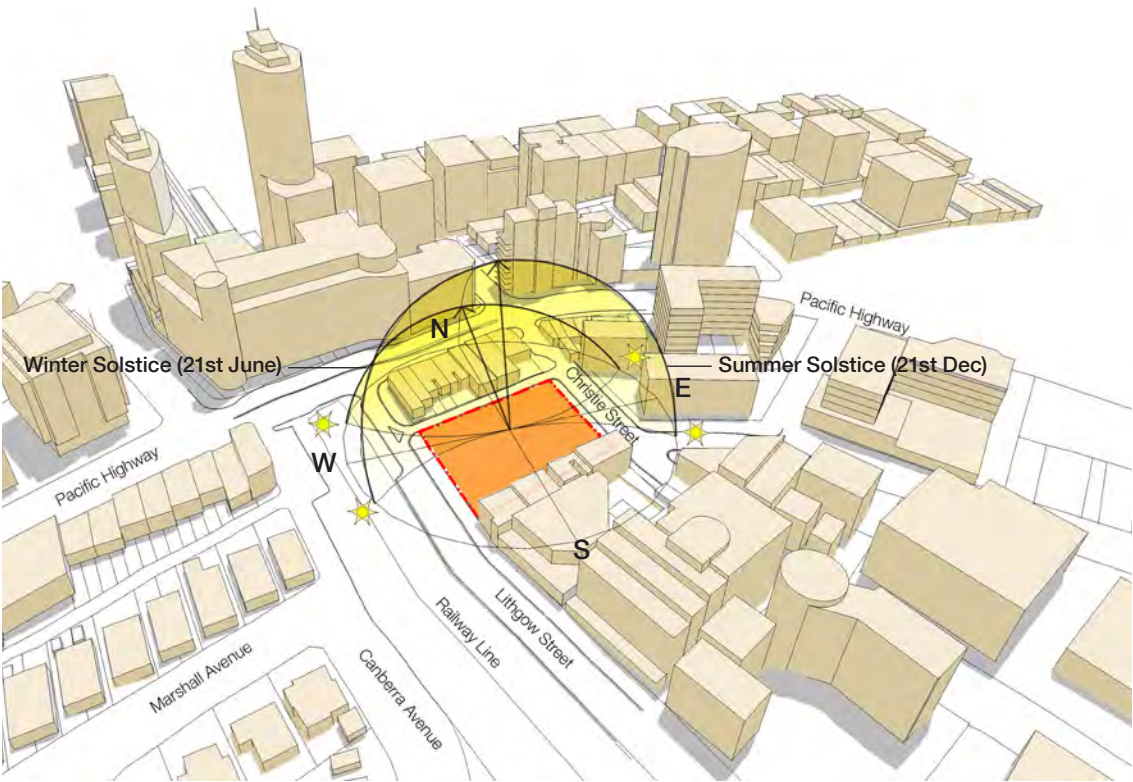
To the west, the Pacific Highway is generally level for approximately 200 metres.



4.2 SOLAR ORIENTATION:

The site currently enjoys very high levels of solar access from the North, East and West. Some tall buildings are located to the north but have limited impact on solar access due to their significant setback from the Pacific Highway.

Shadow studies included in the appendices of this report demonstrate that excellent levels of solar access can be achieved. The proposed mixed use developments currently under consideration at 472-520 Pacific Highway, 95 Nicholson Street, and 1 Marshall Avenue have no impact to available solar access between hours of 9am to 3pm during winter months, the period during which solar access is defined by SEPP 65.

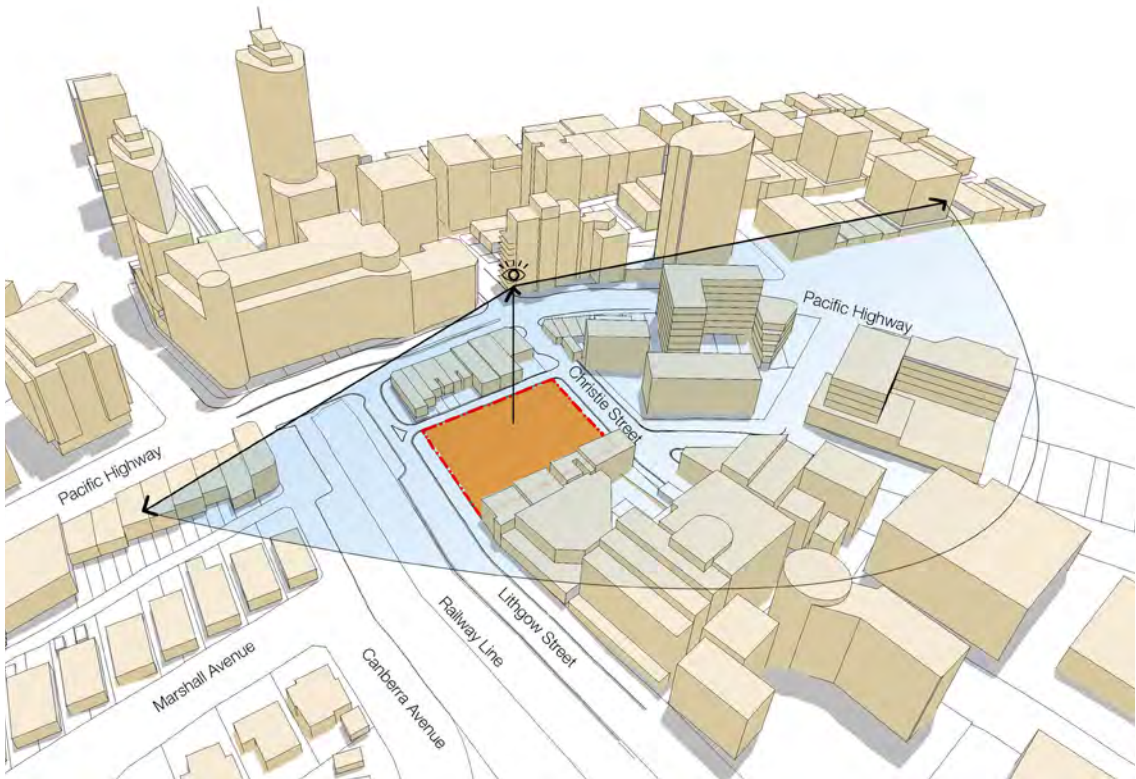


4.3 VIEW OPPORTUNITIES:

The topography, rail corridor, and limited neighbouring large scale development to the southeast through to the west allows for expansive view potential.

These views are, at present, virtually uninterrupted to both the Sydney City and North Sydney skyline and across the many inlets of Sydney Harbour to the southeast and southwest.

Limited views are available to the North across the Pacific Highway, however they are short and not as scenic as the Southern views.



4.4 EXISTING PEDESTRIAN ROUTES:

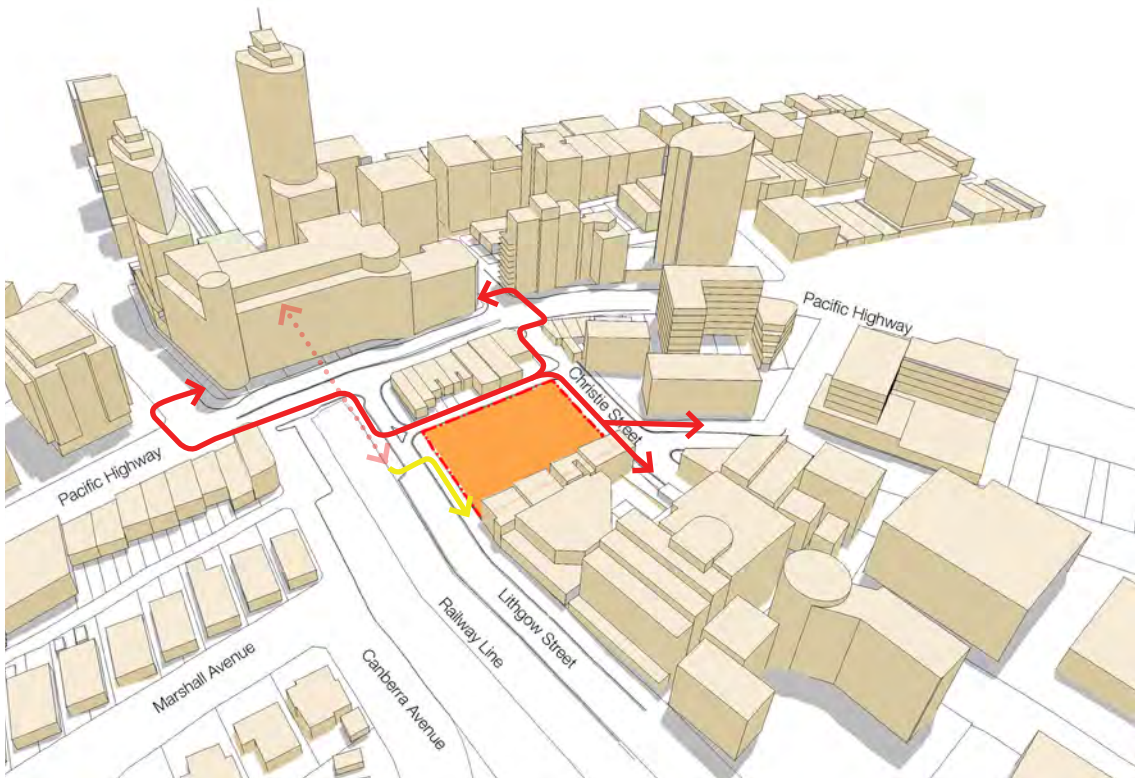
The primary pedestrian approaches to the site are from the railway station and Forum development on the opposite side of the Pacific Highway.

These take place at street level via an existing pedestrian crossing on the western side of Herbert Street, with a second approach at the eastern side of Christie Street.

An existing pedestrian underpass opposite the current intersection of Lithgow Street and Christie Lane provides access to the railway station beneath the Pacific Highway.

There are significant pedestrian movements that occur through this underpass and filter into the adjacent residential areas south along Lithgow Street, and to existing commercial developments to the immediate east and south east of the site.

Opportunity exists to significantly improve the quality and amenity of these links.



- Primary Pedestrian Routes
- Secondary Pedestrian Routes
- Existing Rail Underpass

4.5 EXISTING TRAFFIC:

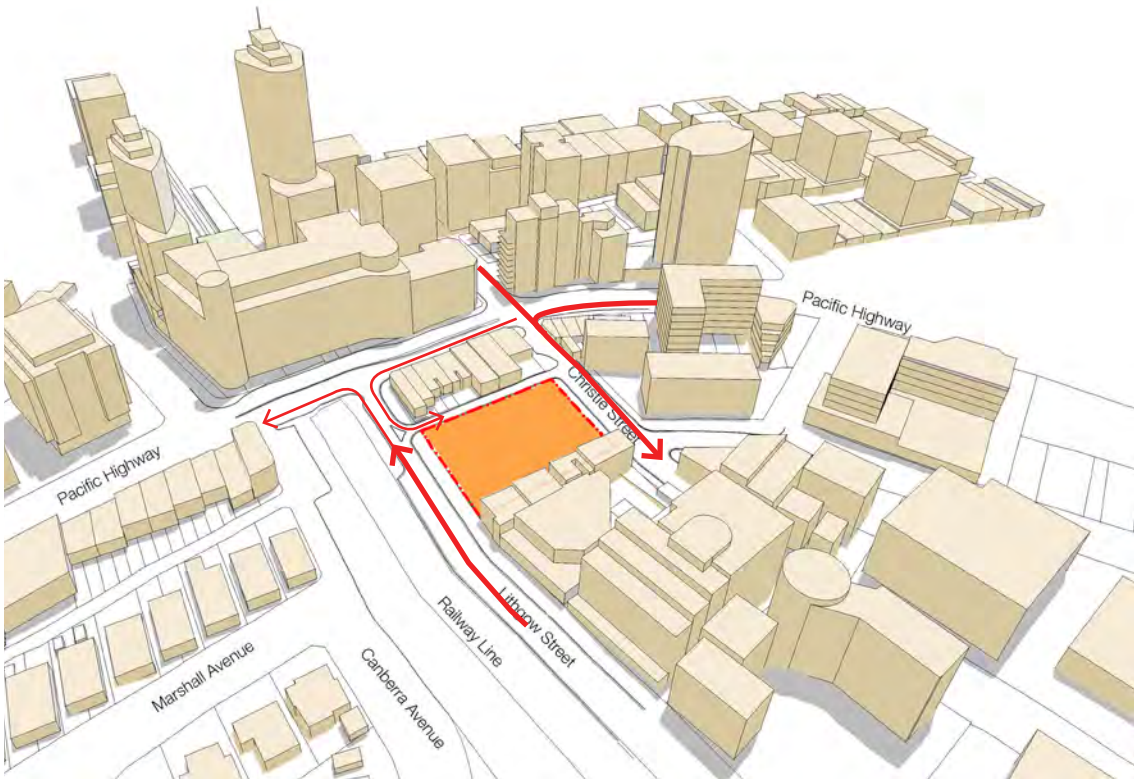
The primary vehicular approach to the site is from the Pacific Highway turning left into Christie Street. A secondary route exists via a left turn into Lithgow Street, although due to local traffic provisions in place, traffic taking this turn is routed directly through Christie Lane onto Christie Street.

There is no southbound vehicular access from the Pacific Highway.

The portion of Christie Street between the Pacific Highway and Nicholson Street is currently one way in a southbound direction only.

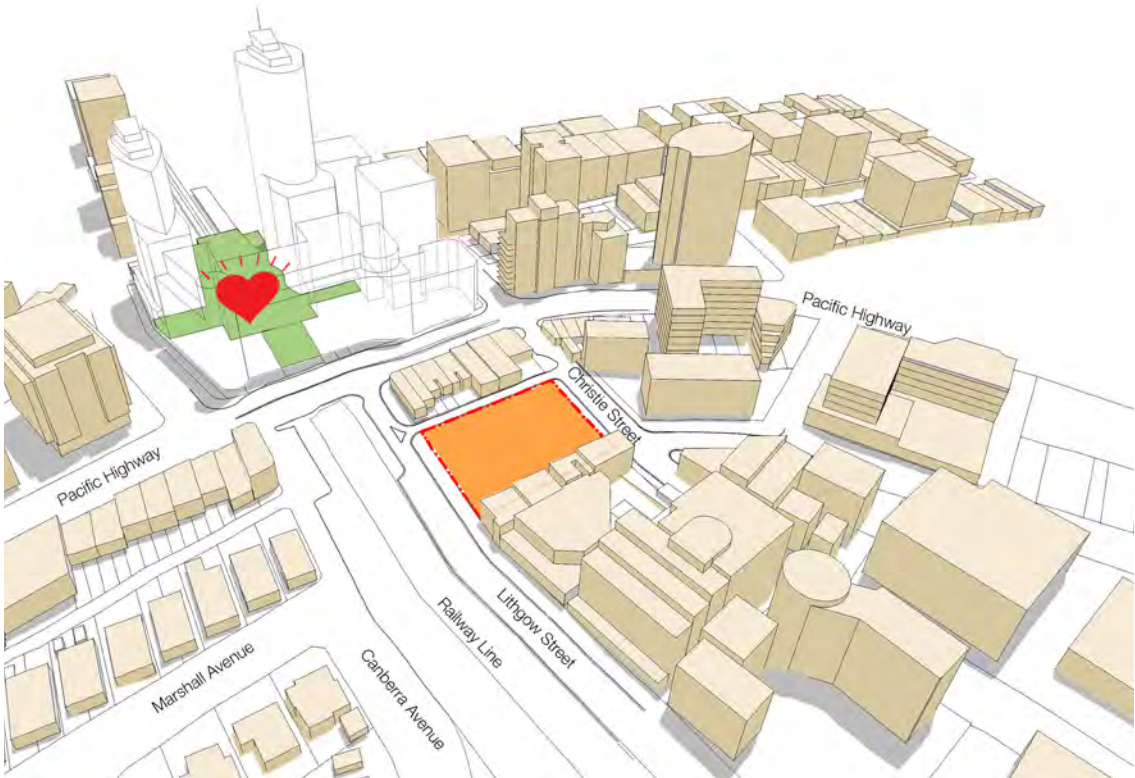
Secondary movements are local traffic vehicles from the south which can turn left only from Lithgow Street onto the Pacific Highway.

- Primary Routes
- Secondary Routes



4.6 CURRENT PUBLIC SPACE:

The main public space in St Leonards is currently the Forum Plaza. Built over the existing railway line and incorporating an upgraded railway station, it comprises 34 food and retail shops and approximately 2,800 sqm of public open plaza space. The Forum Plaza currently acts as the public 'heart' of St Leonards.

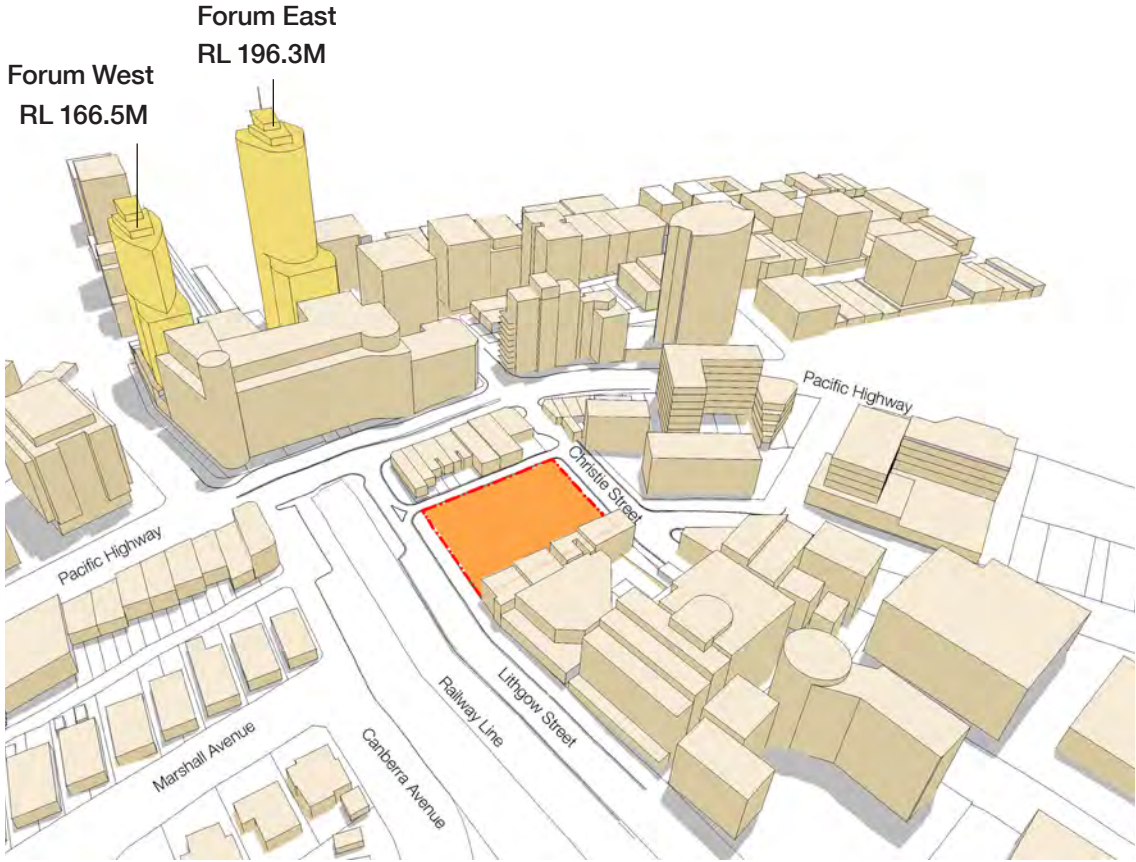


4.7 CURRENT TALL BUILDINGS:

The skyline of St Leonards is currently defined by the Forum East residential tower, at a height of 114 metres above the Pacific Highway with a rooftop RL of 196.30 metres.

Immediately to the West, the adjacent Forum West residential tower is the second tallest building on the skyline with a height of 86 metres above street level and a rooftop RL of 166.50 metres.

Since their completion in 2000 and 2002, these two residential buildings have been clearly legible on the St Leonards skyline and have defined the St Leonards town centre when viewed from the Sydney CBD, reinforcing the location of its railway station and its primary public space.

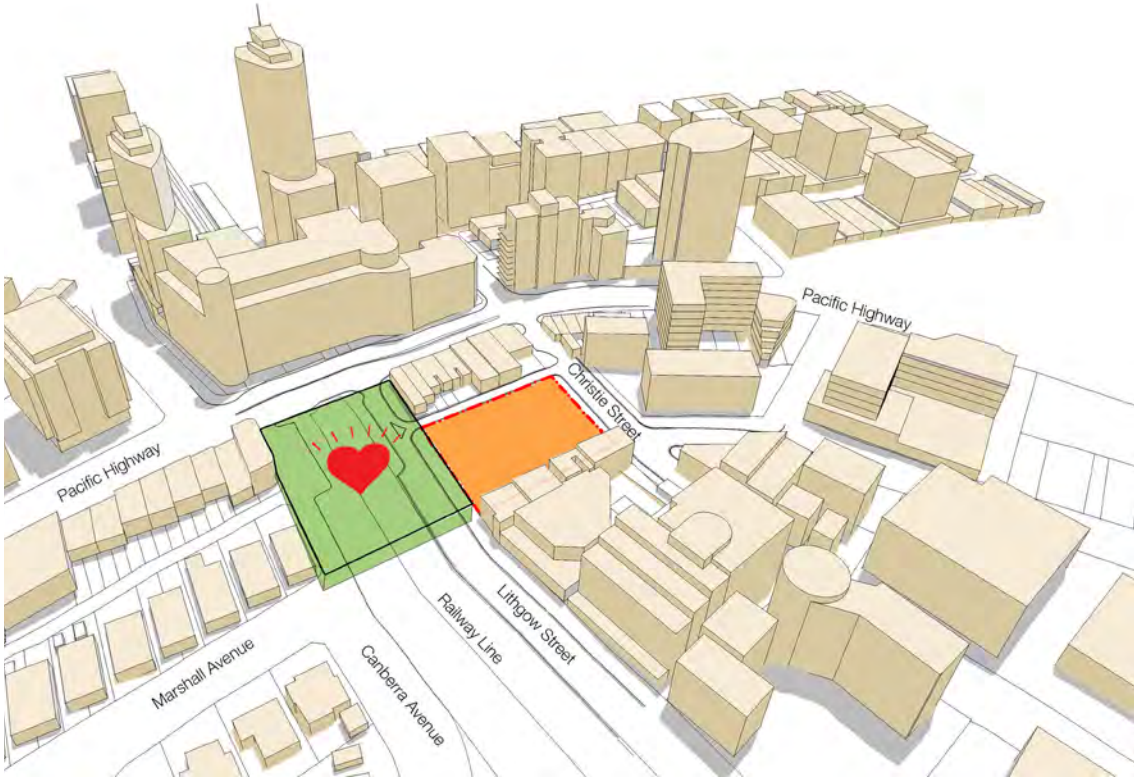


5.0 FUTURE CONTEXT:

5.1 PROPOSED PUBLIC SPACE:

The site is located immediately to the East of the proposed new St Leonards Plaza, a new public space envisaged by Lane Cove Council to be built above the existing railway line and interfacing with the Pacific Highway directly opposite the Forum.

The proposed St Leonards Plaza will substantially improve the amenity and identity of the town centre and become the new public heart of St Leonards.



5.2 PROPOSED TALL BUILDINGS:

Three significant new towers are currently proposed to the East of the site at 472-520 Pacific Highway and 95 Nicholson Street by Charter Hall and Leighton Property Group.

The tallest of the proposed towers is located at 504-520 Pacific Highway and has a rooftop RL of approximately 224.0 metres, or approximately 28 metres above the current tallest building in St Leonards, the Forum East.

The second tallest, located further to the east, has a rooftop RL of approximately 201.0 metres, or approximately 5 metres above the Forum.

The third, proposed at 472-486 Pacific Highway, has a rooftop RL of 177.00, or approximately 18 metres below the Forum.

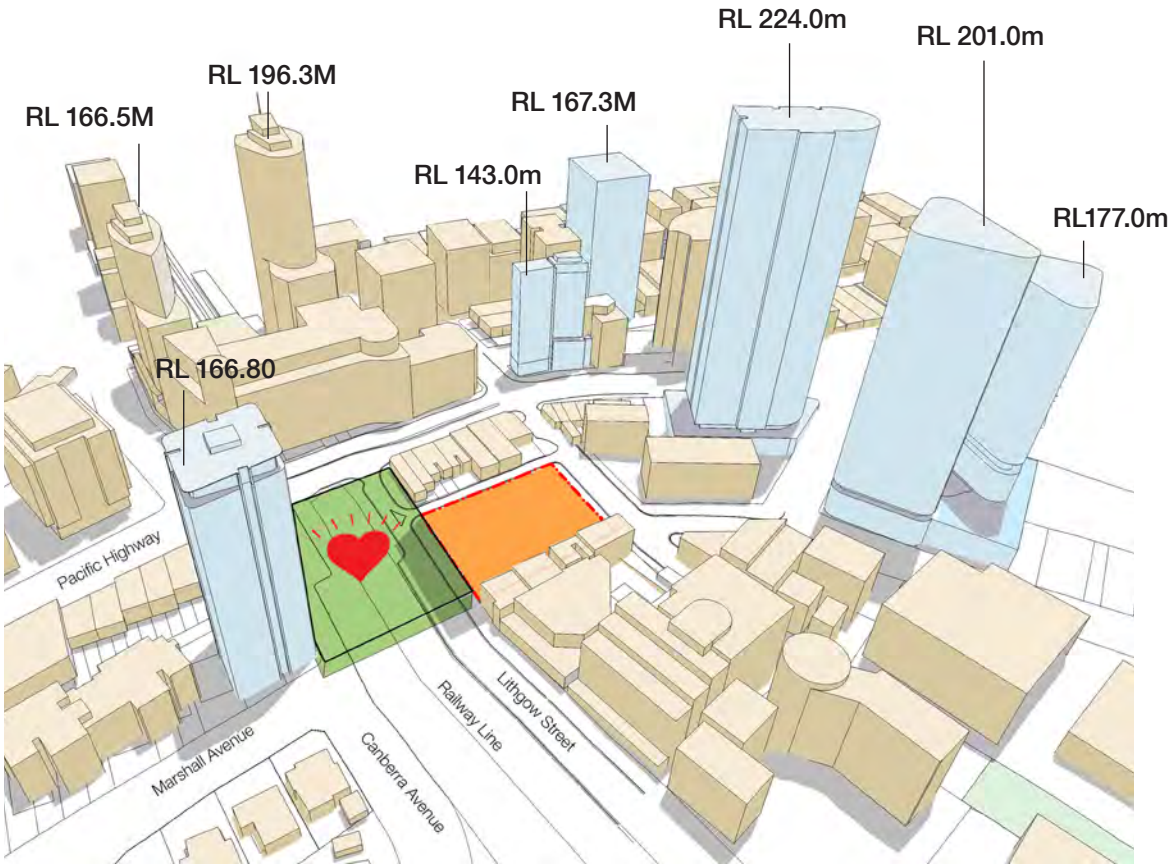
North Sydney Council recently released its strategy which identified four sites in the centre capable of being rezoned for taller buildings.

Numerous additional tall buildings are currently proposed, or have recently obtained approval, in the immediate vicinity:

/ 1-5 Marshall Avenue, immediately to the west of the proposed St Leonards Plaza, with a rooftop RL of 166.80.

/ Air Apartments, located 6-16 Atchison Street, with a rooftop RL of 167.30 metres,

/ 621 Pacific Highway, with a rooftop RL of 143.00



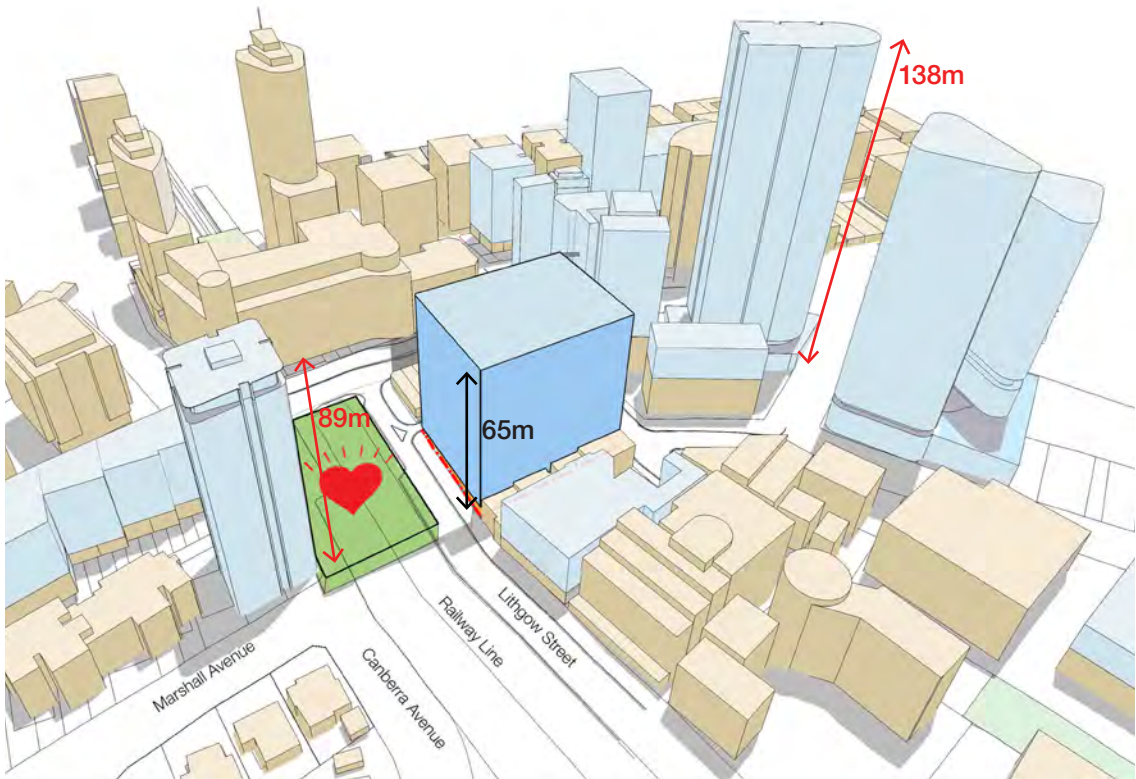
5.3 CURRENT ALLOWABLE HEIGHT ENVELOPE

The current height limit of the site as defined by Lane Cove LEP 2009 is 65 metres.

When the allowable height limit is overlaid onto current known proposed developments and the potential for further development within the height limits defined by LEP 2009, the future skyline of St Leonards will be significantly different to that of today.

The town centre, railway station, and public heart of the precinct will no longer be reinforced by tall buildings. Rather, building heights as viewed on the skyline will instead define the town centre as being approximately 300 metres East.

The adjacent diagram shows the reduced extents of the proposed St Leonards plaza if the approved scheme was to be constructed.





DESIGN APPROACH

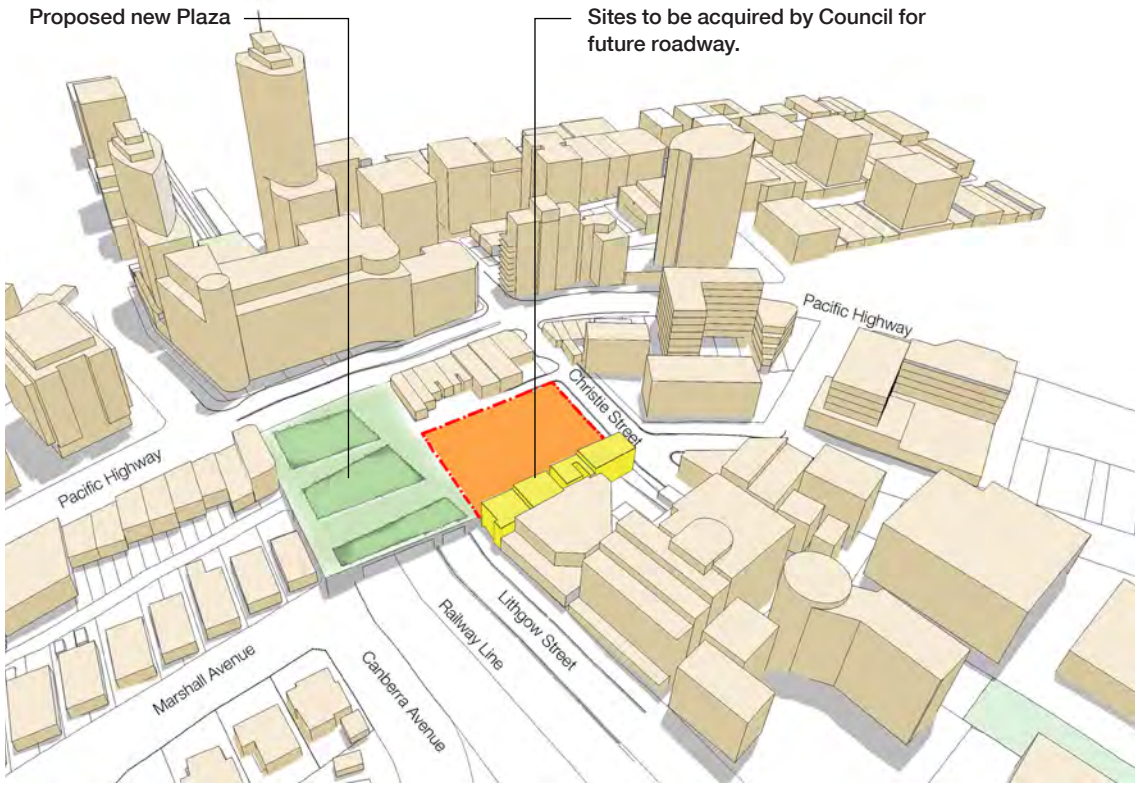


6.0 INTERFACE WITH ST LEONARDS PLAZA

6.1 NEW PUBLIC REALM:

Fundamental to the success of the future precinct will be the successful integration of the site with the proposed St Leonards Plaza. The concept plan design adopts the full extents of the plaza as envisaged by Lane Cove Council and interfaces directly with the proposed design levels.

In order to deliver the new plaza, Lane Cove Council DCP 2010 proposes the closure of Lithgow Street to vehicular traffic North of 73 Lithgow Street and the acquisition of two existing properties, 71-73 Lithgow Street and 82 Christie Street, for conversion into a future new roadway. The subject sites are identified on the adjacent diagram.



6.2 VEHICULAR CONNECTIVITY:

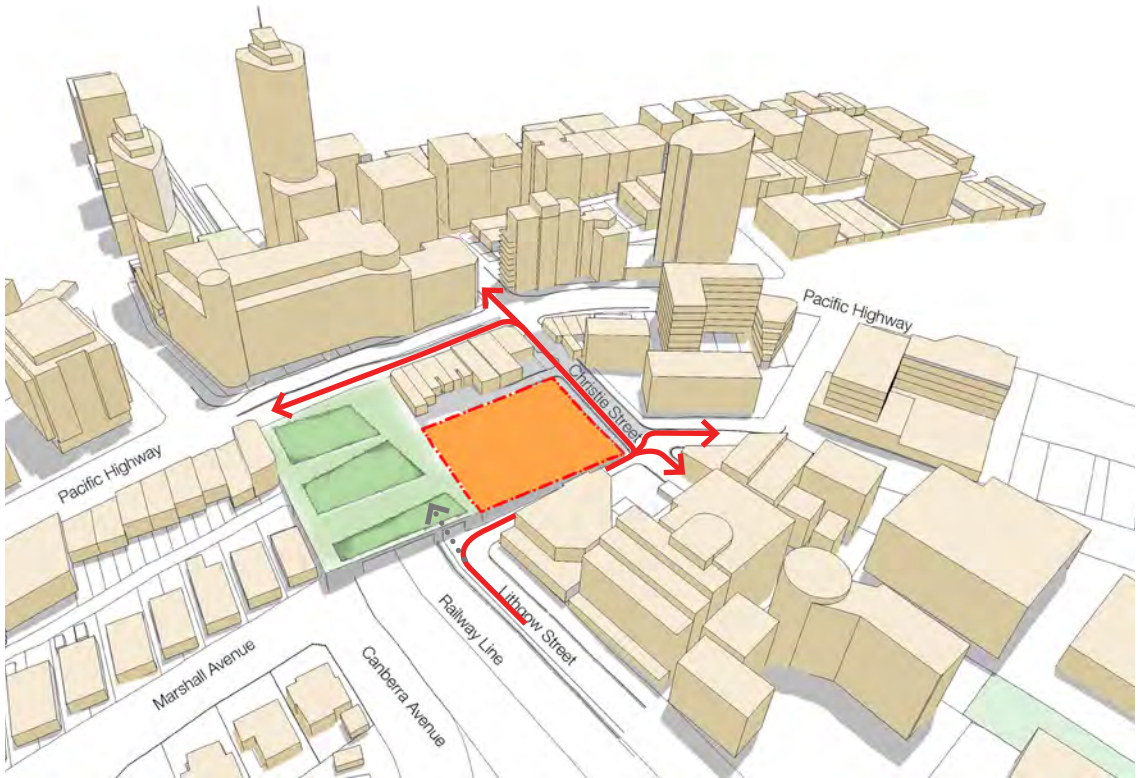
Local traffic access to and from Lithgow Street will be routed via this new laneway into Christie Street.

The existing Christie Lane, located on the Northern boundary of the site, is proposed to be closed to through traffic and converted to a pedestrianised shared way which terminates at the eastern edge of the proposed St Leonards plaza. This will improve pedestrian amenity in the precinct while retaining vehicular loading access to the rear of the existing shops fronting the Pacific Highway.

Currently, the portion of Christie Street between Nicholson Street and the Pacific Highway is limited to one way traffic heading southbound only due to traffic management controls. To enable local traffic from Lithgow Street to turn left onto the Pacific Highway and exit the precinct, this segment of roadway will require restoration to two way traffic. We propose this also be undertaken via a new pedestrianised shared way.

The steep existing gradient of Lithgow Street from North to South and the requirement to maintain sufficient head clearance for trains beneath the proposed St Leonards plaza result in a level change of approximately 7 metres between the southern edge of the plaza and Lithgow Street.

This level change enables a discreet basement parking and loading access point to be created for the proposed development in the existing location and alignment of Lithgow Street.



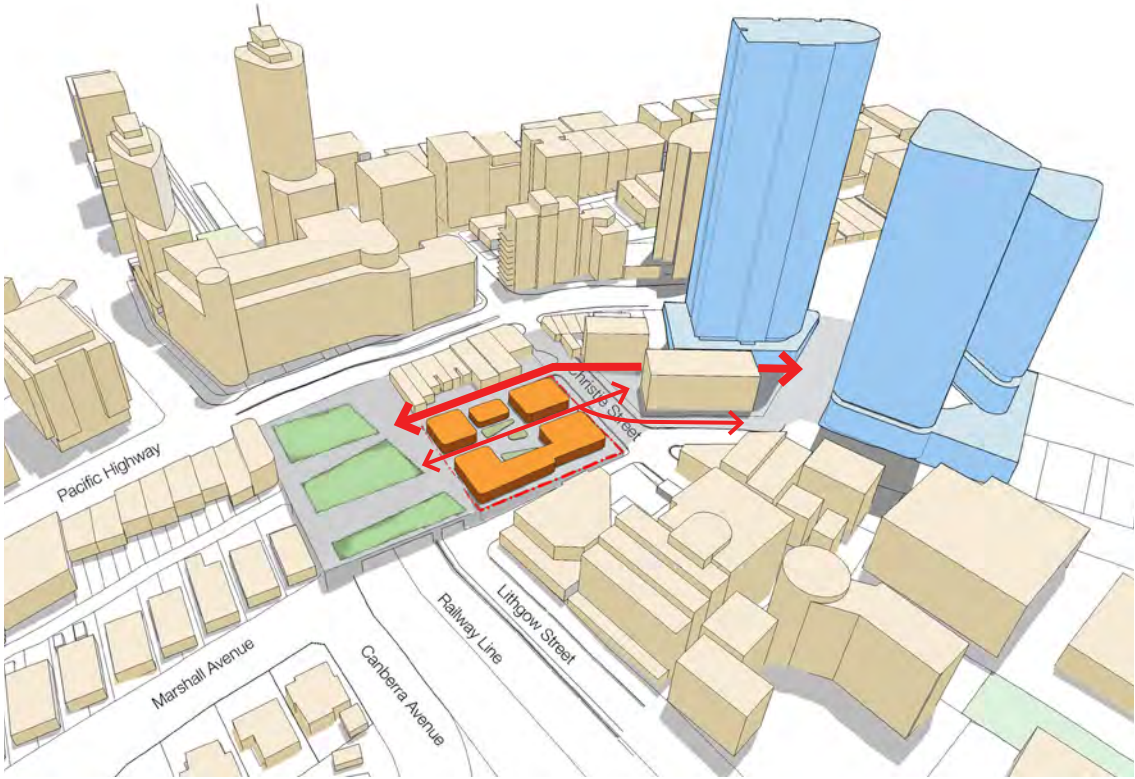
6.3 PEDESTRIAN CONNECTIVITY:

New retail is proposed at the ground floor interfacing directly with the proposed new St Leonards Plaza.

The conversion of the existing Christie Lane to the North of the site into a new pedestrianised shared way will create a strong pedestrian link between the new Plaza and the proposed Charter Hall and Leightons developments immediately to the East of the site. Retail is proposed along the northern site boundary fronting this link to create a fine grain, activated pedestrian laneway.

A new through site link is also proposed through a landscaped retail courtyard at the centre of the site, connecting the new St Leonards Plaza and bus interchange with Christie Street and Nicholson Street to the East.

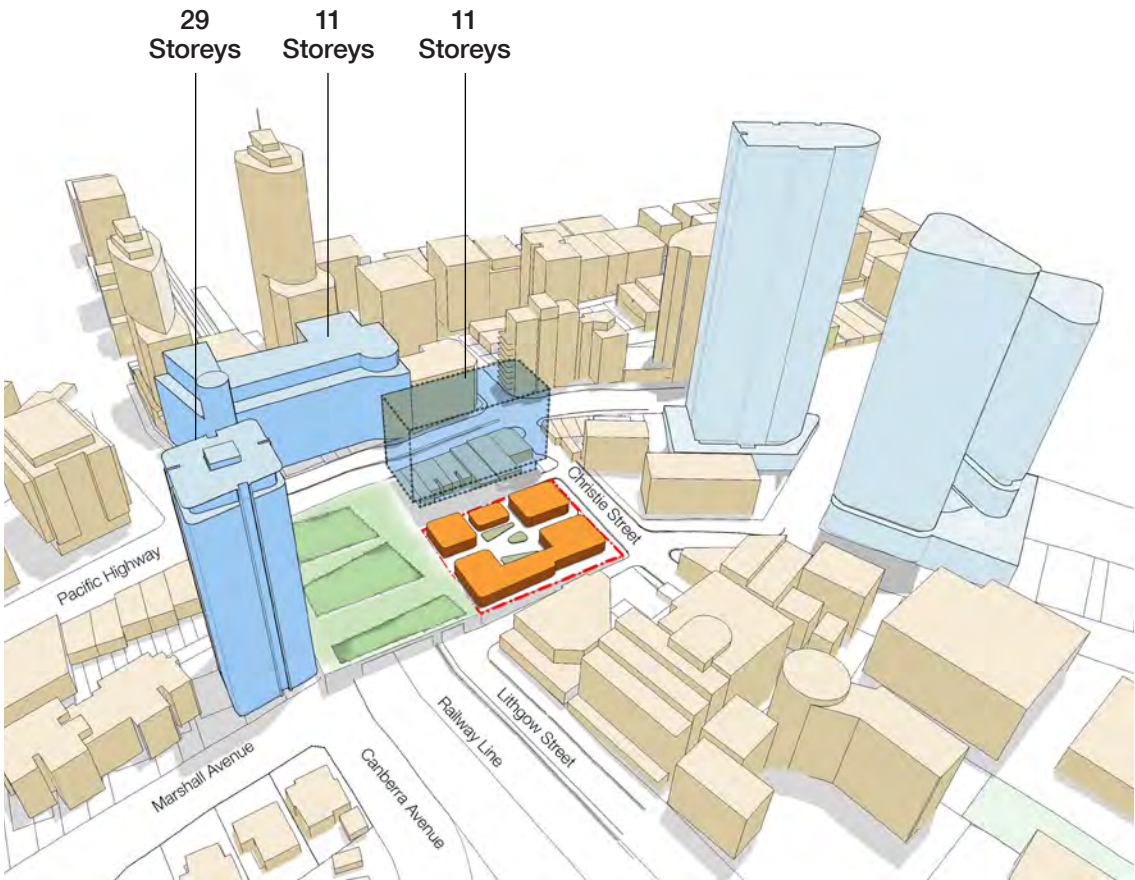
Our desire is to create a series of vibrant pedestrian laneways south of the Pacific Highway which are highly activated by retail and strongly connected to St Leonards Plaza with clear line of sight connections. Such a new pedestrian network which links the proposed Charter Hall and Leightons developments with St Leonards plaza and existing railway station will significantly improve pedestrian walkability and amenity within the precinct while also reinforcing the St Leonards Plaza as a vibrant and well connected new public space.



6.4 HEIGHT OF ADJACENT PLAZA DEVELOPMENTS

LEP 2009 envisages a future commercial office building of 45 metres / 11 commercial storeys in height fronting the Pacific Highway and interfacing with the North East face of the proposed St Leonards Plaza. The height of this building has been appropriately set to create a positive scale relationship across the highway between the podium of the Forum building on the opposite side, currently set at 11 commercial storeys / 41 metres in height.

To the west of the site, consent has just been granted for a 29 storey residential building at 1 Marshall Avenue fronting the South Western side of St Leonards Plaza, immediately opposite the proposed development.

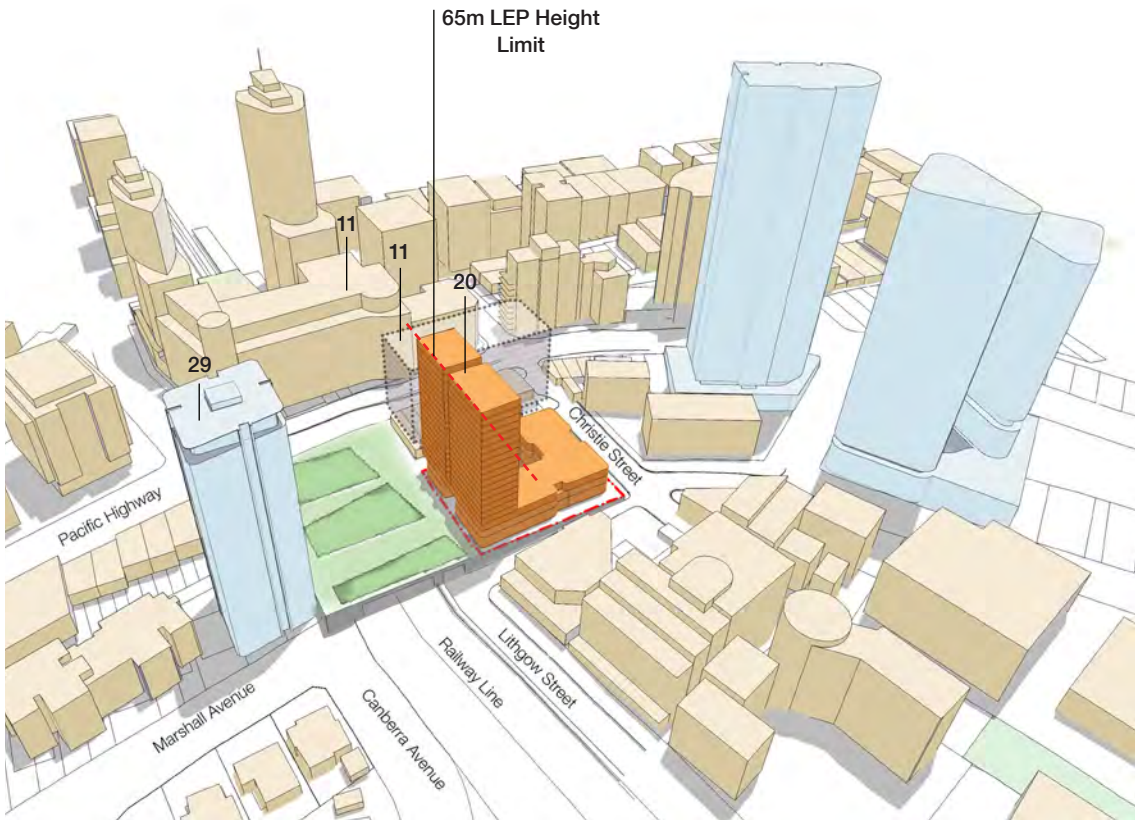


6.5 PROPOSED PLAZA BUILDINGS: BASE SCHEME

The current permissible Floor Space Ratio is 14:1.

The current height limit under LEP 2009 is 65 metres.

Our base massing strategy for the plaza buildings prior to incentive FSR bonuses being applied adopts the 65 metre height limit. A slender new mixed use building of 65 metres / 20 storeys in height is proposed fronting the Eastern side of St Leonards Plaza, consisting of 17 residential floors above 2 floors of commercial and 1 floor of retail above plaza level.



6.6 PROPOSED PLAZA BUILDINGS: MAXIMUM ENVELOPE

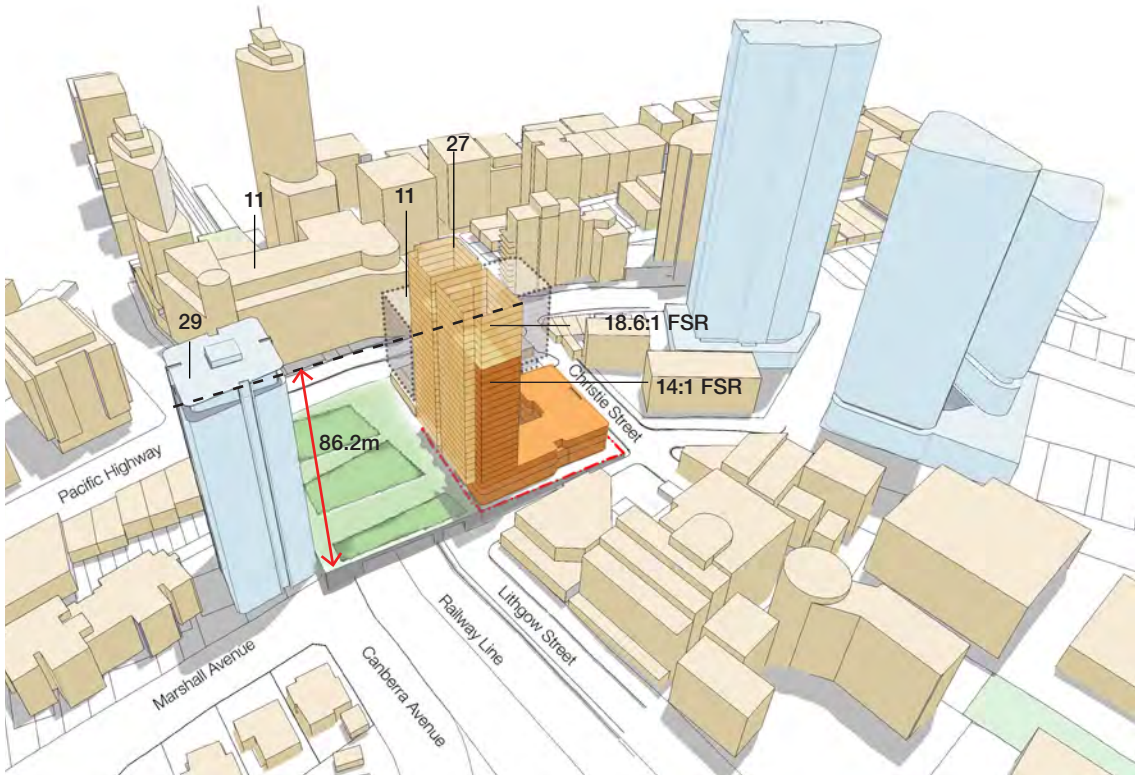
Three bonus FSR incentives are outlined in the accompanying JBA planning report with the potential to increase the maximum achievable FSR from 14:1 to 18.6:1.

The adjacent diagram shows the maximum proposed plaza building envelope in the instance that all three FSR incentives are achieved:

/ A 4 metre deep facade articulation zone projecting beyond the Western site boundary enables the incorporation of a facade of international standard with a high degree of articulation fronting the Eastern plaza edge.

/ The maximum proposed height of the plaza buildings if all bonus incentives are implemented is equal to the recently approved 29 storey residential development at 1 Marshall Avenue immediately opposite, at 86.2 metres or 27 storeys above plaza level.

The proposed envelopes achieve excellent solar access to St Leonards Plaza throughout the year as demonstrated by the shadow studies contained within the appendices of this report.



The below image shows the proposed facade treatment of the mixed use building fronting the St Leonards Plaza. An indicative stepped massing height of 16-24 storeys is shown. The proposed 4 metre facade articulation zone enables the creation of a fine grain play of rectangular balcony, wintergarden and living room elements to project from the primary building envelope and achieve a highly articulated and vibrant composition with high levels of human activation. Operable louvres provide gentle solar shading from western sun in addition to variable privacy control. Through their individual control by residents, the result will be an ever changing play of material, pattern, transparency and depth which will vary with the climate, season and time of day.

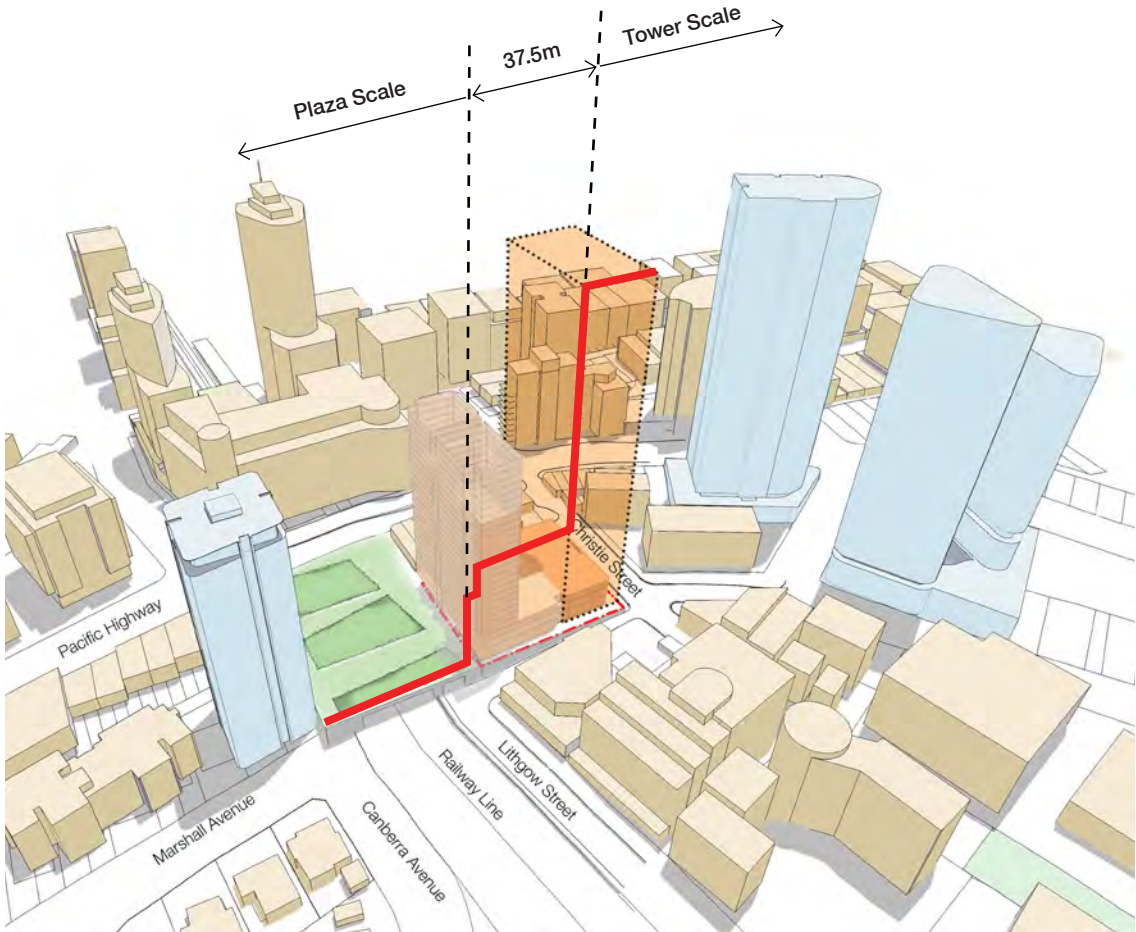


7.0 TOWER MASSING

7.1 TOWER SET BACK FROM PLAZA

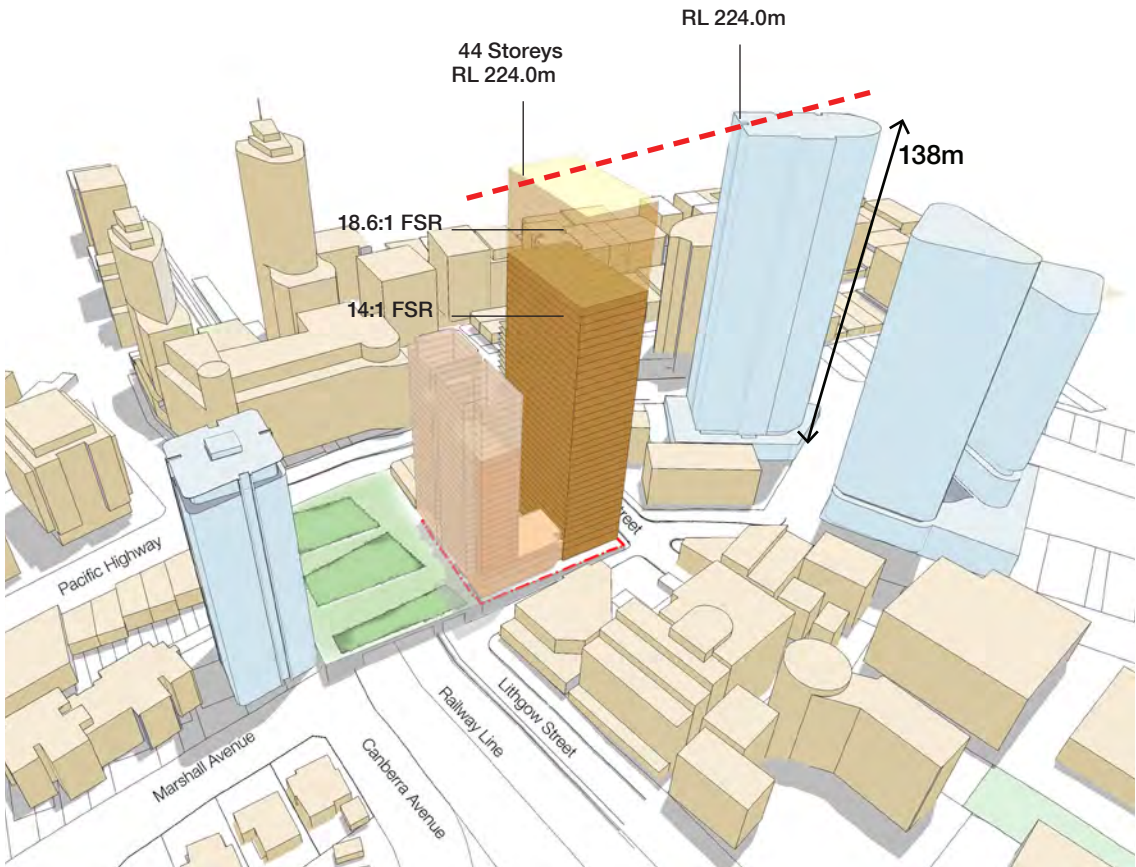
A residential tower is proposed which is set back 37.5 metres from the St Leonards Plaza interface and located behind the proposed plaza building. The location of the tower has been selected to:

- / Maintain a human scale to St Leonards Plaza, and
- / Integrate with the new tower precinct evolving to the East of the site through the new Charter Hall and Leightons developments.



7.2 MAXIMUM HEIGHT EQUAL TO ADJACENT DEVELOPMENT

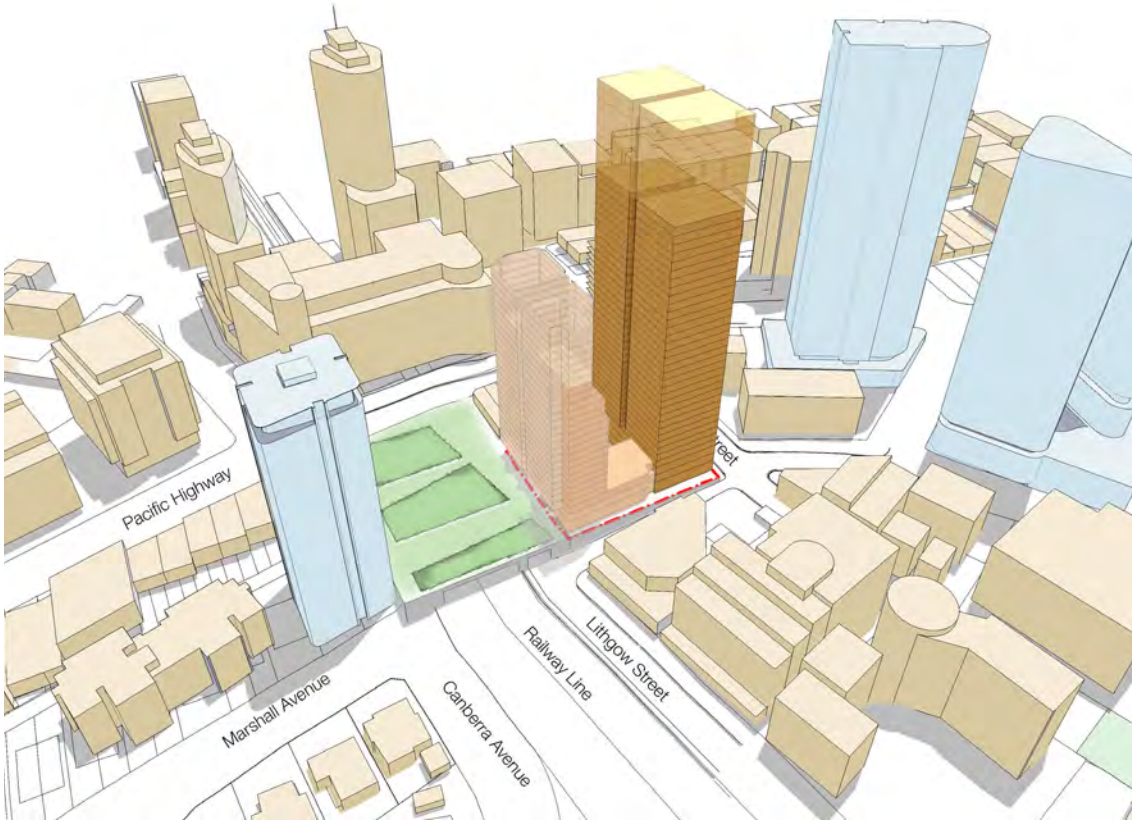
The maximum proposed height of the primary tower volume if all FSR bonus incentives are implemented is equal to the adjacent proposed 138m tall Charter Hall development, at 44 storeys above street level and with a rooftop RL of 224.00 AHD.



7.3 TOWER ARTICULATED INTO TWO VOLUMES

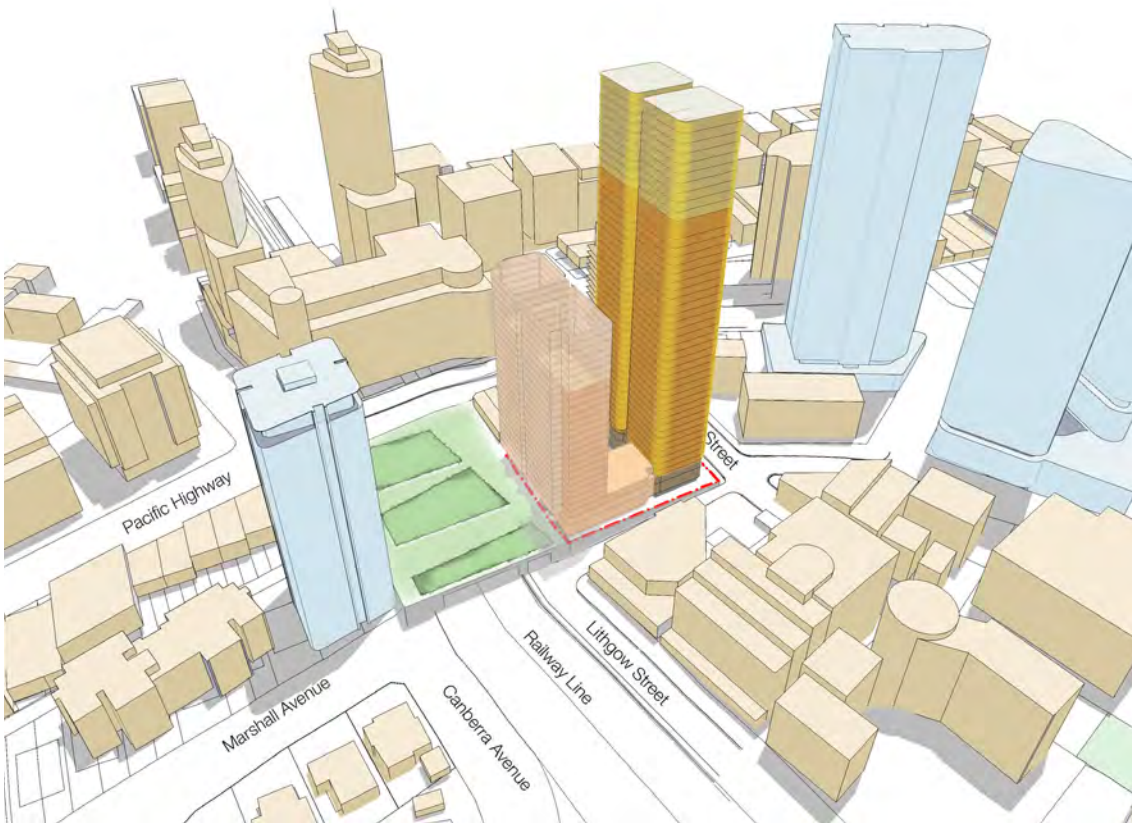
The tower form has been articulated into two slender volumes through the introduction of a central vertical ‘slot’ of 3.75 metres in width to the east and west sides.

The articulation slot is located directly above the through site link at ground level and will further emphasise its presence. The slot also provides crossflow ventilation to residential apartments in accordance with SEPP 65 design principles.



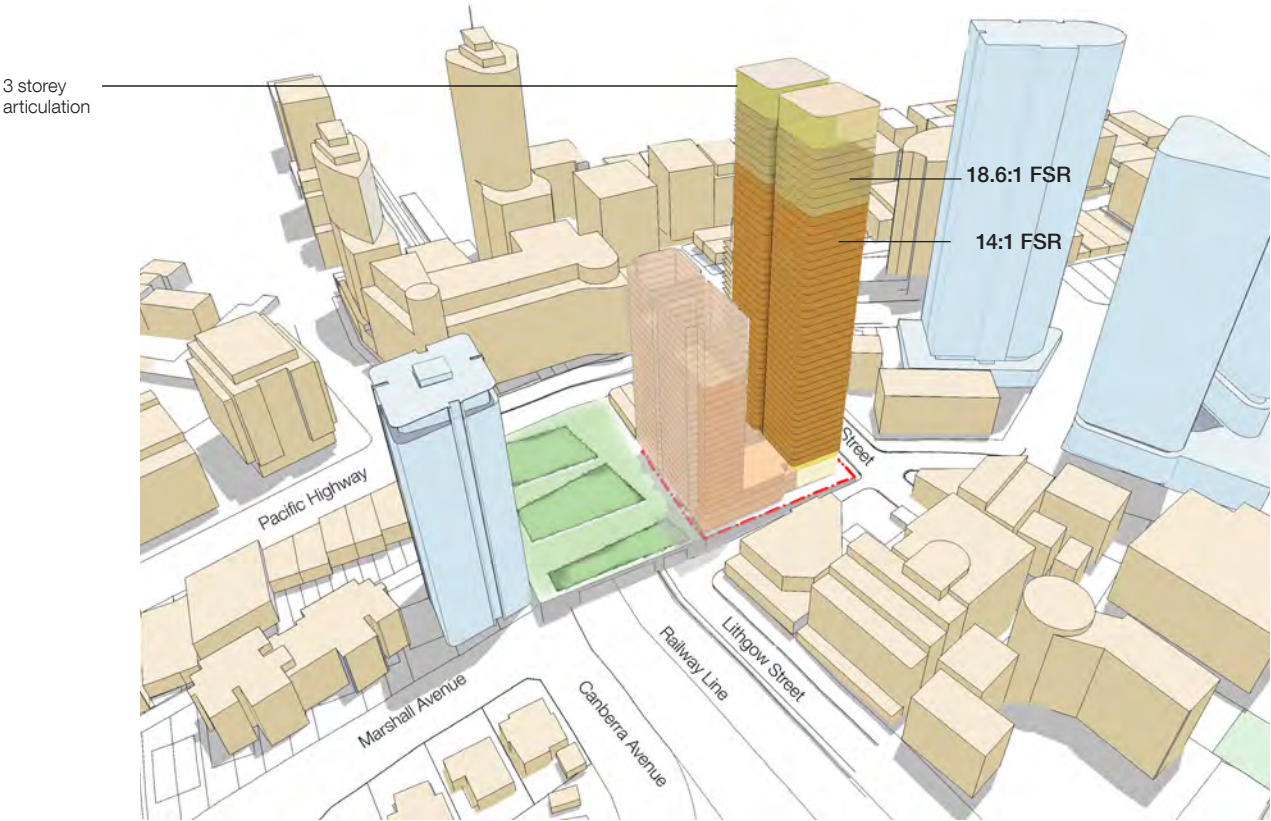
7.4 CURVED CORNERS TO SOFTEN FORM

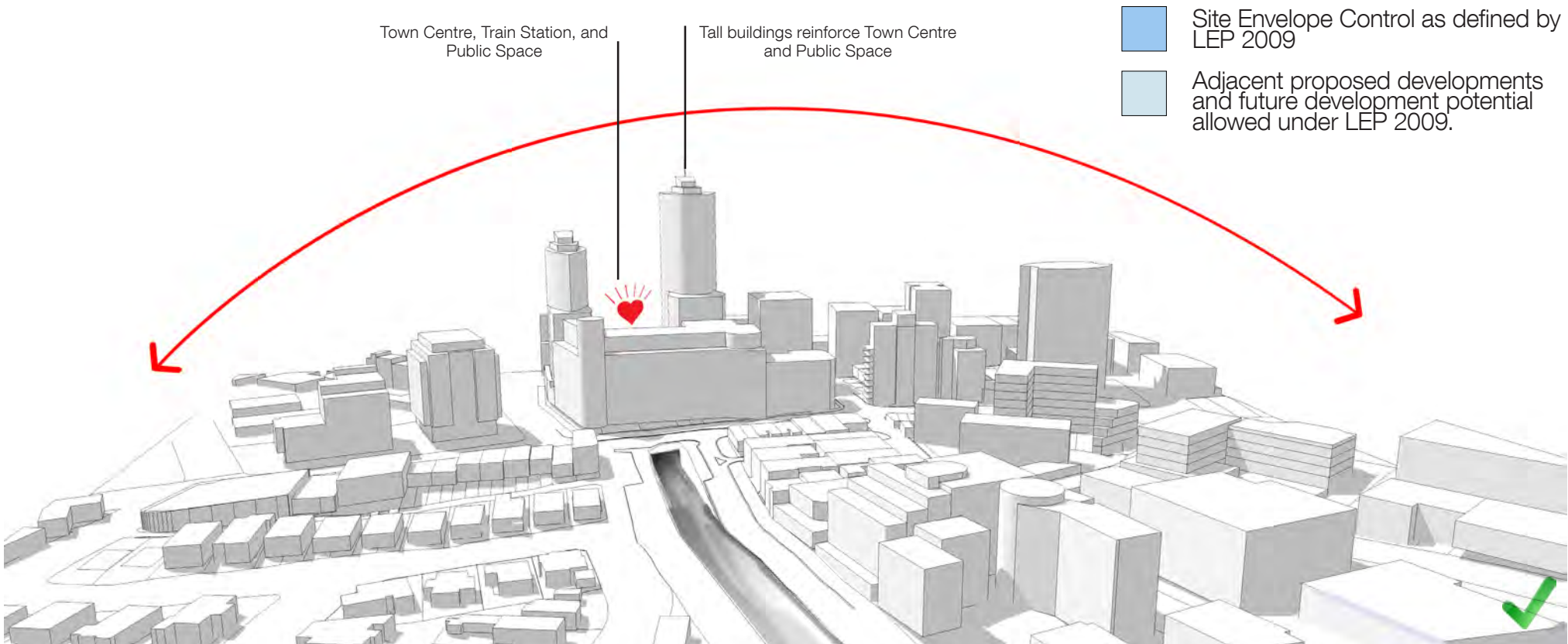
We have further articulated the tower massing through the introduction of rounded corners which soften the building form.



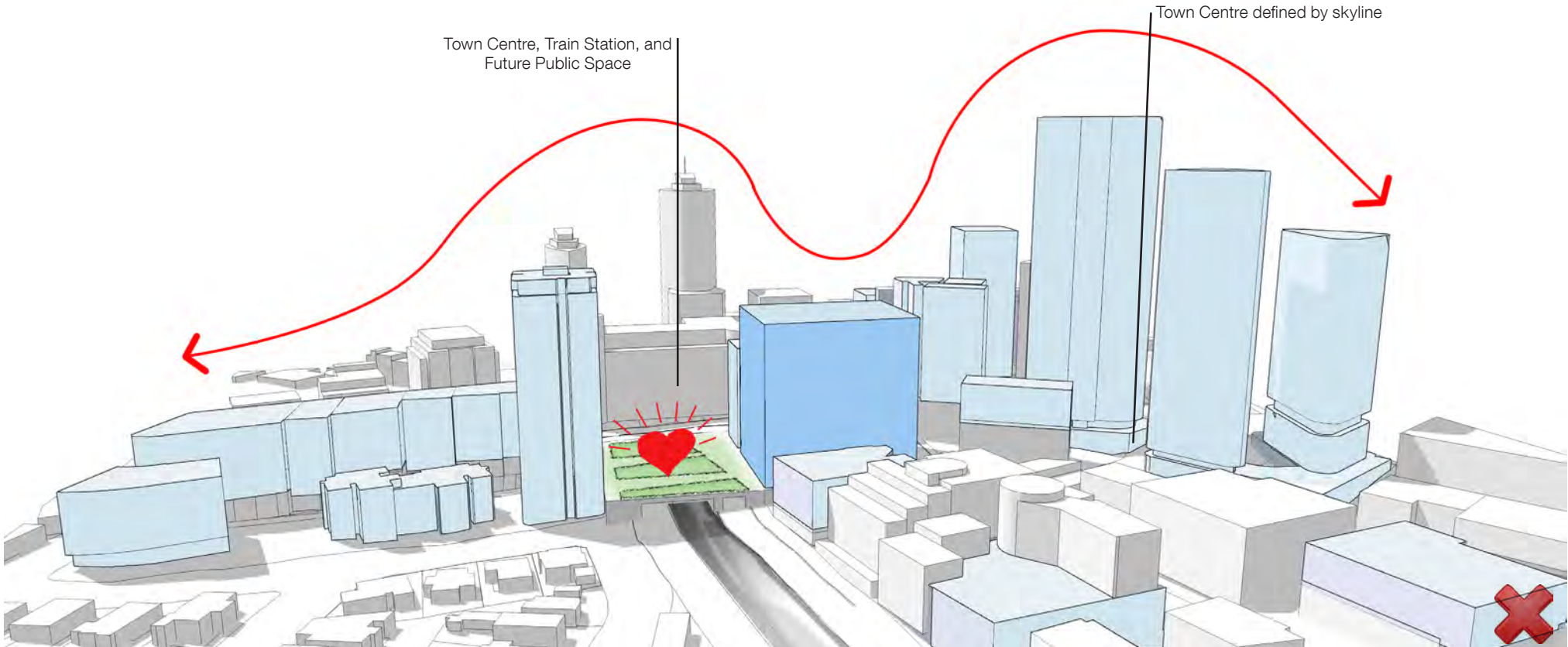
7.5 SKY ARTICULATION

Two expressed zones of 3 storeys in height are proposed at the top of the tower to further articulate the tower form and create a soft transition into the skyline.

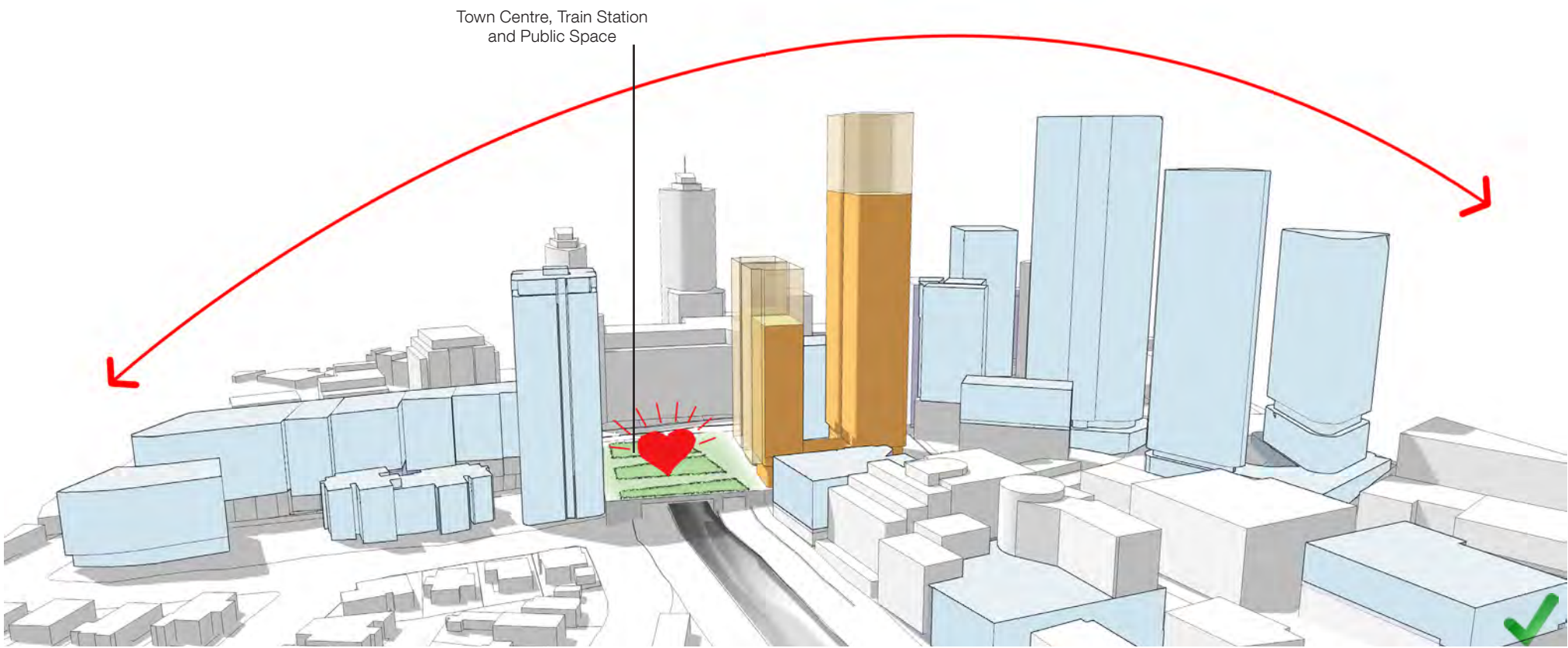




CURRENT ST LEONARDS SKYLINE



FUTURE ST LEONARDS SKYLINE WITH CURRENT SITE HEIGHT LIMIT AS DEFINED BY LEP 2009



PROPOSED FUTURE SKYLINE OF ST LEONARDS

8.1 PROPOSED BONUS STRUCTURE

The current permissible Floor Space Ratio is 14:1.

A summary of the proposed incentives is as follows:

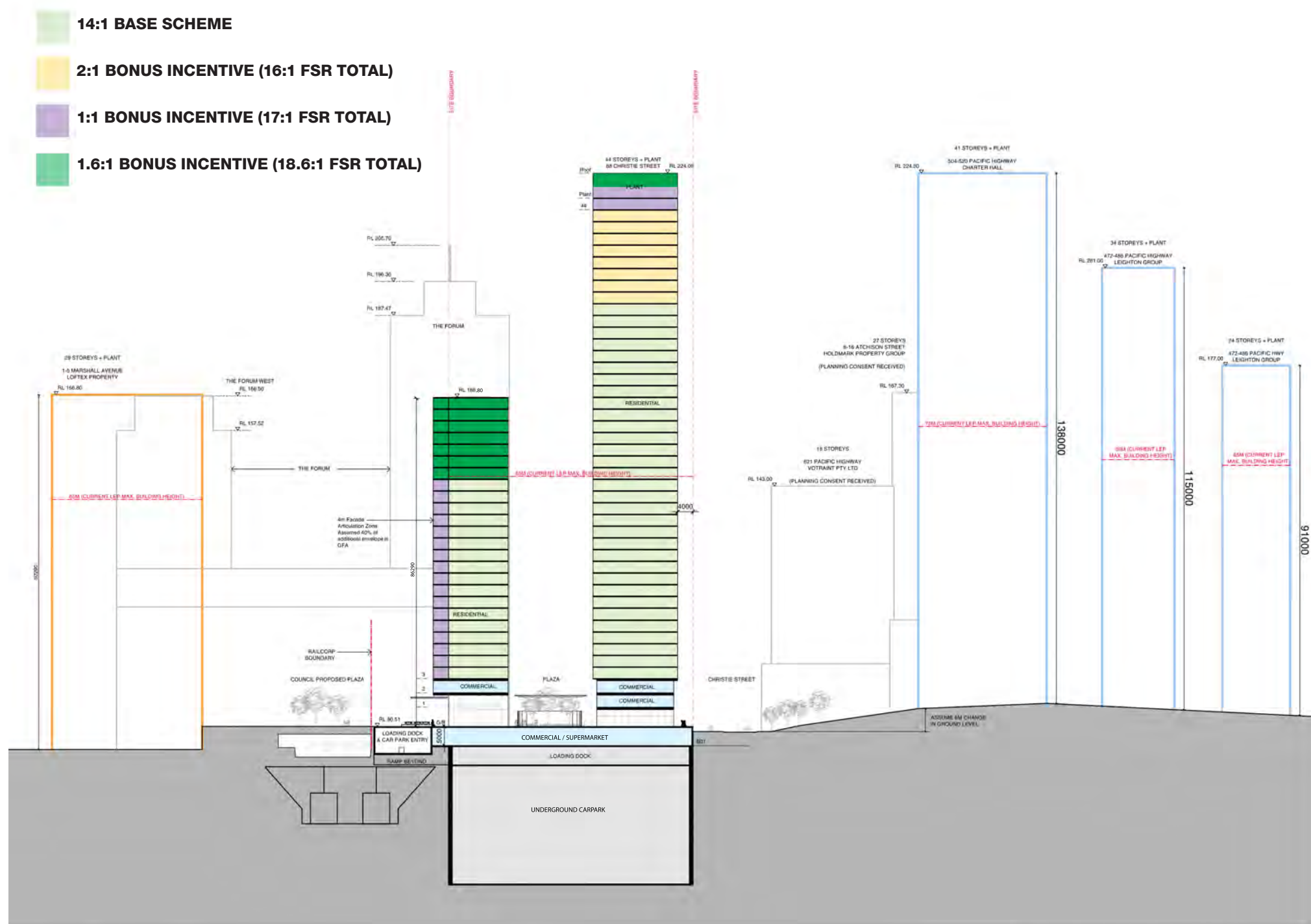
/ Development that includes provision of a 200 space public car park is eligible for an additional floor space ratio of 2:1.

/ Development that demonstrates an international standard of architecture with a high degree of facade articulation at the eastern interface with the Plaza is eligible for an additional floor space ratio of 1:1.

/ Development that includes amalgamation of 8 existing retail shops on Site B located immediately to the North of the site and fronting Pacific Highway is eligible for an additional floor space ratio of 1.6:1.

The below diagram is a representation of how bonus FSR may be distributed within the proposed building envelopes if FSR incentives are achieved.

In the instance that all 3 bonus incentives are achieved and the maximum floor space ratio is increased from 14:1 to 18.6:1, the resultant tower height will be equal to the adjacent Charter Hall development to the East, and the plaza building will be equal in height to the approved 1 Marshall Avenue development on the opposite side of the Plaza to the West.





9.0 DESIGN DESCRIPTION

9.0 GROUND FLOOR PLAN:

The proposed ground floor plan (below) consists of approximately 905 sqm of retail space, envisaged mainly as food and beverage outlets. Our intention has been to create a vibrant new food and beverage precinct immediately fronting St Leonards Plaza, with high levels of permeability and extensive pedestrian links to the East to maximise activation and create a new social and community heart to the precinct.

To the West of the site, retail outlets interface with the Eastern edge of St Leonards Plaza to create a strong active edge. An 8 metre high canopy projects above raised outdoor seating pods for food and beverage use. The result is an active retail edge which spills out into the plaza and provides a high degree of activation.

A new, 8 metre wide through-site link connecting St Leonards Plaza with Christie St and Nicholson St is created through the centre of the site, activated by retail use and passing through a central landscaped courtyard which is open to the sky.

To the South West of the site, an entrance to a new 3200 sqm commercial level with potential supermarket use will create maximum activation of the plaza and through site links.

To the North of the site, the existing Christie Lane is converted to a pedestrian shared way lined with fine grain retail, connecting St Leonards Plaza with the new mixed use developments to the East. Two pedestrian links also connect the shared way with the new central courtyard for maximum permeability.



9.0 DESIGN DESCRIPTION

The below image shows the proposed interface between the Plaza Building and the new St Leonards Plaza. Ground floor retail food and beverage outlets with outdoor seating create a vibrant and active plaza edge. To the left of the image, Christie Lane, converted to a new pedestrian shared way, provides a strong line of sight connection between the Plaza and Christie Street.







New through site links with direct line of sight connections link the Plaza with Nicholson Steet and adjacent developments to the East. Ground floor retail activates the Plaza and creates a vibrant and permeable groundplane. Food and beverage outlets with raised seating pods spill out onto the Plaza and activate its edges. A generous canopy provides a high degree of weather protection and pedestrian amenity around the base of the building. The proposed 4m deep facade articulation zone, if adopted under the bonus FSR structure, enables a highly articulated residential facade enhancing vibrancy and human scale of the precinct.





10.0 CONTEXTUAL IMAGES

10.1 MASSING VIEWS FROM CONTEXT

The current height limit as defined under LEP 2009 is 65 metres.

As described in our report, adjacent proposed developments and future development potential of adjacent sites allowable under current LEP height controls shows a significant disparity between the current height limit of the site relative to potential and future development in the immediate context.

Building height is a fundamental tool in creating clear and legible cities. Such a disparity between current LEP height controls and future adjacent development risks weakening the current legibility of the St Leonards urban fabric and redefining its town centre to a location some 300 metres away from its public and transport centre.

The proposed maximum height of 144 metres above Pacific Highway is made on the basis of the adjacent and preceding skyline studies which demonstrate that such a height, equal to the proposed Charter Hall development, is appropriate to clearly and legibly define the St Leonards town centre and Plaza and is in keeping with the scale of adjacent existing and proposed developments in the precinct.

The adjacent views show the proposed massing from various viewpoints within the immediate context.

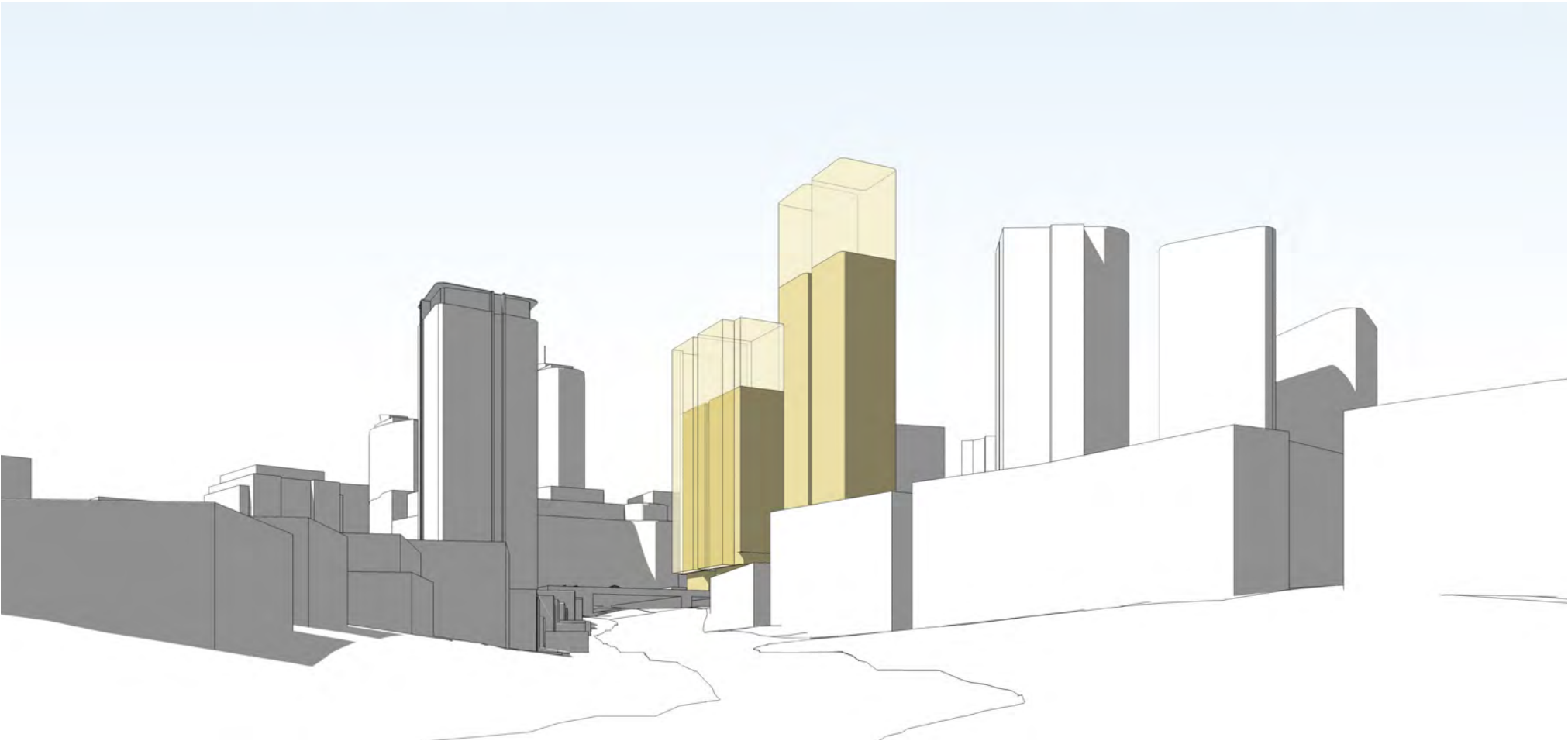
-  Proposed Massing: 14:1 FSR
-  Proposed Massing: 18.6:1 FSR



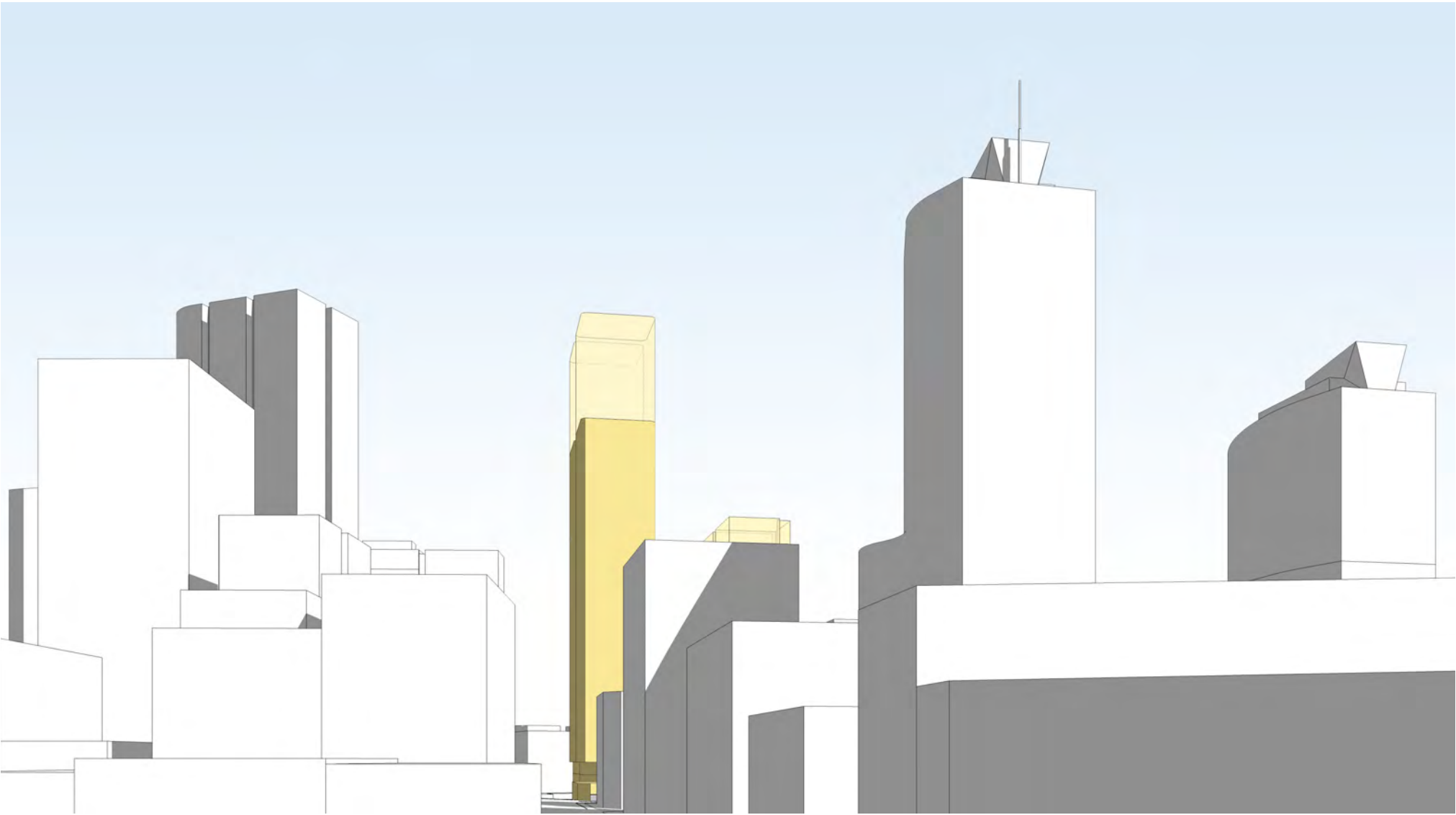
KEY



A



B



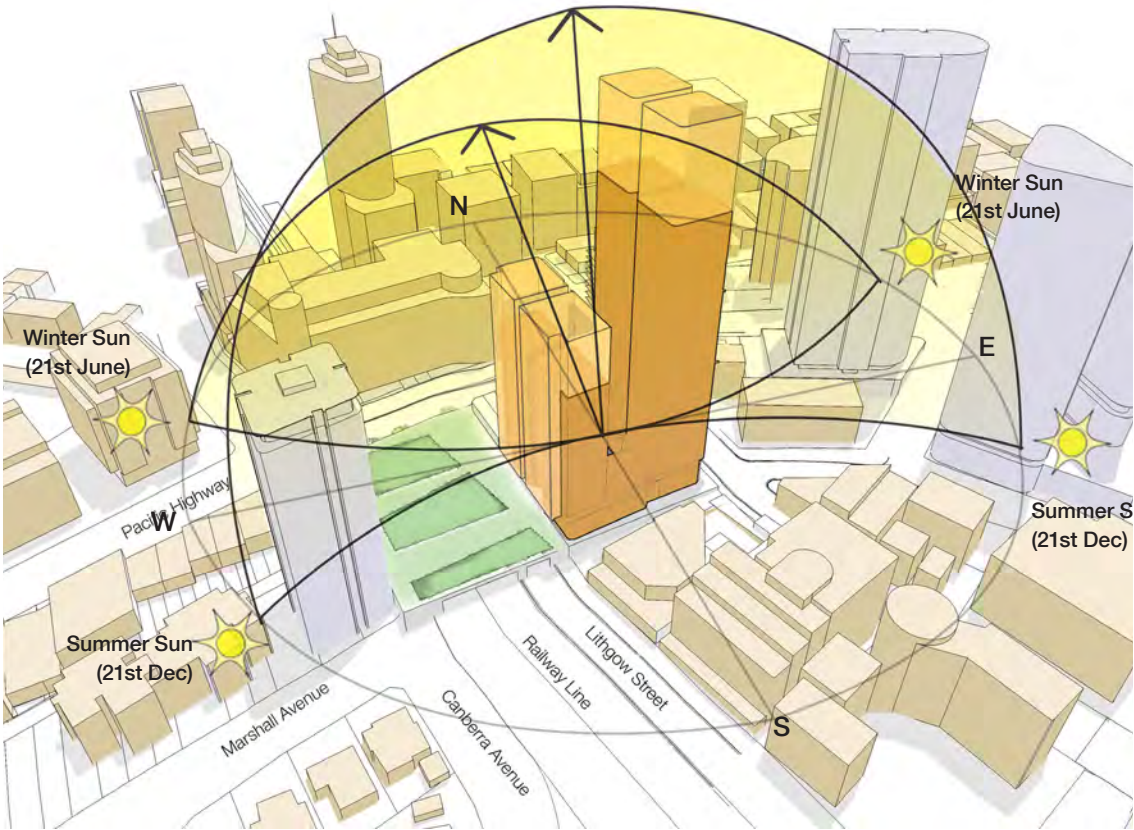
C

11.0 RESIDENTIAL AMENITY

11.1 SOLAR ACCESS:

The proposed buildings achieve excellent levels of solar access.

Solar access studies included in the appendices of this report demonstrate that during mid winter on the 22nd June, more than 70% of apartments will receive a minimum of 2 hours of direct sunlight to living rooms and private open spaces between 9am and 3pm, meeting or in excess of SEPP65 guidelines for solar access in dense urban areas.



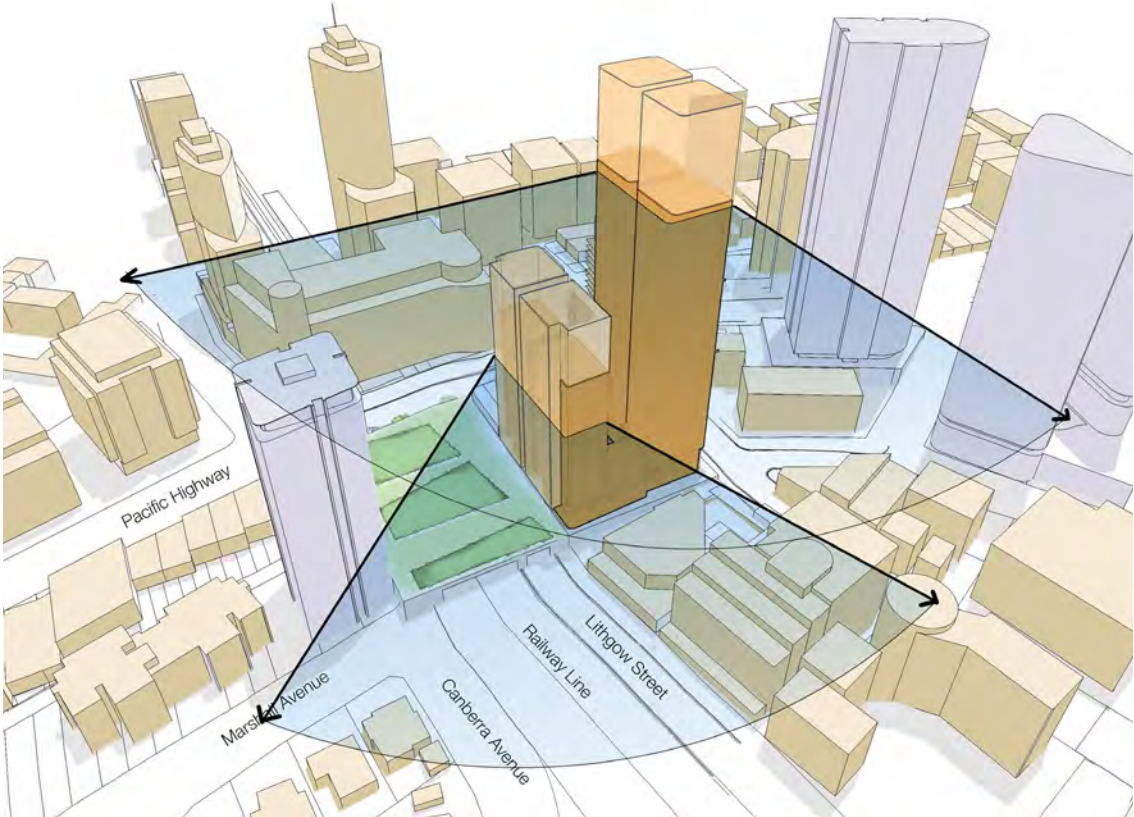
11.2 VIEWS:

Residential floorplates have been oriented to deliver excellent outlook and views from both buildings.

The tower achieves high quality views west towards the Lane Cove River, Huntleys Point, and Drummoyne, and East and South East towards Sydney harbour and the CBD.

The Western plaza buildings achieve views West and South West extending from White Bay to Huntley's Point and including much of the Paramatta River.

View sharing and preservation of key view corridors is a fundamental aspect of achieving a good urban design outcome. The north / south orientation of the proposed residential buildings ensures the most slender possible form is presented to the existing residential Forum buildings to the north, while the 22 metre separation between buildings maintains a key view corridor from the Forum buildings towards the Sydney CBD. View studies undertaken from the Forum are contained in the appendices of our report.



11.3 BUILDING SEPARATION:

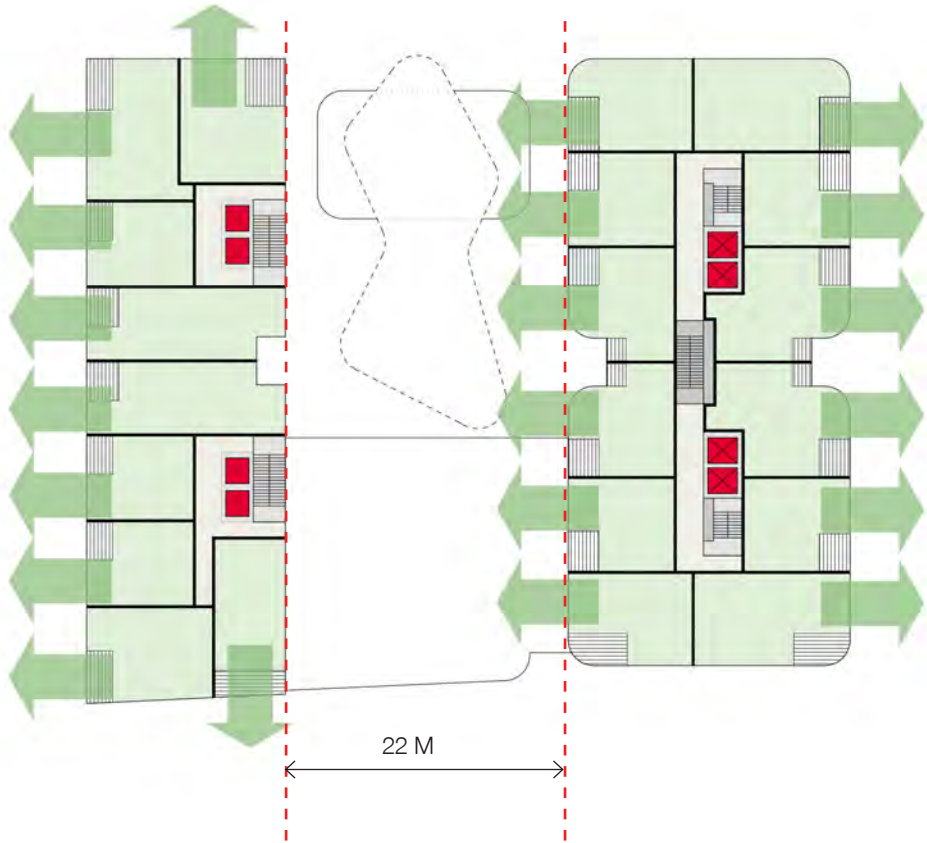
The Residential Flat Design Code identifies building separation requirements as below:

/ Up to 4 Storeys: 12 metres between habitable rooms / balconies
/ 5 to 8 Storeys: 18 metres between habitable rooms / balconies
/ 9 Storeys and above: 24 metres between habitable rooms / balconies.

The proposed residential floorplates are spaced 22 metres apart, creating significantly greater separation at lower floors than is required. On upper floors, between levels 9-24, a minor reduction of 2 metres, (8%) is proposed. Above level 24, building separation is well in excess of RFDC requirements.

The proposed minor reduction between levels 9 to 24 is made on the basis that floorplates have been carefully configured to achieve a high level of inherent privacy separation between buildings.

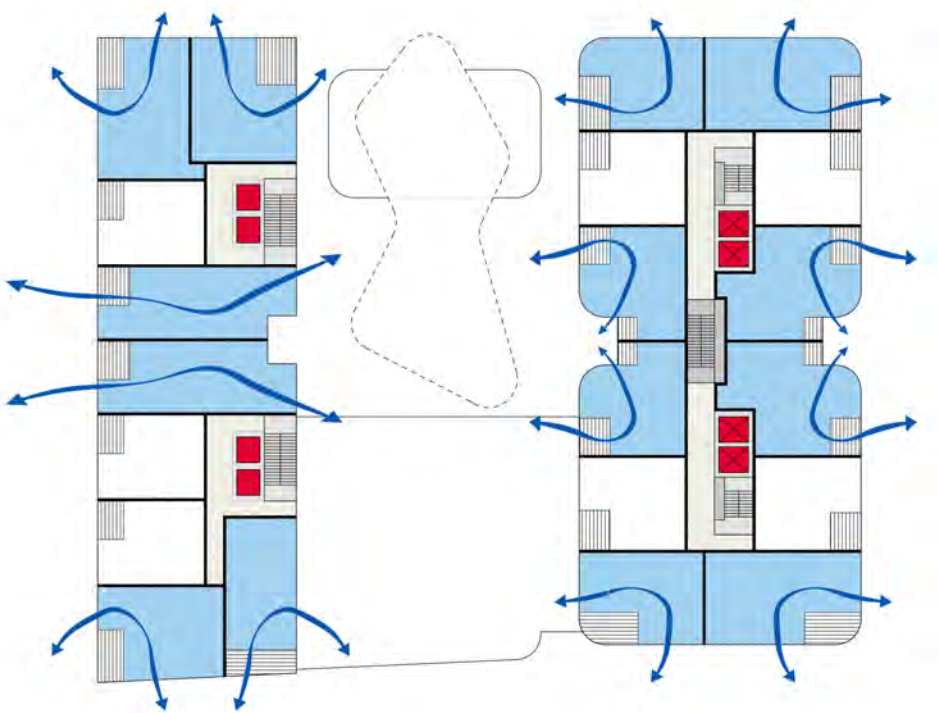
The Western Plaza buildings have been designed with the cores located on the Eastern face of the building, facing the central courtyard and tower opposite. Apartments in the Plaza buildings are laid out in a single loaded configuration to ensure no living areas face the courtyard or residential tower opposite. Eastern outlook from the plaza buildings is limited to approximately 4 bedrooms per floor only, two from dual aspect apartments located in the centre of the floorplate and one each from the northern and southernmost units which have primary living areas facing north and south respectively. This condition creates a far higher inherent level of privacy and separation compared to the condition anticipated by the Residential Flat Design Code which prescribes minimum separation distances in instances where living areas and balconies face directly onto each other.



11.4 CROSSFLOW VENTILATION

The floorplates of the proposed residential towers and Plaza buildings are able to be planned to meet or exceed levels of crossflow ventilation required by SEPP 65.

The adjacent typical plan demonstrates that 14 out of 21, or 66% of apartments per floorplate achieve crossflow ventilation, in excess of the 60% required by SEPP 65.





APPENDIX A: ARCHITECTURAL DRAWINGS





GROUND LEVEL PLAN
1:500 @ A3



LEVEL 01 PLAN
1:500 @ A3



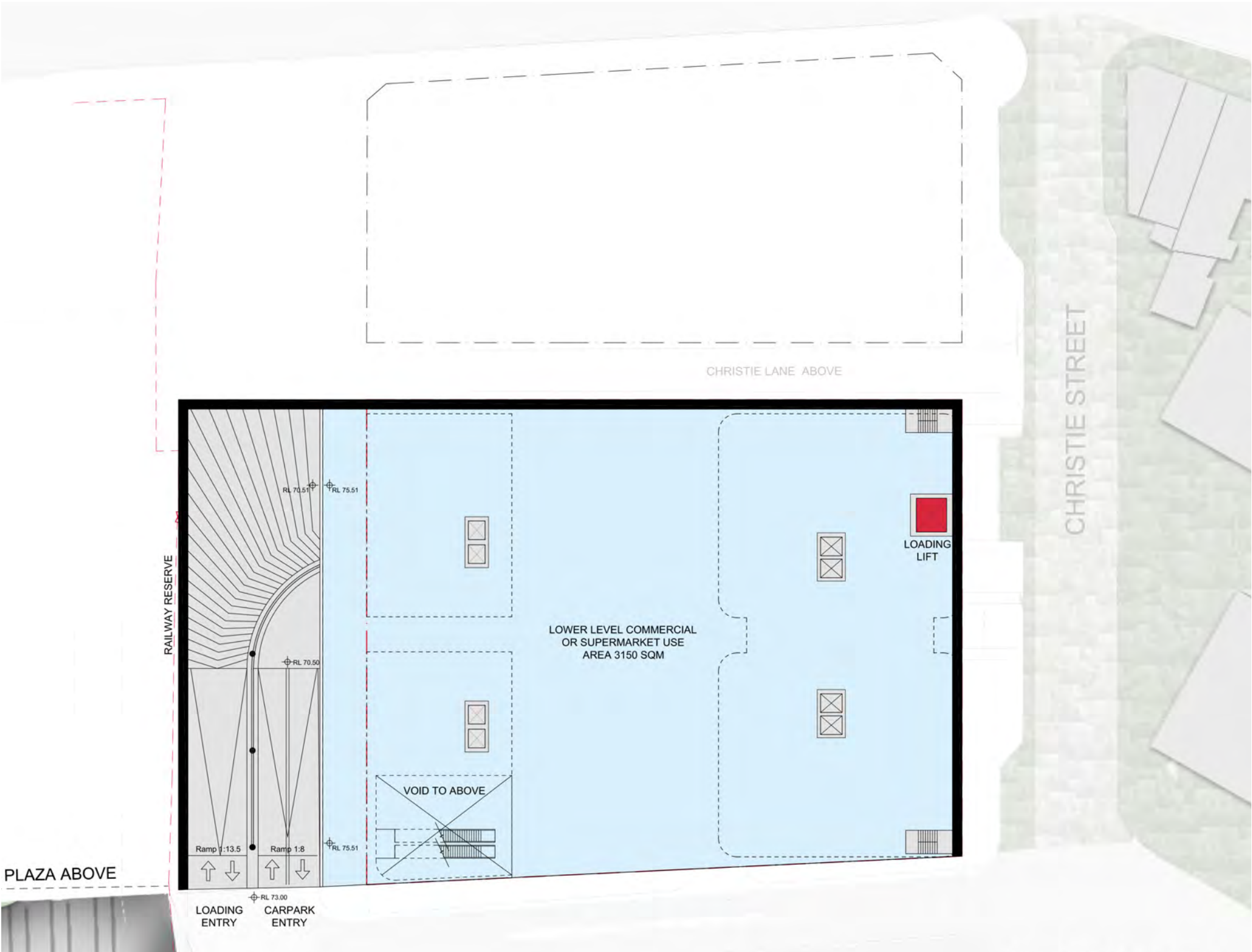
LEVEL 02 PLAN
1:500 @ A3



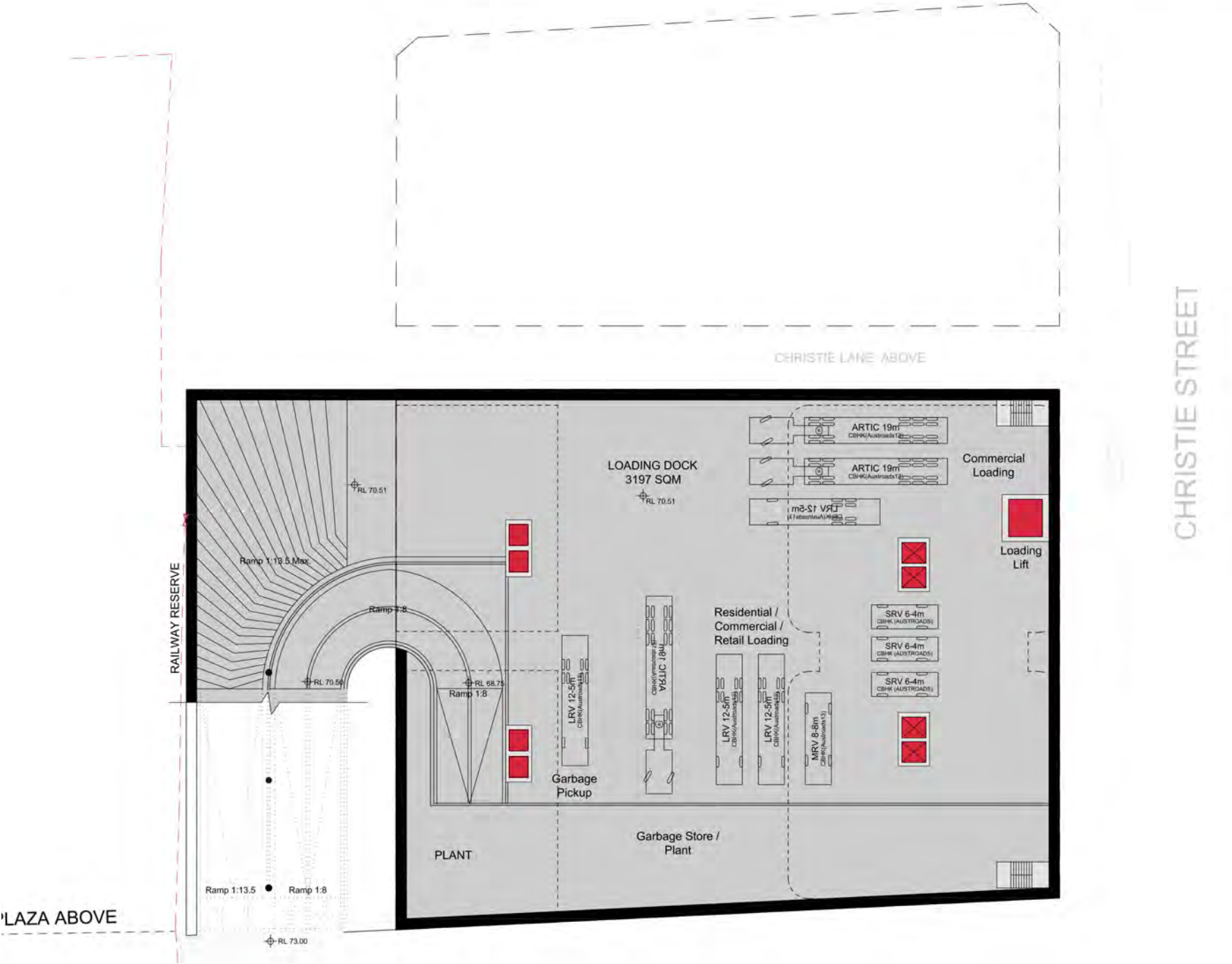
TYPICAL LOW RISE PLAN
1:500 @ A3



TYPICAL HIGH RISE PLAN
1:500 @ A3



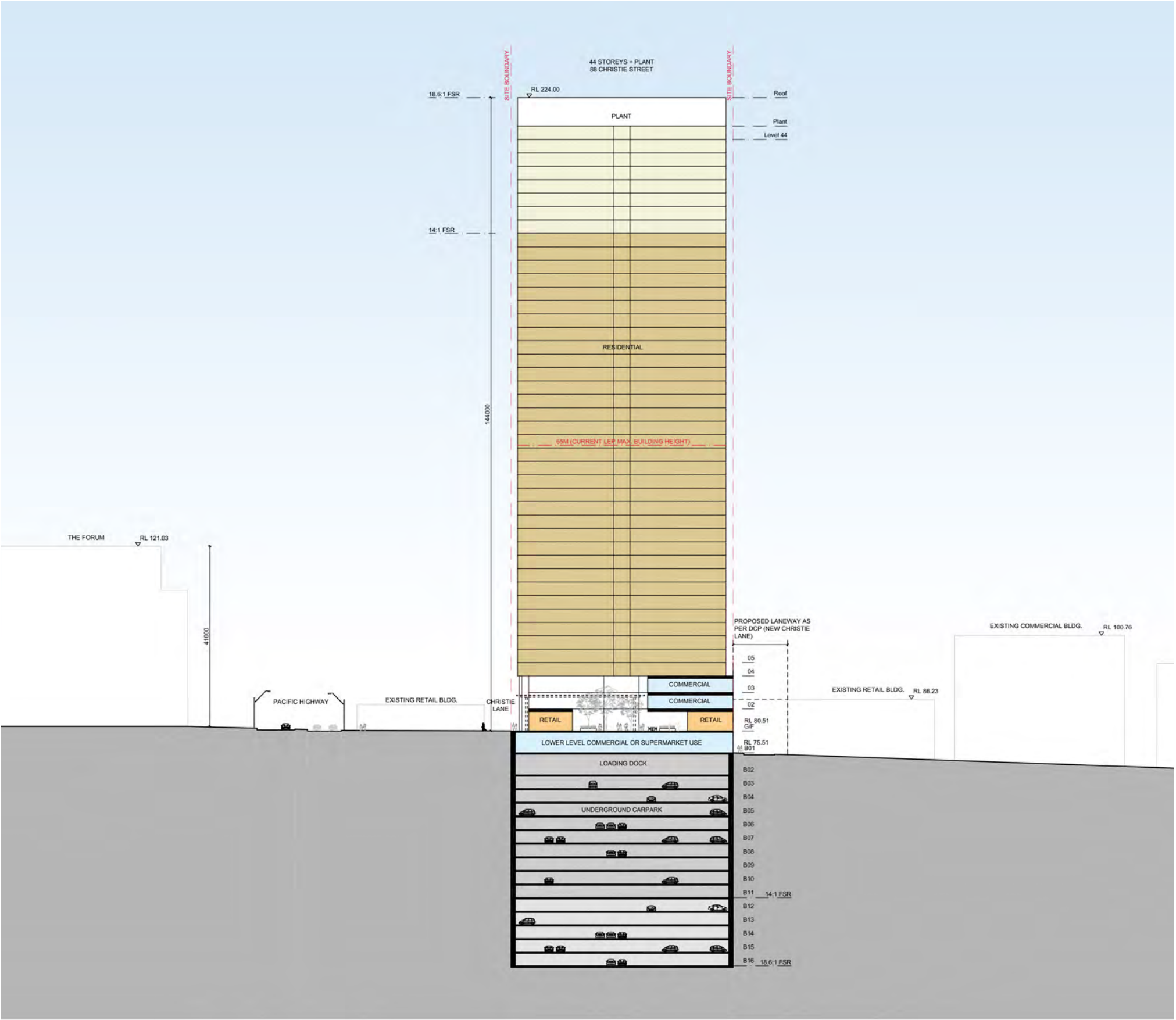
BASEMENT LEVEL 01 PLAN
1:500 @ A3



BASEMENT LEVEL 02 PLAN
1:500 @ A3



TYPICAL BASEMENT CAR PARK PLAN
1:500 @ A3



NORTH-SOUTH SECTION
1:1000 @ A3



1:1000 @ A3



APPENDIX B: VIEW SHARING ANALYSIS



VIEW SHARING ANALYSIS

FORUM EAST, LEVEL 16

The proposed massing has been designed in accordance with view sharing principles. The residential floorplates are oriented North / South, parallel to the primary view corridor, in order to present the most slender possible edge towards the Forum East located immediately to the North. The 22 metre wide separation between the tower and plaza buildings creates a view corridor through the centre of the development towards the Sydney city skyline.

The adjacent studies undertaken from Level 16 of the Forum East demonstrate the impact of the proposed mixed use envelope compared with the approved commercial envelope.

The proposed development offers an improvement in views of the city skyline due to the new view sharing corridor located North-South through the centre of the site.



SITE PLAN



APPROVED DEVELOPMENT AS VIEWED FROM LEVEL 16, FORUM EAST



PROPOSED DEVELOPMENT AS VIEWED FROM LEVEL 16, FORUM EAST.

FORUM EAST, LEVEL 23

The adjacent studies are undertaken from Level 23 of the Forum East.

Although a small length of city skyline becomes obscured above level 23 when compared with the approved commercial envelope, it is proposed that the principles of view sharing are being better met by the proposed mixed use envelope when consideration is given to the improvement in city skyline views achieved below level 23.



SITE PLAN



APPROVED DEVELOPMENT AS VIEWED FROM LEVEL 23, FORUM EAST



PROPOSED DEVELOPMENT AS VIEWED FROM LEVEL 23, FORUM EAST



APPENDIX C: SHADOW ANALYSIS



SHADOW ANALYSIS

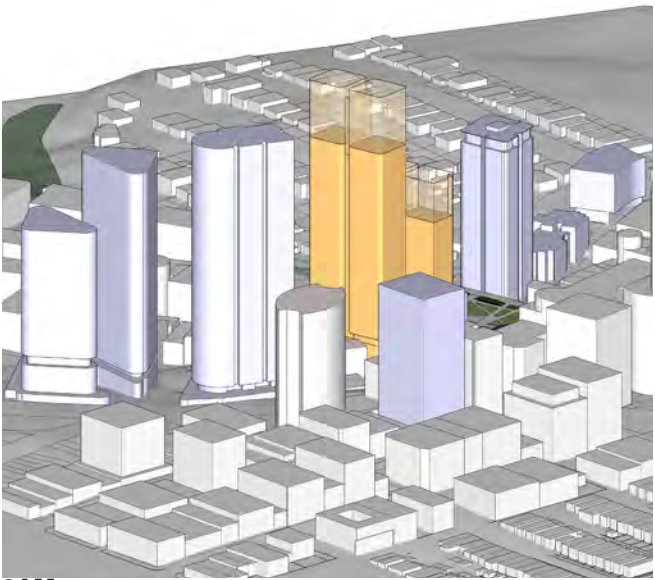
SOLAR ACCESS + SHADOW STUDIES 22 JUNE:

The below solar access and shadow analysis studies undertaken on the midwinter solstice of 22nd June demonstrate that high levels of solar access are achieved by the proposed development irrespective of the proposed future Charter Hall, Leightons and 1 Marshall Avenue developments adjacent.

Between 9am and 11am, the proposed development casts some additional shadow on the low density residential precinct to the southwest of the site, however the slender nature of the towers result in this effect being fast moving, with the effect passing fully by 11am. The shadow cast does not impact the ability of these dwellings to achieve a minimum of 3 hours of direct solar access in accordance with guidelines outlined within SEPP 65 for low density residential areas.

Between 10am and approximately 12pm, a significant portion of the shadow cast falls on the railway line.

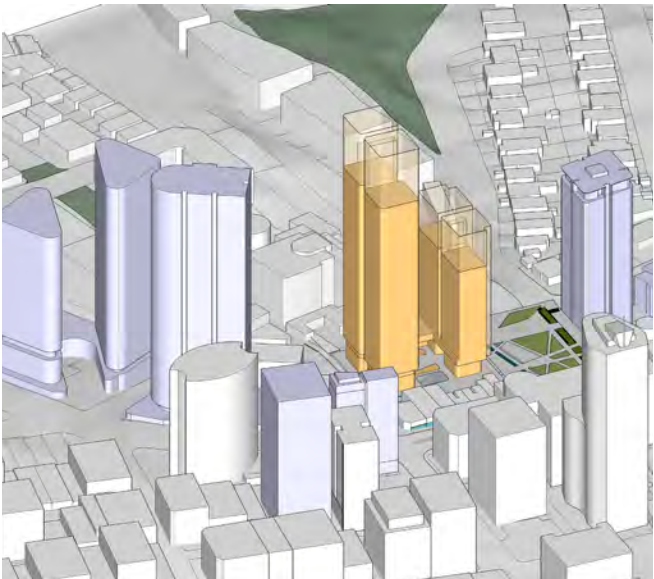
The proposed St Leonards Plaza receives high levels of direct solar access from 11am onwards and continues throughout the remainder of the day.



9AM



10AM



11AM



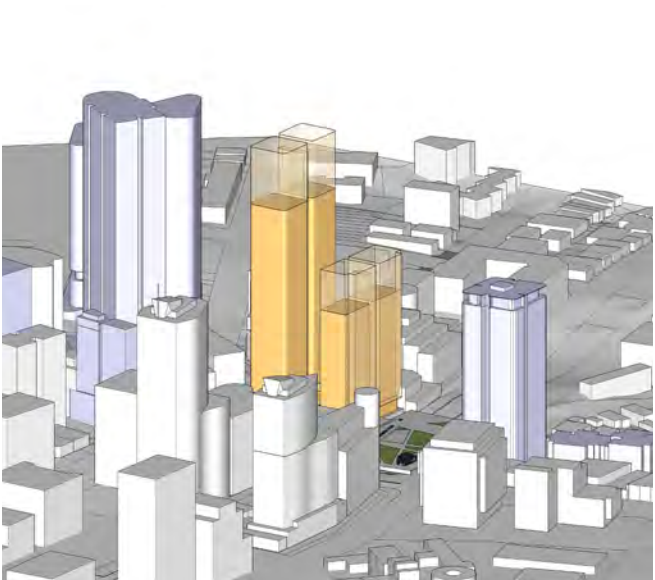
12PM



1PM



2PM



3PM

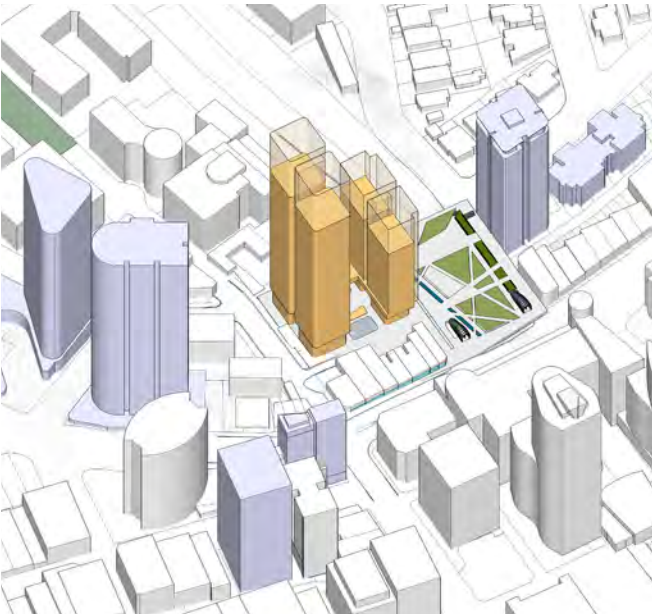
SOLAR ACCESS + SHADOW STUDIES 22 SEPTEMBER / 22ND MARCH:

During the equinox months September and March which are generally representative of the average annual solar condition, overshadowing of the residential precinct to the southwest is minimal in footprint and affects only a small number of dwellings. The effect passes by 11am and does not impact the ability of these dwellings to achieve a minimum of 3 hours of direct solar access in accordance with guidelines outlined within SEPP 65 for low density residential areas.

Solar access to the proposed St Leonards Plaza reaches a high level by 9am and an excellent level from 10am where it remains excellent throughout the remainder of the day.



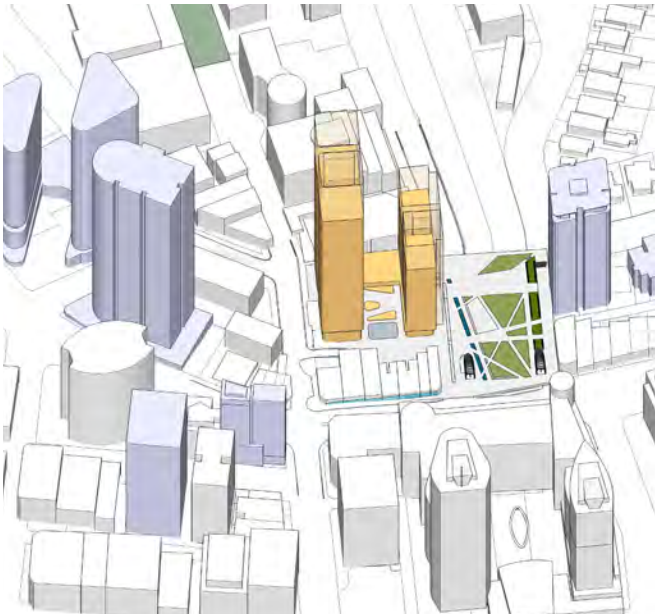
10AM



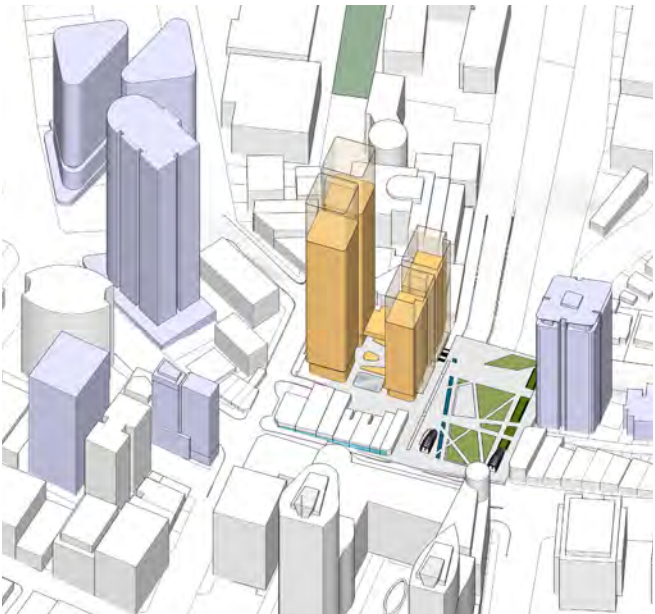
11AM



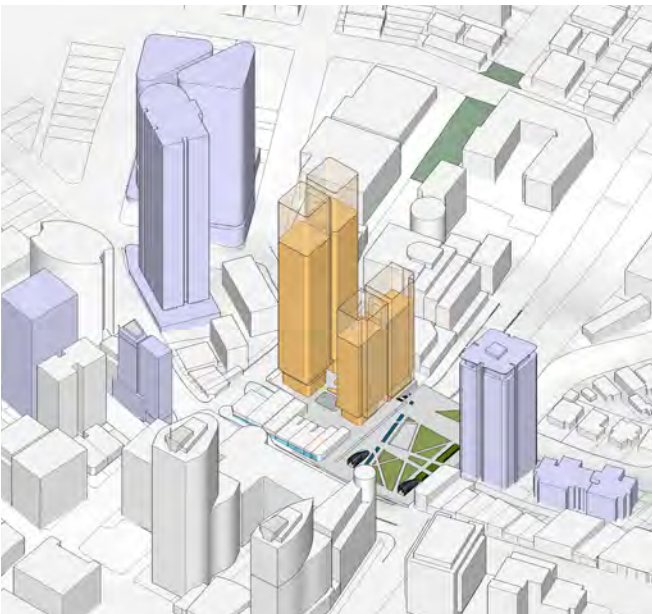
9AM



12PM



1PM



2PM



3PM



APPENDIX D: AREA SCHEDULE

SCHEDULE OF AREAS

AREA SCHEDULE

S11699 Winten St Leonards
Area Schedule: 6th February 2015

Site Area: <i>Christie + Lithgow Streets + Pharmacy Guild</i>	3197	sqm
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Development Summary:		
Site Area	3,197	sqm
Proposed Gross Floor Area (GFA):	44,758	sqm
Current Permissible FSR:	14	:1
Proposed FSR:	14.00	:1
Total Commercial and Retail GFA:	8,045	sqm
Retail and Commercial FSR:	2.52	:1
Total Residential GFA:	36,713	sqm
Residential GFA: Tower Building	26,039	sqm
Residential GFA: Plaza Buildings	10,674	sqm
Residential FSR:	11.48	:1

Example Unit Mix							
Apt. Type			Internal Area (sqm)		Balcony / W'garden		No. Apartments Mix %
Studio			40		8		46 10%
1 Bedroom			55		10		89 20%
1 Bedroom St.			60		10		81 18%
2 Bedroom			75		12		187 42%
3 Bedroom			105		14		47 10%
Total							450 100.0%

PARKING SCHEDULE

S11699 Winten St Leonards
Parking Schedule
19th February 2015

Bates Smart

Residential	Quantity	Ratio	No. Spaces	Notes
Studio	46 units	0.5 per unit	23	
1 Bedroom	89 units	0.5 per unit	44	
1 Bedroom + Study	81 units	0.5 per unit	41	
2 Bedroom	187 units	1.0 per unit	187	
3 Bedroom	47 units	2.0 per unit	93	
Visitor	450 units	0.25 per unit	113	
Accessible Spaces: Adaptable Units	45 units		Incl in above	* 10% of units to be adaptable, 1 accessible space per adaptable unit.
Accessible Allowance: Visitor Spaces	11 spaces	1 per 10 visitor spaces	Incl in above	

Total:	501
--------	-----

Commercial	Quantity	Ratio	No. Spaces	Notes
Commercial Spaces	6,855 sqm GFA	1 per 100 sqm GFA	69	
Commercial Accessible Spaces		10% Additional to Above	7	

Total:	76
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Retail	Quantity	Ratio	No. Spaces	Notes
Retail Shops	905 sqm	1 per 110 sqm	8	
Disabled Spaces (Combined Retail)	2 spaces	1 per 20 spaces	Incl in above	

Total:	8
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Grand Total:	585
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Definitions:

GFA: Gross Floor Area: means the sum of the floor area of each floor of a building measured from the internal face of external walls, or from the internal face of walls separating the building from any other building, measured at a height of 1.4 metres above the floor, and includes:

- (a) the area of a mezzanine, and
- (b) habitable rooms in a basement or an attic, and
- (c) any shop, auditorium, cinema, and the like, in a basement or attic,

but excludes:

- (d) any area for common vertical circulation, such as lifts and stairs, and
- (e) any basement:
- (i) storage, and
- (ii) vehicular access, loading areas, garbage and services, and
- (f) plant rooms, lift towers and other areas used exclusively for mechanical services or ducting, and
- (g) car parking to meet any requirements of the consent authority (including access to that car parking), and
- (h) any space used for the loading or unloading of goods (including access to it), and
- (i) terraces and balconies with outer walls less than 1.4 metres high, and
- (j) voids above a floor at the level of a storey or storey above.

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